IMPACT OF CONDUCTING ACTION RESEARCH BY SECONDARY SCHOOL TEACHERS ON THEIR PROFESSIONAL DEVELOPMENT

Muhammad Asif Khan

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy in Education

INSTITUTE OF EDUCATION AND RESEARCH,

UNIVERSITY OF PESHAWAR

May, 2016

In The Name of Allah

The Most Merciful, The Most Beneficent

"He who creates everything from nothing and

Creates all things with the knowledge of

What will happen to them"

APPROVAL CERTIFICATE

This thesis entitled "**Impact of conducting action research by secondary school teachers on their professional development**" is accepted and approved in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Education.

Signature

Supervisor _____

Chairman _____

Examiner 1 _____

Examiner 2 _____

DECLARATION

I certify that this thesis “Impact of conducting Action Research by secondary school teachers on their professional development” does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any University; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person were due reference is not made in the text.

Signature

Muhammad Asif Khan

FORWARDING CERTIFICATE

This is certify that the present research entitled "**Impact of conducting action research by secondary school teachers on their professional development**" is conducted under my supervision and the thesis is submitted to the Institute of Education and Research University of Peshawar, in partial fulfillment for the degree of Doctor of Philosophy in Education with my permission.

Signature

Supervisor

Dr. Arbab Khan Afridi

Institute of Education and Research

University of Peshawar

RIGHTS OF THE THESIS

All rights of this thesis “Impact of conducting Action Research by secondary school teachers on their professional development” are reserved to the author. No part of this research may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording or any information storage and retrieval system, without prior permission in writing from the author.

Signature

Muhammad Asif Khan

DEDICATION

Dedicated to all public sector school students for whom quality education has always been a dream

ACKNOWLEDGMENTS

The completion of any human activity is dependent upon the Will of Almighty Allah; without which it is impossible for us to accomplish any task major or minor; I am in the first place thankful to Al-mighty Allah, who endowed his sanction and enabled me to complete this research study.

I also admit that this effort of mine would not have been possible without the support of many sincere people and I realize that acknowledging some would mean overlooking others. I offer my apologies in advance to those who I have left out.

My first acknowledgment must go to Dr. Arbab Khan Afridi, supervisor of this research study, for his continued guidance, keen interest and scholarly approach which ensured successful completion of the study.

I am thankful to all the principals; headmasters; headmistresses and teachers of the participating schools who in spite of their assorted schedule extended their help and participated whole heartedly in this research study and served as a source of producing genuine, valid and reliable data.

Dr. Kulsoom Jafer, Dr. Zubaida Bana and Dr. Meman provided extensive and helpful guidance in the initial stages in setting the direction of this study; I realize that smooth conduction and successful completion of this study would not have been possible without their valuable suggestions and assistance.

Several times at all the stages; like planning, performing, observing and reflecting; the results and emerging issues related to this research were discussed extensively with my colleagues at PITE and several other groups of teachers, teacher trainers and teachers educators who were directly or indirectly involved in the process of professional development of teachers, all of them provided useful comment throughout this process. I acknowledge their sincere support and precious input.

I am thankful to Mr. and Ms. Mohsin Aziz for their generous financial support to complete this research study.

I am also grateful for the moral support and patience of my family who freed me to give full attention to this research study and tolerated my neglect and absence from practical family life.

TABLE OF CONTENT

APPROVAL CERTIFICATE ..... **III**
DECLARATION ..... **IV**
FORWARDING CERTIFICATE ..... **V**
RIGHTS OF THE THESIS ..... **VI**
DEDICATION ..... **VII**
ACKNOWLEDGMENTS ..... **VIII**
TABLE OF CONTENT ..... **X**
ABSTRACT ..... **XIV**
LIST OF ABBREVIATIONS ..... **XVI**
LIST OF TABLES ..... **XVIII**
LIST OF FIGURES ..... **XX**
CHAPTER 1 ..... **1**
INTRODUCTION **1**
1.1 BACKGROUND OF THE STUDY 1
1.2 STATEMENT OF THE PROBLEM 5
1.3 SIGNIFICANCE OF THE STUDY 12
1.4 OBJECTIVES AND RESEARCH QUESTIONS 14
1.5 DELIMITATION OF THE STUDY 15
1.6 POPULATION AND SAMPLE 15
1.7 RESEARCH METHODOLOGY 16
1.8 PROCEDURES 17
1.8.1 Pre-Intervention Stage *17*
1.8.2 Intervention *18*
1.8.3 Post-Intervention Stage *19*
1.9 TOOLS OF DATA COLLECTION 19
1.9.1 Classroom Observations and Field Notes *21*
1.9.2 Audio Tape Recording and Audio Tape Transcription *21*
1.9.3 Semi-Structured Interview *21*
1.9.4 Informal Discussions *22*
1.9.5 Reflective Notes *22*
CHAPTER 2 ..... **23**
LITERATURE REVIEW **23**
2.1 HISTORICAL BACKGROUND 23

2.2 ACTION RESEARCH: ITS BEGINNING AND GROWTH 26
2.3 ACTION RESEARCH: ITS DEFINITIONS AND MEANINGS 29
2.4 ACTION RESEARCH: ITS NATURE AND PURPOSE 31
2.5 ACTION RESEARCH: ITS TYPES AND APPLICATIONS 33
2.6 ACTION RESEARCH: CYCLE AND ITS MODELS 36
2.7 ACTION RESEARCH: ITS PRINCIPLES AND STANDARDS 43
2.8 TEACHER'S PROFESSIONAL DEVELOPMENT 49
2.8.1 Teacher's Professional Development: Historical Perspective 52
2.8.1.1 Egyptian/ Mesopotamian period: 53
2.8.1.2 Greek Period: 58
2.8.1.3 The Islamic period (661–750 AD) 63
2.8.1.4 British Period (5th to 20th century) 75
2.8.1.5 American Period 88
2.8.2 Teacher's Professional Development: Global Perspective 98
2.8.3 What is Continuous Professional Development (CPD) 111
2.8.4 Standards for Teaching Profession 122
2.8.4.1 Teachers' performance standards in UK 123
2.8.4.2 Teachers' Professional Performance Standards (TPPS) in US 124
2.8.4.3 Teachers' Professional Performance Standards (TPPS) for Chinese Teachers 127
2.8.4.4 Teachers' Professional Performance Standards (TPPS) for Singaporean teachers 129
2.8.5 Teachers' Professional Development in Khyber Pakhtunkhwa 134
2.9 RELATED RESEARCHES 144
CHAPTER 3 157
RESEARCH METHODOLOGY 157
3.1 ACTION RESEARCH 157
3.2 POPULATION AND SAMPLE 160
3.3 CODING OF SCHOOLS AND FORMATION OF WORKING GROUPS/PAIRS 163
3.4 RECONNAISSANCE 165
3.5 PROCEDURES 169
3.6 RAPPORT BUILDING 170
3.7 PRE-INTERVENTION STAGE 171
3.8 INTERVENTION 175
3.8.1 Phase one- Orientation Workshop 176
3.8.2 Phase two- Model Lessons 176
3.8.3 Phase three Co-Planning / Teaching: 177
3.8.4 Phase four (a)-Independent Teaching/Action Research Cycle One 178
3.8.5 Phase five (a)-sharing of experience and future planning: 179

3.8.6 Phase four (b) - Independent Teaching/Action Research cycle: 182
3.8.7 Phase five (b)-sharing of experience and future planning: 182

3.9 POST-INTERVENTION STAGE 185

3.10 TOOLS OF DATA COLLECTION 185
3.10.1 Qualitative Data Collection 186
3.10.2 Quantitative Data Collection 191

3.11 TECHNIQUES FOR DATA ANALYSIS 193
3.11.1 Narrative Analysis 195
3.11.2 Conversation Analysis 197
3.11.3 Grounded Theory (GT) 200

CHAPTER 4 208

ANALYSIS AND INTERPRETATION OF DATA 208

4.1 PROFESSIONALISM AND TEACHERS' PROFESSIONAL COMPETENCE LEVEL: 208
4.1.1 Working Conditions: 209
4.1.2 Teachers' Attitude and Sense of Ownership: 216
4.1.3 Professional Competence Level of Teachers: 217
4.1.4 Students' Achievement Level: 224
4.1.5 The Emerging Issues and Setting Objectives for Next Stage: 242

4.2 INTERVENTION: 244
4.2.1 Pre-Test: 244
4.2.2 Phases of Intervention: 249

4.3 CONCEPTUAL DEVELOPMENT 324

4.4 CYCLE TWO 329
4.4.1 Pedagogical Development 329

4.5 POST INTERVENTION LEVEL 339

CHAPTER 5 360

FINDINGS AND RECOMMENDATIONS 360

5.1 DISCUSSION 360

5.2 FINDINGS OF THE STUDY 385
5.2.1 Epistemological Findings 391
5.2.2 Technical Findings 406
5.2.3 Implicational Findings 409
5.2.4 Behavioral Findings 418
5.2.5 Statistical Findings 421
5.2.6 Contextual Findings 426
5.2.7 Miscellaneous Findings 431

5.3 CONCLUSION 433

5.4 RECOMMENDATIONS 449

ANNEXURES **457**

ANNEXURE 1 457
Consent Form *457*
Consent Form *458*

ANNEXURE 2 459
List of Participating Schools & Codes *459*

ANNEXURE 3 460

ANNEXURE 4 468
Classroom Observation Check List *468*

ANNEXURE 5 478
Hand out 1 ..... *478*
Hand out 2 ..... *482*
Hand Out 3 ..... *485*

ANNEXURE 6 497
Extracts from teachers reflective journals *497*

ANNEXURE 7 500
Assessment Tool (test for students) *500*

ANNEXURE 8 502
Test for Teachers to find out their understanding regarding "Assessment" *502*

ANNEXURE 9 503
Agenda for workshop *503*

ANNEXURE 10 504
Model lesson observation check list *504*

ANNEXURE 11 514
Lesson Plan Evaluation Rubric *514*

ANNEXURE 12 523
Worksheet for activity *523*

ANNEXURE 13 525

ANNEXURE 14 526
Pre-test/Post test *526*

ANNEXURE 15 527

REFERENCES **529**

ABSTRACT

This research aimed to study the impact of conducting action research on the professional development of secondary school teachers in KPK (Pakistan) and to spot diverse elements of particular attention for thought which could be a factor in the professional development of school teachers in Pakistan. The study was unique in the sense that in Pakistan there is no culture of research at school level[fact]; action research was used as a tool for professional development of teachers at school level. Action research is considered as a systematic process of reflection, inquiry and taking action by the individuals to improve their own professional practices (Frost, 2002, p.25). This study reports on, how teachers can improve themselves to enhance their professional competencies, using action research. For professional development one should be a reflective practitioner, this means that one is capable of; studying his own practice and developing educational theories based upon that practice (McNiff, J. 2002). It also discloses the strategies of applying action research, inside a classroom in Pakistani context (Kemmis, & McTaggart, R.2003, pp.336-340). During the discourse of this study the benefit accrued to teachers using action research in their classrooms were also highlighted. Beside this the challenges that teachers faced in implementing action research in their classrooms emerged.

The objective of this research was to introduce Action research to teachers; for improving their teaching style and professional development; to enable them to challenge their own practices by following the systematic multi cyclic four stage model of Action research (Kemmis, 1982) and improve their teaching styles by studying what they practice. The tools of data collection included; pre and post intervention interviews; lesson planning, lesson observation, post lesson discussion and feedback and reflective journals.

The study was di-pronged, it contributed to the professional development of the participating teachers on one hand and on the other , it developed a deeper insight,

of the researcher, in to the matter how action research can be used as tool for the professional development of teachers at school level.

Indeed, there were issues and trepidations for the participating teachers and even for the researcher too, for instance, there is no research culture at school level, it was difficult for the teachers to conduct action research in their classrooms. Although departmental permission to collect data from public schools, both male and female was granted but at all managerial levels research is seen as useless and time wasting activity hence their support was as well with the same frame of mind and temporary.

Even though there were problems, nonetheless, not all is gone astray the foundation of assurance is the research plan itself that is action research is an enduring experience which facilitate to decide the related issues as one progress. There is sufficient proof to argue that action research, with executive pledge, encouragement and technical support, could work at our school level to endow with an opportunity to our school teachers to keep on developing and learning.

LIST OF ABBREVIATIONS

1.	ADE	Associate Degree in Education
2.	AKU	Agha Khan University
3.	AR	Action Research
4.	B.Ed	Bachelor of Education
5.	CA	Conversational Analysis
6.	CBAM	Concerns-Based Adoption Model
7.	CERNET	China Education and Research Network
8.	CLASS	Chinese Language Association of Secondary-Elementary Schools
9.	CPD	Continuous Professional Development
10.	CT	Certificate of Teaching
11.	DCTE	Directorate of Curriculum and Teacher Education
12.	DIE	Diploma in Education
13.	DSD	Directorate of Staff Development
14.	EPT	English Proficiency Test
15.	GT	Grounded Theory
16.	GTC	Graduand Teacher Competencies
17.	GTM	Grammar Translation Method
18.	HEC	Higher Education Commission
19.	IED	Institute for Educational Development
20.	IER	Institute of Education and Research
21.	KPK	Khyber Pakhtunkhwa
22.	LC	Learner-centered
23.	LCE	Lifelong Continuous Education
24.	LDM	Lecture Demonstration Method
25.	LM	Lecture Method
26.	M.Ed	Master of Education
27.	MSG	Mother-Situation Gravidity
28.	NCATE	National Council for Accreditation of Teacher Education

29.	NEALRC	National East Asian Languages Resource Center
30.	NIE	National Institute of Education
31.	NSDC	National Staff Development Council
32.	OECD	Organization for Economic Co-operation and Development
33.	PD	Professional Development
34.	PET	Physical Education Teacher
35.	PGDE	Postgraduate Diploma Program in Education
36.	PISA	Program for International School Assessment
37.	PITE	Provencal Institute for Teacher Education
38.	PS-F	Participating School-Female
39.	PST	Primary School Teacher
40.	PS-M	Participating School-Male
41.	PTC	Primary Teacher Certificate
42.	PTEPDP	Pakistan Teacher Education and Professional Development Program.
43.	RITE	Regional Institutes of Teacher Education
44.	SBRP	School Based Research Program
45.	SEC	State Education Commission
46.	SLO	Students Learning Outcomes
47.	SPC	Service to the Profession and Community
48.	SST	Senior Subject Teacher
49.	TED	Teacher Education Department
50.	TI	Teacher Identity
51.	TPD	Teachers' Professional Development
52.	TT	Theology Teacher
53.	TTP	Teachers Training Program
54.	TPPS	Teachers Professional Performance Standards
55.	TLP	Teaching Learning Process
56.	V3SK	3Values Skills Knowledge
57.	WG	Working Group

LIST OF TABLES

Table #	Title of Table	Page #
2.1	Huberman Career development model (1995)	116
2.2	Steffy and Wolfe Career development model (2001)	118
2.3	Concerns-Based Adoption Model (CBAM) NAS (2005)	121
3.1	Characteristic of Population for Current Study	161
3.2	Sub Division of Target Population According to Location and Gender	162
3.3	School Codes and Number of Working Groups in each School	164
3.4a	"Plan One" for Second Research Class (Male Schools)	180
3.4b	"Plan One" for Second Research Class (Female Schools)	181
3.5a	"Plan Two" for Third Research Class (Male Schools)	183
3.5b	"Plan Two" for Third Research Class (Female Schools)	184
4.1	Working Conditions & Physical facilities (Male schools)	209
4.2	Physical facilities overall situation (Male schools)	210
4.3	Working Conditions & Physical facilities (Female schools)	211
4.4	Physical facilities overall situation (Female schools)	212
4.5	Monthly work load of the participating teachers (Male)	213
4.6	Monthly work load of the participating teachers (Female)	214
4.7	Monthly work load of the participating teachers Both male &female	214

4.8	Non-Academic Responsibilities of Teachers	216
4.9	Conventional Activities carried out in the class	220
4.10	Applied Teaching Methods in Class	221
4.11	Teaching Levels	222
4.11c	Teaching Levels (Comparison)	341
4.12	Students performance pre-intervention stage (test Scores) Boys	224
4.14	Students performance pre-intervention stage (Test Scores) Girls	227
4.16	Comparative Analysis of the Scores (Boy and Girls)	229
4.18	Teaching Learning Material Used	231
4.19a	Involvement in TLP	233
4.37	Comparison of Zero Plan & Plan One (Male)	284
4.41	Comparison of Zero Plan & Plan One (Female)	288
4.54	Students Performance Post intervention	342
4.54a	Students Performance Pre-intervention	343
4.54b	Students' Pre/Post Intervention Performance Comparison	343
5.1	Improvements in Lesson Planning Skills	422
5.2	Improvements in Lesson Planning Skills (Category wise)	423

LIST OF FIGURES

Figure. #	Title of Figure	Page #
2.1	Kurt Lewin's Action research model	37
2.2	Kemmis Action Research model	38
2.3	Gerald Susman action research model	39
2.4	Elliott action research after model	40
2.5	Ebbutt action research model	41
2.6	Michael Bassey action research model	42
4.7a	Monthly work load of the participating teachers both male &female	215
4.11a	Teaching Levels	222
4.11d	Teaching Levels Graphic Presentation	342
4.12a	Students performance pre-intervention stage (Test Scores) Boys	225
4.13	Level of Cognitive Abilities (Boys)	226
4.14a	Students performance pre-intervention stage (Test Scores) Girls	227
4.15	Level of Cognitive Abilities (Girls)	228
4.16a	Comparative Analysis of the Scores (Boy and girls)	229
4.17	Comparison of Cognitive Abilities (Boys & Girls)	230
4.18a	Teaching Learning Material Used	232
4.19	Involvement in TLP	345
4.20	Types of questions asked by Students	235

4.21	Number of students asking diff. types of questions	236
4.22	Comparison of # of Students asking questions	237
4.23	Active Communication Time	239
4.23a	Active Communication Time Post-Intervention	347
4.24	Teachers' comprehension of assessment	240
4.24a	Teachers' comprehension of assessment (in percentage)	241
4.24b	Teachers' Comprehension of Assessment	349
4.24c	Teachers' comprehension of assessment (in percentage)	349
4.25	Pre-Test Results (Male & Female)	245
4.26	Pre-Test Results (Male)	246
4.26a	(a) Pre-Test Item wise Results (Male)	247
4.27	Pre-Test Results (Female)	248
4.27a	Pre-Test Item wise Results (Female)	248
4.28	Comparative results for Pre-Test (Male & Female)	249
4.29	Teachers’ Participation during the input sessions	259
4.30	Frequency of interaction of teachers (male)	260
4.30a	Frequency of interaction of teachers (female)	260
4.31	Comparison of interactions during input sessions	261
4.32	Evaluation of Zero Plans on Average Scores (Male & Female)	269
4.33	Evaluation of Zero Plans for individual teachers (Male)	270
4.33a	Collective Evaluation of Zero Plans for male teachers	271

4.34a	Collective Evaluation of Zero Plans for female teachers	272
4.34b	Evaluation of Zero Plans for individual teachers (Female)	273
4.36	Collective Evaluation of Plan One for male teachers	284
4.37a	Comparison of Zero Plan & Plan One (Male)	285
4.38	Evaluation of Plan One for individual teachers (Male)	286
4.39	Comparison of score of Zero Plan & Plan One for individual teachers	287
4.40	Collective Evaluation of Plan One for female teachers	288
4.41a	Comparison of Zero Plan & Plan One (Female)	289
4.42	Evaluation of Plan One for individual teachers (Female)	289
4.43	Comparison of score of Zero Plan & Plan One for individual teachers	290
4.44	Average Score for Plan One (Male & Female)	291
4.45	Comparison of Average Scores of Zero Plan & Plan One (M & F)	292
4.46	Average Score for Plan Two (Male & female)	313
4.47	Comparison of Lesson Plan One & Two	314
4.48	Comparison of Three Lesson Plans (Cycle One)	315
4.49	Evaluation of Plan Two for individual teachers (Male)	319
4.50	Comparison of Scores of Three Lesson Plans (Male)	320
4.51	Evaluation of Plan Two for individual teachers (Female)	320

4.52	Comparison of Scores of Three Lesson Plans (Female)	321
4.53	Development of Lesson Planning Skills	340
4.54c	Students' Pre/Post Intervention Performance Graphic Presentation	344
4.55	Number of Students raising questions Pre/Post Intervention Comparison	346
4.56	Teachers' Comprehension of Assessment (Correct responses)	350
4.56a	Teachers' Comprehension of Assessment (Incorrect responses)	351
4.56b	Teachers' Comprehension of Assessment (No responses)	351
4.57	Post Test Scores of Participating Teachers	358
4.58	Comparison of Pre &Post Test Results	359
5.1	Interrelationship of three variables	380
5.3	Pre/Post Intervention analysis of Students' involvement in TLP	424

CHAPTER 1
INTRODUCTION

The purpose of this study was to develop an understanding of how action research can be used for teachers to develop professionally in the context of Pakistan. The existing educational policy in Pakistan stress and necessitate that teacher education should be based on student-centered teaching (Ministry of Education, 2009b, 43).However the policy does not explicitly reveal how teachers can develop professionally. National Professional Standards for Teachers in Pakistan developed by the Ministry of Education propose that teachers recognize and comprehend, 'how educational research and supplementary techniques of investigation can be utilized as a means for nonstop learning, self-appraisal and professional development' (Ministry of Education, 2009a, 17). So in the light of the above recommendations and policy directives "Action Research" was used as a tool for professional development for teachers at school level.

1.1 BACKGROUND OF THE STUDY

To meet the purpose of this research, Action research was introduce to the teachers of selected schools of Khyber Pakhtunkhwa (Pakistan) for, improving their teaching style and professional development; to challenge their own practices by following the systematic multi cyclic four stage model of Action research (Kemmis, 1982) and make efforts to bring positive change in their existing style of teaching. While using action research the teachers were engaged in, planning, taking meaningful actions, making observations, self-reflection, data collection, and analyzing data. Hence, availing an opportunity of continuous growth and development.

This report presents the setting of the study, statement of the problem, its significance, methodology, tools of data collection and its analysis. The carrying out

of the action and the findings of each step of the research cycle i-e plan, act, observe and reflect, are also discussed in this report.

The focus of the study being the professional development of the school teachers that is how teachers can develop was linked with the concept of teachers as reflective- practitioner. The nature of reflection is usually explained as a form of deliberative thinking procedure concerning problem solving and rebuilding of viewpoints and facts fundamental to teaching action (Ward & McCortter, 2004). The word 'reflection' in the perspective of professional development is related to Donald Schon and the expression 'reflective practitioner' gained popularity after he published his book "The Reflective Practitioner. According to Schon, reflection is the way by which anything that is unstated or which is usually hidden is brought to the forefront as practitioner become aware of their practice. To him reflection is of two types: reflection on action and reflection in action. Reflection on action, usually happen away from the incident at a place other than the place of event and the reflection in action is done spontaneously during the moment of happening (Schon, D. 1983; 1987). It is worth noting that in the contextual setting of the study, teachers seldom do any type of reflection rather they discuss and blame elements laying out side event. As teachers and students are the main players of the teaching-learning process, hence they should be the focus of reflection but unfortunately they have never been the focus of reflection. Teachers do discuss students and blame them for their low IQ level and incompetency. They also complaint about the shortage of time, large classes curriculum and heavy workload but mostly teachers do not put themselves for self-criticism. Usually teachers avoid self-criticism and subjected to sanctimoniousness

Even though many studies have accounted for thriving incidences of the application of action research as a tool for professional development (Ponte, P & Wubblels, T. 2004). This study contributes to the current literature by providing cases with a scattered teacher population, varying from veteran to neophyte elementary

school teachers of urban and rural schools. The findings of this study also illuminate the role of action research as a tool of professional development for school teachers.

The professional growth of teachers is important because Professional development helps to maintain the quality and relevance of professional services throughout their working life and is directly linked to the future of the Nation. The quality of Teachers influences the quality of the education of students (Harris, & Sass, 2011).

In our educational system there are thousands of teachers being trained who are teaching in different fields of educations. The present situation of the schools clearly tells that teachers' teaching approaches are very limited (lecture method). Somehow, it seems that either the teachers are used to work in a comfort zone or they are afraid of creating any interactive environment in the classrooms of large number of students, that there would be any kind of situation, which might be uncontrollable for them. Therefore, they are not feeling comfortable to apply new approaches of teaching. The classroom teaching at school level is mostly based on conventional method of teaching, where the teachers transmit knowledge through lectures and class participants are passive recipients (Shah, 2003). Teacher students' interactions are limited only to the extent of asking questions for clarity and of information level, whereas student-student interactions revolve round all sorts of topics of common interest except subject matter. Students rarely ask any question. Before starting the actual research, and in order to find the existing situation and the professional competency level of the teachers a survey was conducted to find out how much teachers retain the knowledge and skills obtained during their professional degree of B.Ed and M.Ed. for this purpose data was obtained from 106 practicing teachers through actual class room observations. It was found that only 5% of the teachers use some knowledge and skills acquired during training but they think that they need some kind of technique which could be helpful for their improvement and professional development. They demanded for such a technique which could be used

when ever needed and which is helpful for continuous growth and learning. Another important factor which should be taken into consideration is the pre service and in service teacher training programs. Although in all pre service teacher training programs research is a component but it is a weak area and the scope of such researches is also limited to the fulfillment of the course requirement which has little application in teachers professional performance. The case of in service teacher training programs is even worse in the sense that there exist no comprehensive in service teacher training program which could serve the purpose of professional development of teachers.

Also the principal researcher had an experience of undertaking an action research for professional development as a joint venture of Pak –Norway Institutional Cooperation Project. This study was completed with the collaboration of Institute of Education and Research (IER) Peshawar University and Institute for Educational Development, Aga Khan University Karachi (AKU-IED). The study investigated the possibility of using innovative teaching approaches for making teaching and learning more interactive and interesting, through Action Research. The result of study showed that the principal researcher gradually made progress, and improved his own teaching style considerably (Kulsoom and Asif, M. 2012). According to Kulsoom and Asif (2012) "…Action research is a tool for the professional development of teachers and it could be easily used to enhance the capabilities of the teachers…" (p.37).The same study show with evidence, that action research offers a chance for self-improvement and development within the available resources (p. 37). Throughout the world different models of teacher development are in common practice. These models are broadly categorized into two groups; one group include those models which are applicable at organizational or institutional level while other group depicts models which are effective at individual level or on minor scale (Eleonora, V. 2003). Action research is considered one of the several techniques which are included in the second group, for teacher professional development. This technique is considered as a process of investigation, reflection and action which deliberately aims to improve, or

make an impact on, the quality of the real situation which forms the focus of the investigation. It is a form of inquiry which involves self-evaluation, critical awareness and contributes to the existing knowledge of the educational community" (O' Hanlon, 1996, p.181). Not only this technique is used on small scale by individual teachers but the same is highly valued and considered equally good to be adopted for other models of professional development and encouraging the function of teachers as investigators and reflective practitioners (Stokes, 2001)

1.2 STATEMENT OF THE PROBLEM

For the duration of 1960s - 1970s, a thought come into sight which supported the notion that school teachers are authority in their own right, rather than simple beneficiaries of university-breed information (Doyle 1990; Shulman 1987). This led to, many research projects conducted by school teachers throughout the world to address the problems related to classroom teaching and find solution for them. As a result teachers were deemed not only as professionals who use knowledge shaped by skilled investigators but as architects of that knowledge (Stokes, 2001).

Being inspired by the above mentioned study the frame work of this study "*Impact of conducting action research by secondary school teachers on their professional development*" was designed to investigate the application of action research, relatively at larger scale. As a matter of fact in the study mentioned above the researcher played the role as the subject of the study but the current study was meant for the professional development of teachers other than the researcher himself. Therefore the researcher had [duel] dual role of investigating, the impact of action research on the professional development of teachers and at the same time to learn, "how action research could be used as a tool for teachers' professional development?"

It is argued that teachers need "intensive expert support"(Dean, B. 2009) to conduct action research but it should be kept in mind that conducting action research at school level is not an end in itself but in fact it is used as a means to refine and develop exiting teaching practices for making classroom teaching more student

centered. In response to the question of viability raised by Dean; Halai (2010) has tried to show that despite the challenges; teachers have been able to successfully undertake this form of research. Dean has pointed another factor-the resources; which she considered might be a hurdle for conducting action research but again according to Kulsoom and Asif (2012) action research could be carried out in Pakistani context because the study conducted by Kulsoom and Asif (2012) was done in KPK without provision of any additional resources. As evidence other studies such as one was conducted in South Africa give no evidence of limited resources as a hurdle for conducting action research at school level (Robinson, 2009).

In this research study "*Impact of action research on professional development of teachers* " the term "action research" has two different scopes i-e for the participating teachers it is a teacher research- a sub class of educational action research (Emily C. 1993), with a narrow scope and for the principal researcher it's a system-wide action research, with a broader scope. For the participating teachers it is narrow in the sense that their individual studies were not meant for publication in research journal but these small scale researches served the purpose of collecting data for the main research study and enabled the teachers to grow a strong and reliable specialized accent to slot in diverse stakeholders in critical dialogue for change and confidence and trust in their own potentials for continuous growth and professional development (Phillips,& Carr, 2010). The teacher research is concerned with modifying single classroom and to help out the individuals. The results are significant for individual teacher and the consequence of the study may or may not reach further than the classroom, the term "action research" for the principal researcher means system-wide action research focused at the improvement of the whole system and area of professional development of collective interest, supported by management. It is broader in the sense that the whole community of school teachers is the beneficiaries of the result and it has the enormous effect that have the prospective to reorganize and modify the professional development program for teachers.

For the deeper understanding and clarity of mind of the readers it is necessary to link the current situation, regarding classroom teaching and the overall prevailing atmosphere of our schools with the objectives of this study. The prevailing environment in and outside the classroom were not encouraging as there was no culture of conducting researches at school level, although time and again people do come to collect data of different nature, for different researches but teachers are rarely involved directly or trusted for doing research themselves. Hardly ever teachers apply any of the innovative techniques of teaching for improving their existing practices because the teacher themselves are far from the teaching approaches, which create an interactive environment in the classroom. They used only lecture method. Because of not having the opportunity to even see using the different approaches of teaching, they could not identify their gaps. Regarding the environment in the classroom, it seemed that it was not only discouraging for the students but also for the teacher who hesitated and faced difficulty to adopt different methods of teaching other than lecture method. One of the main reasons for using the conventional method of teaching was the large number of students in the classroom. Furthermore; most of the teachers had a heavy teaching workload due to which they did not have enough time for planning or testing any modern approach to teaching. Therefore, need was felt to conduct a research study to help out teachers to develop their professional abilities and to change their role as mere users who just utilize different theories and teaching methods of content and pedagogy to classroom teaching, to the new role as active producers of educational theories and techniques who constantly expand useful knowledge as they solve problems in living conditions of their own context (Schon, D.A. 1983).

Teachers realized the existing scenario, but due to their heavy load of work, they could not give the proper time and guidance to the students. No doubt, teachers are willing to improve their knowledge and skills. And they also want to learn active participatory pedagogies and need to have some mechanism to improve their teaching practices. Hence it was conceived that to introduce such a strategy which is, effective

in the prevailing situation, applicable along with the existing workload of the teachers, up-to-date enough to meet the ever changing situation of the schools and flexible to the extend to be adopted for individual needs. The desired strategy should be able to turn the classroom environment from conventional to interactive one. Therefore, this research study was designed for teacher to apply action research to improve their existing practices and create an interactive learning environment in the classroom through Action Research. Stringer (2007) defines action research, as "*a systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives"* (p. 1). He writes further that action research offer the means by which one can add to the efficacy of the job in which they are occupied and can implement the simple basic plan of action research to ever emerging problems.

The purpose of teaching is to create such circumstances where students become excited about comprehending the subject matter themselves and as a result deeply incorporate new substance and outline the meaning into their own way of thinking. For this we use a variety of methods such as speaking in pairs, small group discussion, role plays and debates. Most significant is the use of cluster venture in which students engage in current issues linking subject material with people outside the schools.

This approach can generally be called student-centered and problem-based. One thing is clear that the conventional approach to teaching, dominated by lectures and focused on content, is not very effective in fostering deep learning. Other methods and mixtures of methods have proved much more successful, though there is no single method that is appropriate for all circumstances. In addition as a group of teachers worked together it developed a collaborative culture among teachers at the school level and enriched the existing teaching practices of teachers and helped in future line of action. In the light of above facts it was expected that this study would prove helpful for the professional development of the teachers.

Why action research is considered an effective tool for professional development?

Simple answer to this question is that it helps people to change in three areas; the actions which people take or their present practices; the perceptions behind their actions or practices and the setting in which people practice (Kemmis, 2009). When we try to change for improvement actually we are developing, now if our focus of change is our job and our profession, than this improvement turns into professional development. This professional development gives power to people to control, the actions –what they do; the reason- why they do and the conditions in which the act. The ability to control these elements is termed as professional development which produces ownership, responsibility and self-reliability. A professionally developed person is responsible for his actions and takes the initiative to, modify and adjust to the conditions determining our actions. On the contrary, people lacking professional development hesitate to take responsibility of their action and instead of modifying the conditions they leave everything to circumstances resulting in poor performance.

Although professional development programs are generally designed to enhance teachers' knowledge, skills and attitude so that they can in turn improve the quality of teaching and learning of their students. However practically it was observed that in the class room these teachers use very little of that knowledge and skills developed during these courses. Also with the passage of time majority of the teachers start following the same ineffective and inefficient conventional teaching methods. Action research provides a mechanism which could be used every time equally effective. Its mechanism is not affected by time frame.

Educational action research is analyzed as an idiosyncratic type, which is different from the conventional methods of research. Conventional methods take for granted that the world can be recognized devoid of bias, and that truth can be found through experiments and rationally (Somekh, 2006).

Customary research approaches take in arbitrary, structured experimentation, generating quantitative data from envoy sample, this data is analyzed by statistical methods to ensure the soundness and dependability of final results the research study. In the conventional research studies the researcher is not the part of the incident, they possess rather an external status during the course of the study.

On the other hand in an action research study the researcher is a part and parcel of the incident (Heron and Reason, 1997). According to them, knowledge comes from experience, and to have experience of whatever thing is to involve one's self in it, and involvement means to fit into the situation and developing insight. (278).

The conventional research is made objective by eradicating prejudice, whereas in action research the overt aim is to perk up the current circumstances. Action researcher asks, how can I improve what I am doing? (Whitehead, 1999). Teachers recognize action research as a precious form of ongoing professional development; as a means of supporting enduring wisdom. Furlong and Sainsbury (2005) investigated that teachers who participated in action research were more self-assured and well-informed. They were much better in collecting and using data; they had a clear vision of how they learn themselves.

As mentioned earlier that we don't have any in service teacher development program which could provide an opportunity for professional development therefore it was expected through this study that it might be a first step in this direction and in future the findings of this study might be used for launching a comprehensive teachers' professional development program.

As compared to other professionals teachers work in isolation and find very few opportunities of mutual learning. For example doctors and engineers, during their professional career learn a great deal new knowledge and acquire many skills. They learn these skills and knowledge through sharing their experiences with their colleagues. Still some other professionals such as engineers and lawyers work in

teams and discuss their approach to some specific problem along with the findings this serve as the opportunity for professional development. Thus majority of the professionals in different fields other than education find many opportunities to keep on building their professional knowledge (Sagor, 1992). Teachers in contrast work individually and once in a blue moon seek advice from one another. Thus the working environment of teachers is not conducive for professional growth and does not support collaborative learning. Many incidences from the fields of medicine and engineering can be produced as evidence of the practitioners being directly involved in research in their routine activates, for instance examining patients having different nature of ailment and conditions

This approach reduces the gap between theory and practice (Ponte, P., J. Ax, and D. en Beijaard. 2004). Conversely, such replica does not subsist in education. In education usually research is conducted by persons who are not class room teachers. The school teachers believe that research is a venture of university scholars and they can only use the findings of these research studies or implement the recommendations suggested by the researchers. Additionally, in other professions except education and teaching, the practitioners are also responsible for evaluating of the quality of their effort. Usually in other fields the people doing the job under taking their daily duties, as well, also serve as the quality control managers but this practice varies to a great extent in the field of education. Frequently, policy makers, administrators, and other powerful stakeholders make a decision which educational and developmental topics teachers will practice, without regarding the needs of the teachers, perceived by them.

Another major issue that needs to be addressed is the clarity of the term ‘professional development’ i-e what actually is meant by a ‘professionally developed’. Or what qualities we expect to see in a professionally developed teacher. Glatthorn, (1995) defines professional development of teacher as the proficient expansion a teacher attains as a consequence of gaining added know-how and probing his or her teaching practices in a systematic manner. It is strongly believed that if we

want to have reforms in our educational system we have to change the teachers as they are the key elements of our educational system. It means that we can bring the desired change by changing the teachers. Thus the teachers acquire dual role of the subjects and objects of change. This new status of teachers has been accepted broadly by majority of the teachers and educationalists throughout the world as it values and realizes teachers' efforts, and moreover supports the notion of teaching as a "profession" (Duke, 1984). Unluckily sometimes, the concept of professional development of teachers' has been taken as an indication that teachers are not sustaining satisfactory teaching standards. But researches show that this belief is not true. As Guskey and Huberman (1995) reports and share that while working with teachers on international level, they found no proof which supported this false belief. It should be made very clear that any activity of professional development of teacher undertaken do not show that teachers are incompetent or they are not doing a good job. The fact remains that most of the teachers are hardworking and devoted; especially in our context teacher's job is even more demanding because they have to work under challenging conditions. All they need is a direction and appreciation.

1.3 SIGNIFICANCE OF THE STUDY

This study proved to be beneficial for different stakeholders of educational system. There were direct and indirect beneficiaries.

Direct beneficiaries received immediate advantages as a result of this study and showed improvement in their respective domains. They included;

- Practicing teachers
- Students

Whereas indirect beneficiaries included;

- Teacher educators
- Educational managers
- Curriculum designer

In this study teachers of selected schools enhanced their professional competency by learning to use "Action Research" as tool for their professional development. In the course of study the participating teachers learnt to conduct small scale teacher research (Emily C. 1993) using systematic multi cyclic four stage model of Action research (Kemmis, 1982) Furthermore, research skills such as systematic data collection, analysis, writing up reports and dissemination also developed that played an important role in teachers' thinking ability to create innovative ways of teaching and an interactive environment in their classrooms. Participating in the study the teachers harvested technical and social benefits; at one end they developed technical knowhow of the inquiry method of exploring different aspects of classroom teaching and at the other end their confidence was built as a professional practitioner. They found voice to discuss and express their own views about educational practices taking place in their classrooms. They realized their professional responsibilities and felt pride in their work.

Not only had the teachers who participated in this study directly benefited from this study but the students also showed improvement in their achievements. With the increased professional knowledge teachers were in a position to guide their students more effectively which resulted in higher students' achievement (Falk; Grosso de Leon, 2001). Darling (1999) shares that "investments in teachers' knowledge and skills net greater increases in students' achievement than other uses of an education dollar" (p. 32). In the current study one of the participating teachers commented that we have learnt mathematics for the first time and now we will help our students to discover mathematics rather to accept it helplessly. In this study both the experienced and novice teachers participated and the results show marked positive change in their attitude and teaching methodology, this change was reflected in their classroom practice, which resulted in higher students' achievements.

We find same results in a study conducted by Broko and Putnam (1995). In their study they share that veteran teachers' educational knowledge and faiths can be

modified by professional-development programs and these changes are linked with amended classroom teaching and student accomplishments. The results of the study also show progress in students' achievements. The students became more active and confident. It was observed that before the intervention students remained passive in the class while the teacher played dominating role of the knowledge dispenser. While after intervention a shift in the roles of the students and teachers was recorded where the students became active and teacher took the role of a guide. This shift reduced the cold gap between the teacher and the taught.

1.4 OBJECTIVES AND RESEARCH QUESTIONS

The focus of this study remains, whether or not Action Research could be used to improve teachers' professional competencies in the context of educational setup of Pakistan, with especial reference to the province of Khyber Pakhtunkhwa. Interpreting the research objectives in measureable terms these were converted into research questions and hence the main research question was:

> "How can we as teachers improve ourselves to enhance our professional competencies, using Action Research?"

The subsidiary questions were;

Q1. What should be the strategies of Applying Action Research, inside a classroom?

Q2. What benefit accrue to teachers using Action Research in their classroom?

Q3. What challenges do teachers face in implementing Action Research in their classrooms?

Q4. What difference the use of action research make in classroom teaching?

1.5 DELIMITATION OF THE STUDY

For the purpose of control and quality this study was delimited to the secondary schools of district Peshawar only. Also delimitation facilitated the researcher to manage and establish close coordination with the participant of this research.

This study was carried out under the subsequent constraints:

1. The participating teacher had no knowledge of conducting research, especially action research.
2. The study was confined only to 10 public schools of district Peshawar.
3. The study was initially started with 50 participants but the results were based on the data provided by 41 teachers.
4. The participants in this study were selected on voluntary basis and had the liberty to withdraw stage.
5. The study used action research as a tool with the element of self-reflection which in some cases might have been unreliable.
6. The element of exaggeration regarding positive results could not be ignored.

1.6 POPULATION AND SAMPLE

According to the annual statistical report of government schools, 2010 in district Peshawar there are 108 secondary schools (70 male and 38female) with 475 secondary school teachers general(SST-G). The mentioned schools and teachers comprised the population for this study. A sample of 50 SST-G (male and female) was selected. On average there are 4 or 5 female SST-G in every female secondary school and 5 or 6 male SST-G in each male school. Using the cluster sampling technique five male and five female secondary schools were selected.

1.7 RESEARCH METHODOLOGY

Action Research was used to answer the research questions as it is best suited for individual or group of individuals study their own practices. “Action Research” is a process focused on Practitioners studying their own practices in order to improve them “Action research” has been defined as a deliberate, solution-oriented investigation that is group or personally owned and conducted. It is characterized by spiraling cycles of problem identification, systematic data collection, reflection, analysis, data-driven action taken, and, finally, problem redefinition (Feldman, A. 2007).

Teacher linked of the two terms "action" and "research" together by trying out ideas in their practice to increase their knowledge about; improving curriculum, teaching, and learning (Kemmis & McTaggart, 2000). Teachers after starting reflecting upon their practices, picked specific problem and planned to implement some strategy most suitable in their respective context to solve that particular problem. This added to the knowledge of teachers. Thus, students’ reaped immediate benefit from the teacher’s new learning (Shalaway, 1990; Williamson, 1992). Teachers followed systematic inquiry approach, reflection on action and focused the specific problem; the core components of action research (McCutcheon and Jung 1990). Teachers used the technique of action research; to get answers of questions and solve problems that rose from the daily life of the classroom and implemented their findings to modify their practice (McKay, 1992; Twine & Martinek, 1992). As the outcomes of action research were clearly focused on educational improvement. It served as a vehicle for the teachers to change, and thus they improved their educational practices (Corey 1953).

Teachers used Kemmis' four stage model following the cycle of: Plan, Act, Observe and Reflect. "Planning" involved the determination of the question that were needed to be answered and the strategy to be used in answering them. During the "Acting" stage, the practitioners tried out the proposed strategy. In the "Observation"

stage teachers recorded data on the basis of the results applied strategy. They also kept a journal to write their thoughts and reactions regarding entire experience. Finally, during the "Reflection" stage, conclusions were drawn and the original plan was revised based upon the conclusions so that a new cycle could begin (Kemmis, 1982).

1.8 PROCEDURES

The purpose of this research study, as the main research question suggested, was to engage the teachers of selected schools in improving their classroom practices using Action Research. Therefore the research process required the researcher to work with a selected group of teachers. The selected group consisted of 50 practicing school teachers (experienced and less experienced, ideally 25 male and 25 female) with whom the researcher worked and guided them for at least 03 cycles including the following:

1.8.1 Pre-Intervention Stage

In this stage of the study, the selected sample of the teachers were interviewed and observed in their classrooms for their current practices of teaching, also to know how teachers perceived teaching and learning, a questionnaire was administered to the selected group. The observations were recorded, using observational check list. The major areas of observation in pre-intervention stage were;

- Lesson planning skills
- The level of student's involvement in teaching learning process.
- Questioning technique
- Activities performed during class
- Teaching method used
- Communicational skills
- Distribution of allotted time
- End of class notes or teacher's reflections about class

- Assessment
- Class room environment.

1.8.2 Intervention

The intervention was made in four phases;

- **Phase-one (Orientation Workshop)**: A one day workshop was held with the selected group of teachers at each school to introduce them to the concept of action research and innovative methods of teaching, classroom management, and lesson planning. These workshops were held at the selected schools conducted by the researcher. The workshops were attended by a sub group of 05-08 teachers depending on the number of teachers available at each school.
- **Phase-two (Model Lessons)**: The researcher delivered model lessons in order to help them learn how to conduct effective lessons and reflect upon teaching strategies and delivery mechanism. The teachers observed these lessons and post-lesson conferences were be held to discuss the observations made by the teachers.
- **Phase-three (Co-Planning / Teaching)**: The researcher facilitated and guided the selected teachers through co-planning and co-teaching in order to build their confidence and understanding of using different innovative methods of teaching.
- **Phase-four (Individual Teaching)**: in this phase the selected teachers taught in their respective classes applying different teaching methodologies, making observations, and reflecting upon their teaching. Following the spiral cyclic approach of plan, act, observe and reflect, teacher entered the next cycle.

The duration of each cycle varied from teacher to teacher and by the level of problem in focus. However, each cycle was not longer than one week.

The nature of this research study was such that on the one hand the research focused on improving the practices of selected teachers and on the other hand it aimed

to test the applicability of action research as a tool of professional development for practicing teachers. Thus, it was decided to keep the sub groups small so that the researcher could assist the selected teachers in improving their practices and at the same time to investigate the utility of action research as a tool for professional development for in-service teachers.

As the sub groups belonged to the same schools hence working with colleague greatly enhanced the quality of the experience and allowed the research participants to focus on a specific question and a design which helped them to find the answer of the question. One of the most important elements of the experience involved keeping a journal. The self-reflection that the journal writing provided was more valuable to the participant and the researcher than the specific answer to the question asked. The reflective journal also provided important data for sharing, analysis and for the write-up at the conclusion of the project.

1.8.3 Post-Intervention Stage

After giving the input, post-intervention observations were recorded. The area of observation being the same as mentioned earlier under the heading of pre-intervention observation, in addition to some other significant changes observed during the discourse of the study.

1.9 TOOLS OF DATA COLLECTION

The research tools included the following:

- Pre-intervention interviews from the selected teachers were conducted to know what their understanding was regarding teaching and learning; what rationale they had for their preferred practices; and why they did / think the way they did.
- Pre-intervention observations of teachers' lessons were recorded to know how they taught certain topics; what dominant methods they used in their lessons; what issues they faced; and how they addressed those issues.

- Post-Workshop interviews/discussions with teachers were conducted in order to know what they learnt from the workshop; how they react to innovative methods of teaching; if they experienced any change in their perceptions about teaching and learning. What possibilities they see in applying these techniques in their classrooms. Similarly, post-workshop observations of the teachers' lessons were also recorded to see if the teachers were able to implement their learning from the workshop; what issues they faced; and how to did they addressed those issues in the next cycle.

- Observations and pre- and post-conferences were held throughout the cycles – i.e., during model lessons, co-planning and teaching, and individual teaching by teachers. Semi-structured interviews were conducted with the teachers after each cycle of intervention. Similarly, discussions and informal conversations with the teachers also continued throughout the research process.

- Post-Intervention interviews were conducted with the teachers to know the level of improvement in their perceptions and practices of teaching and learning.

- The researchers' own reflective journals and notes were also be used as sources of data.

- The data form pre and post intervention stage was compared to see any changes and developments in the teachers' current practices of classroom teaching.

In qualitative research paradigm, Patton (1990) wrote that "data collection method in the qualitative tradition permit a detailed description and analysis of what it is a person know and accomplish as they interact with each other in the occasions they themselves create and manage" (p. 392). So for us as a researcher it meant that we had the opportunity to use material collected from different occasions of

interaction, usually by means of field and interview notes, or with the help of audio and videotaped recordings and transcripts. In this study data was collected through classroom observations, unstructured interviews from teachers and students, document analysis, and reflective notes. Another source of data was the students' work and their performance inside the class.

1.9.1 Classroom Observations and Field Notes

Observation techniques are methods by which an individual gather first hand data on programs, processes or behaviors being studies (Mahoney, 1997). In order to understand the existing practices of teaching and students' participation in the classroom observation check lists were used along with the field notes. Keeping field notes helped the researcher to document classroom observations as a rich source of data for study. Although the audio tape recording provide with the verbal data, but for better understanding none verbal data was also required for making sense of the events. The classroom observation allowed understanding how teacher perceptions were translated into practices in the classroom.

1.9.2 Audio Tape Recording and Audio Tape Transcription

Elliot (1991) suggested that in the context of action research, audiotapes could be used to record lessons in whole or part. He further suggested that a teacher would probably get more out of a recording if he or she listened to it and then transcribed interesting and relevant episodes. So during this study we used audio tape recorder to record all the discussions taking place during the classroom sessions.

1.9.3 Semi-Structured Interview

Semi-structured interview is a useful tool to investigate the learning process under this study; several questions raised during the process, it helped us to deeply investigate discussion in this study in a flexible method, because during interview different ideas emerge and we further explored them by asking when, how, why and what questions, to investigate the source of information, such as asking probing

questions by clarifying reasons from research participants (Hitchcock, G. and Hughes, D. 1995).

1.9.4 Informal Discussions

Informal talk with teachers and students helped to understand the situation of teaching and learning in a better way. It also helped to facilitate, according to the need of the situation, these conversations and open discussions in a friendly environment.

1.9.5 Reflective Notes

Reflective notes are an important part of the action research process. Action research According to Cohen Manion (1994), action research "involves a personal journal in which we record our progress and our reflections are two parallel sets of learning: our learning about the practice we are studying and our learning about process (the practices) of studying them" (p.227). Reflective notes helped to record our understanding and personal insight regarding the use of techniques as instructional strategy.

CHAPTER 2
LITERATURE REVIEW

This chapter includes literature related to the study, as the topic of the study depict the nature of the study, material presented here focus on, action research, teachers professional development, teacher training programs and teacher professional development programs within the context of Pakistan(Khyber Pakhtunkhwa). An account of related researches conducted throughout the world is also added in this chapter.

2.1 HISTORICAL BACKGROUND

Action research is an inquiry or research in the context of focused efforts to improve the quality of an organization and its performance. It typically is designed and conducted by practitioners who analyze the data to improve their own practice (McNiff, 2010). Action research can be done by individuals or by teams of colleagues. The team approach is called collaborative inquiry (Kemmis and McTaggart, 2005). It gives teachers new opportunities to reflect on and assess their teaching; to explore and test new ideas, methods, and materials; to assess how effective the new approaches are; to share feedback with fellow team members; and to make decisions about which new approaches to include in the curriculum, instruction, and assessment plans. Teacher researchers may work alone or collaboratively with other teachers, students, or educational managers. McKay (1992) describes action research as a six-step cyclical process: (1) identifying an issue or problem to study; (2) gathering and reviewing related information; (3) developing a plan of action; (4) implementing the plan; (5) evaluating results; and (6) repeating the cycle with a revised problem or strategy derived from what was learned in the first cycle, until the question is answered.

Patterson and Shannon (1993) describe action research as "inquiry in which practicing teachers try to understand the particular individuals, actions, policies, and events that make up their work environment in order to make professional decisions" (p. 8). Garner (1996) defines action research more specifically as a systematic, reflective, collaborative process that examines a situation for the purpose of planning, implementing, and evaluating change. Action research provides teachers with the opportunity to gain knowledge and skill in research methods and applications and to become more aware of the options and possibilities for change. Teachers participating in action research become more critical and reflective about their own practice (Oja & Pine, 1989; Street, 1986). "Action research" is a term used to describe professionals studying their own practice in order to improve it. Applied to teaching, it involves gathering and interpreting "data" to better understand an aspect of ones' own teaching that interests or concerns that individual personally.

McCutcheon and Jung (1990) identify the core components of action research as systematic inquiry, reflexivity, and focus on the practical. It seeks to answer questions and solve problems that arise from the daily life of the classroom and to put findings into immediate practice (McKay, 1992; Twine & Martinek, 1992). Teacher researchers may work alone or collaboratively with other teachers, student teachers, or university researchers.

Action research is done by teachers who are encouraged and supported in the study of their own teaching. Miller and Pine (1990) suggest that when teachers become agents of inquiry, the locus of knowledge about teaching shifts from sources external to the classroom (e.g., researchers, textbook publishers, administrators) to sources of practical classroom experience (i.e., teachers). This shift enhances the professional status of teaching because teachers, through this knowledge-construction, actively help to shape the knowledge base of their own profession (Johnson, 1993). Generally, teacher research is driven by the practitioner's desire to improve his or her own practice with respect to a specific problem and a specific set of students. Thus,

students reap immediate benefits from the teacher's learning (Shalaway, 1990; Williamson, 1992).

There is no clear evidence regarding the start of action research. We have a blurred picture about the beginning of action research. By its mechanism action research is nothing but "Learning by Doing". This concept is advocated by John Dewey in early twentieth century. However, according to, many writers such as; Schwartz-Barcott (1993), Zuber-Skerrit (1992) and Kemmis & McTaggert (1990)) credit goes to Kurt Lewin, an expert of social psychology, for introducing this expression in one of his papers in 1946. Initially this technique of action research was implemented in social context. But according to McKernan (1991) its application in the field of education started in late nineteenth century, with the emerging concept of research based teaching and the idea of connecting action and understanding was acknowledged by Stephen Corey (1949 and 1953) and successfully used this method of research in many research studies involving teachers as researchers at teachers College, University of Columbia. This started the use of action research in the field of education. Its implementation was further supported by Teacher Research Movement UK where John Elliott and Clem Adelman employed this technique as a foundation to support school teachers to promote inquiry learning in classrooms (Elliot and Adelman, 1973, Elliot, 1978). The extensive application of action research in the context of school based curriculum development and teachers' professional development is common in Australia, where action research is used to help school teachers find new methods of teaching, evaluating their practices and remodeling them (Kemmis and McTaggart, 1988). Near the end of twentieth century in 1993 with the establishment of Aga Khan University Institute for Educational Development (AKU-IED) in Karachi Action Research methodology was introduced in Pakistan. The role of AKU-IED in promoting action research culture in Pakistan is quite obvious.

In start action research was restricted to schools only and teachers used it to study the outcomes of certain teaching tactics or some amendments made to their current classroom practices. But gradually action research was extended to and implemented at all stages of professional development programs, with an expended scope making it a wide-reaching movement. Regarding function of action research, it concurrently serves professionals to find suitable solutions to urgent tricky conditions in the short run and to the objectives of social science in the long run. Currently action research is used in-particular, for school development program, teachers' professional development, investigating new teaching learning approaches and curriculum improvement (Kemmis & McTaggart. 2004).

2.2 ACTION RESEARCH: ITS BEGINNING AND GROWTH

The existing action research process is carved out through series of developmental stages grounded in its origin and built on logical frame work of evolution. For our conceptual understanding a detailed account of the work produced by some of the key figures in the growth of action research for the last few decades is given, which will help us to draw our frame work of this study.

As mentioned earlier Kurt Lewin, the founder of the new form of research methodology (action research), was a social psychologist who was concerned to improve the public association of clusters and groups of people (Lewin, 1946). He perceived action research as an alternative to the traditional research methodologies. As an alternative to the formal research techniques like surveys and statistically analyzing quantitative data, action research was applied to improve communal configurations by engaging partakers in a repeated procedure of, searching realities, probing accomplishments and evaluation (Lewin, 1948, 202–6). As time passed the basic character of Lewin's work was over and done. However the main purpose of Lewin was to improve the lives of ordinary people assuming that human beings have the capability of supporting one another in the learning process (Stetsenko, 2008). Following the basic assumptions that man has the ability to shape their own learning

from their experiences Stephen Corey, (1953) along with his associates promoted action research in the field of education in United States. They carried out many studies to investigate different problems related to schools and classroom teaching. Corey elaborated in his book "Action research and improved school practices" and discussed what cooperative action research is, teachers working together in teams and conducting research on common problems to find solutions in their specific context (Corey 1953).

Lawrence Stenhouse (1975), considered curriculum as the main element of student learning at school. To him "curriculum" included what nowadays is more frequently described as 'pedagogy'. Curriculum comprises of content and method i-e the content knowledge which students learnt and the method which the teachers and students adopted for learning. He considered teachers as researchers in studying the processes of interaction between teachers and students which lead to the actual learning as the end product of this interaction. His believe in the fact, that teachers' classroom practices provided rich material for further exploration and investigation developed his vision of teachers as the producers and recorders of events from the living classroom experiences. These small but important events recorded and systematically studied contributed to the existing bank of knowledge for information the policy makers. These classroom experiences greatly help modify and develop new practices (Stenhouse 1985).

In late 80s Stephen Kemmis and Wilf Carr developed the theoretical aspect of action research and shaped its methodology by linking action research with the Habermasian school of thought of egalitarianism regarding power disparity in community groups and organizations (Carr and Kemmis 1986).

John Elliott, while investigating the Ford Teaching Project and Teacher–Pupil Interaction and the Quality of Learning developed the idea of multi-stage action research (Elliott 1991) thus expanding and changing the concept of teacher-researcher. Over a period of thirty years Elliott developed a complete assumption of

teacher specialized awareness and teacher skill improvement with the help of action research (Elliott 2007). Elliott's speculation of teaching as an experimental science is based upon the Aristotle custom of experimental philosophy (Elliot, 2007). Elliott stressed two main aspects of teachers professional development, first the ability to understand the prevailing situation and analyze it, secondly the development of ethical outfit of teachers. To meet these ends improvement of education is obligatory and improvement of education is possible through action research. He believed that the first part of this developmental process could be achieved by putting our own practices to serious experimentation and critical analyses. The second half of teachers' professional development focuses the ethical aspect which could be internally comprehended rather than as the result of some ethical belief that we hold (Elliot, 2007).

The three main features of action research distinguished by Noffke (1997) recognize the importance of action research. The professional, the personal and the political aspects mentioned by her are the function of one another. But according to Noffke the political aspect is more highlighted. These three elements handle the question of authority and command. In this relation the individual or personal aspect and the public aspect of proficiency become meticulous indications of the political aspect of action research (Noffke 1997, 306).Noffke efforts are central in setting up a variety of the action research areas. She has sustained to study the control and convolution of the universal values of action research, this broadness is retained in the Handbook of Educational Action Research she has in recent times compiled (Noffke and Somekh 2009). This Handbook shows how the rising practice of action research has prospered and branched out in the last two decades.

Movements that influenced the development of action research;

- The Science in Education Movement: in this movement scientific method was implemented to education. According to McKernan (1991) the work of Boone

(1904) and Buckingham (1926), supported the science in education movement (Masters, J. 1995).

- The Experimentalist and Progressive educational work of John Dewey: referring to McKernan (1991) John Dewey applied the inductive method for solving problems related to philosophy, psychology and education (Masters, J. 1995).

- The Group Dynamics movement in social psychology and human relations training: Group Dynamics was used in the nineteenth century to deal with the social problems such as the assault of World War II, group dealings, cultural bigotry, and social reform (Masters, J. 1995)

- Post-war Reconstructionist Curriculum Development Activity: After the end of world war II Action research was used a common approach for manipulating course and addressing intricate social problems, like group dealings and narrow-mindedness through projects of course designing and development.

- The teacher-researcher movement: This struggle initiated by Stenhouse (1971) and the Humanities Curriculum Project, in United Kingdom. Stenhouse believed that teaching should be research based. According to Stenhouse research and curriculum development were the conserve of teachers. (McKernan 1991) Other significant programs in this connection were the Ford Teaching Project, and the Classroom Action Research Network.

2.3 ACTION RESEARCH: ITS DEFINITIONS AND MEANINGS

To understand the meanings of action research a few definitions of different writers are given so that in the light of these definitions we could build our own working definition of action research.

Stringer (2007) defines action research as, “a systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives.” This definition shows that action research is an orderly process of inquiring various issues which are related to our daily life situation. The purpose of this inquiry is to improve the current situation and to have better control over the conditions under which people work and live. According to Mills (2003), "Action research is any systematic inquiry conducted by teachers to gather information about the ways that their particular school operates, how they teach, and how well their students learn," this definition is more focused on school teachers and highlights their role as researchers. Teachers are not seen as the implementers only but they are considered as the evaluators of their own work thus giving them more power and authority.

Frost (2002) define action research as, “ a process of systematic reflection, enquiry and action carried out by individuals about their own professional practice” (p. 25).

Hopkins (2002) says that action research is, “action disciplined by enquiry and a personal attempt at understanding while engaged in a process of improvement and reform.”(p. 42)

Still another definition of action research says, “action research is a flexible spiral process which allows action (change, improvement) and research (understanding, knowledge) to be achieved at the same time”(Dick, 2002).

In the view of Bogdan & Biklen (1992) action research is a,” systematic collection of information that is designed to bring about social change.” This definition is closer to the view point of Kurt Lewin (1946), who believed that action research could be used to improve the lives of ordinary people assuming that human beings have the capability of supporting one another in the learning process

Action research is also defined as," the systematic process of studying real school or classroom situations for the purposes of improving the qualities of services and pedagogy (Dinkelman, 1997; McTaggart, 1997; Stringer, 1996). Here too action research is perceived as means to improve the school system and the existing teaching practices.

Calhoun (1994) considered action research somewhat stress free mechanism of brining improvements to present conditions. This definition clearly show that action research not meant for fault finding. It is rather concerned with improvements we all know that there is always room for improvements.

It is clear that action research throughout the world varies, in shape, its use and application, technique of implementation, and its outcomes. (Hollingsworth, 1997)

However these definitions do share some components which are similar:

Action research is deliberate attempt teachers to develop their professional knowledge and teaching practice. The procedure of action research is cyclic in nature, usually comprising four levels of plan, act, observe and reflect (Kemmis, 2005). In this process attempts are made to collect data concerning the practice under study and teachers make attempt to observe the consequences of the designed modification in their routine work. The whole procedure is carried out in a very orderly manner.

2.4 ACTION RESEARCH: ITS NATURE AND PURPOSE

Regarding the nature of action research, it is versatile and may be hypothetical and applied in a number of ways (McNiff 2002; Tilloston 2000). In an effort to know the numerous perceptions of action research, a three dimensional structure was developed by Rearick and Feldman (1999). These three dimensions are; the hypothetical point of reference, the rationale of action research, and the types of evidence at hand. In terms of the first aspect they explain three hypothetical points of references: technological, empirical, and emancipator. The technological orientation is tilted towards power. The outsider investigators or persons with unique know-how

resolve the research query; the focal point is result oriented and on shaping effectual performance. The empirical point of reference to action research concentrates on comprehending meticulously the background, such as school environment and classroom proceedings, from observation and feedback and translating them into meaningful ideas.

Emancipator point of reference to action research is apprehensive to set free the individuals from the restrictions faced by them either socially, professionally or politically. The same is fretful with problems of authority and discovering the solutions through investigations to authorize persons and organizations to achieve social revolution.

Action research serves three purposes, first personal growth, second professional knowledge and third political empowerment (Rearick and Feldman.1999). The purpose of personal growth is of individual nature where a person makes efforts to develop better understanding of his or her personal professional awareness and how this professional awareness is applied in the actual situation. The second part of professional development is somewhat general in which instead of individual development stress is on general teachers' development and creation of fresh and up to the minute knowledge in the field education and wisdom. Political empowerment as a purpose of action research enables individuals and organizations to become conscious of financial, social and cultural discriminations and inequalities. It also intends that individuals and organizations after developing awareness guide societal efforts to trounce social evils and injustice (Noffke, 1997). In addition, action research possibly would hold diverse type of reflections. Autographical reflections make investigator the subject of the investigation. And encourage introspection regarding convictions, actions and viewpoints.

Shared reflections guide to realize the work of other individuals of organization and their mutual relationship this realization lead towards professional growth and development. Shared reflection subsequently places the person in relation

to the larger society and social subject like social justice. Although, the different aspects of action research, mentioned earlier seem distinct. In fact they are not actually are linked and fused together (Karen Goodnough, 2011). According to Kemmis and McTaggart (2005) action research frequently entails practitioners in self-sufficient phases that include planning, implementation, observation, and reflection on the results of intervention. To expose some new facts this cycle possibly would be replicated a number of times.

2.5 ACTION RESEARCH: ITS TYPES AND APPLICATIONS

Action research by its nature is a kind of investigation which involves systematic critical reflection upon the action taken for the purpose of improvement. However the study of literature shows diverse kinds of action research, different scholars classified action research with somewhat different viewpoint. No matter action research might be labeled differently on account of its utility and the situation in which a particular kind of action research is undertaken, its nature remains the same (Blaxter, 1996). Some commonly applied types of action research with the reference of their supporters are listed below:

- Kemmis & McTaggert (1988)
    - Technical action research
    - Practical (participatory) action research
    - Emancipatory(critical) action research
- McKernan (1991)
    - Scientific - technical
    - Practical – deliberative
    - Critical – Emancipatory
- Holter & Schwartz-Barcott (1993)
    - Technical collaborative
    - Mutual collaborative
    - Enhancement approach
- Emily (1993)
    - Individual teacher research

- Collaborative action research
- School-wide action research
- District-wide action research

Comparing these types of action research we come up with five basic types- technical, practical (participatory), emancipatory, collaborative, and individual teacher research. A detailed study of these kinds of action research show great similarities and almost all forms of action research are transposable with relatively akin central intention of action research. However these forms of action research vary in the nature of problems and questions they normally deal with, the type of situation wherein they happen, and the sort of community concerned (Kemmis, 2009). We can further sub divide the above five kinds of action research into two groups;

1. Functional group
2. Organizational or Structural group

Functional group includes technical, practical (participatory), and emancipatory type of action research this sub division is based on the theory concerning Knowledge & Human Interest (Habermas, 1972).

Technical action research: it is directed by the importance of gaining better hold upon the results and consequences of the current practices. In this form of action research, the investigator intends to develop the product of his or her current performance. All our efforts are not ends in themselves but we make efforts to achieve some purpose which is the ultimate objective of our efforts. These efforts could be modified and refined for attaining the expected outcome in more proficient manner. Technical action research the investigator is supposed to improve his or her own performance so that he or she could achieve those intended outcomes which were pre-planned (Kemmis, 2009).

Practical action research: it is directed by the importance of refining or helping practitioners, following the common cyclic process of action research (Mash & Meulenberg-Buskens, 2001) so they can take action more sensibly and carefully. It

attempt to improve learning through self-reflection, exploring the current situation and problem solving techniques (McNiff, 1988).The researcher intends to proceed more intelligently and cautiously, so the results and enduring effects of the efforts made will be for the greatest. Such a standpoint call for taking care of the others who are involved in research study as subject, who are competent of dialogue and accomplishment, and as individuals who will experience the effects of what had happened. In practical action research, not only the ways how efforts are made, serve as objects of alteration and development but the outcomes are also studied the researcher investigates the outcomes and enduring effects of the planed efforts to find out the kinds of norm by which the planed efforts ought to be assessed. In practical action research researcher is ready and willing to consider the observation and reaction of others, and the effects that other people feel as an outcome of the action taken. The investigator plays the role of launch pad and research participants or any other people involved turn into learning partners of the investigation; no one is treated as the authority (Walker, 1993). Hence in Practical action research the researcher establishes a dual, joint association with the others caught up in and affected by the planed efforts.

Critical action research: it is directed by the desire to emancipate people as individuals and social groups from absurdity, inequality, impairment and distress. Critical action research is carried out by people working together in a group. It is jointly decided with mutual agreement about what to be investigated and what to be modified. The emancipatory aspect of critical action research focus on freeing self and society from all sorts of dependencies. Hegel (1900) stated that independence is the primary requirement. He says, "…for if I am dependent my being is referred to something else which I am not…". If we depend on elements external to self, it makes us depended which in turn limits our freedom. But to be free our being should depend upon our self. Hegel further says, "…I am free, on the contrary, when my existence depends upon myself…"the emancipatory aspect of critical action research help us

out to become free. Critical action research provides the opportunity to become self-reliable and become free. (Hegel, 1900).

The other group (Organizational) includes collaborative and individual teacher research. These two types are separated from the rest for their collective or individual nature.

Individual teacher research: In this type of action research an attempt is made to make modifications only in one classroom. Central to individual teacher research is the idea of modifying the teaching learning situation in a particular classroom to help the class participants to develop their practices. Results or the findings of such study are significant for the researcher only. The scope of these findings is very limited usually the findings are valid for that particular class.

2.6 ACTION RESEARCH: CYCLE AND ITS MODELS

The ample analysis of written text regarding major characteristics and methods of action research show that Action research is a recurring procedure of studying social incidents for amendment (Glanz, 2003). This procedure of amendment; generally agreed upon, consists of three phases including, problem knowledge, mediation, and output. Glanz,(2003) suggested that the phases might be, recognition of a problem, planned response, execution response, data collection and analysis, repetition of the cycle with fresh adjustments. Action research pursues a several-step recurring process which involves planning, taking action, monitoring and reflection as major steps. This chain of steps supports the systematic proceeding of the investigation. This fundamental arrangement has been explained in many ways (Kemmis and McTaggart, 2004., McKernan, 1988). Other authors also endorse more or less the same Act- Reflect model. Theoretically all action research designs are simple and crude but in actuality life is not simple it is rather intricate and things hardly ever go according to plan. Without a doubt, action research may possibly begin with a vigilantly designed act but the temperament of the procedure makes the ending vague. While proceeding with action research cycle secondary off shoots related to

the issue under consideration may appear that were not expected. This may lead investigation to move away from its novel course as these off shoots are discovered McNiff (1988, p 45). This adds to the intricacy of action research and makes it messy (Cook, T. 2009).

In order to understand the functioning of action research we will consider some action research models in common practice.

Kurt Lewin's Action research model: Lewin's model can be represented as;

Plan → Act → Evaluate

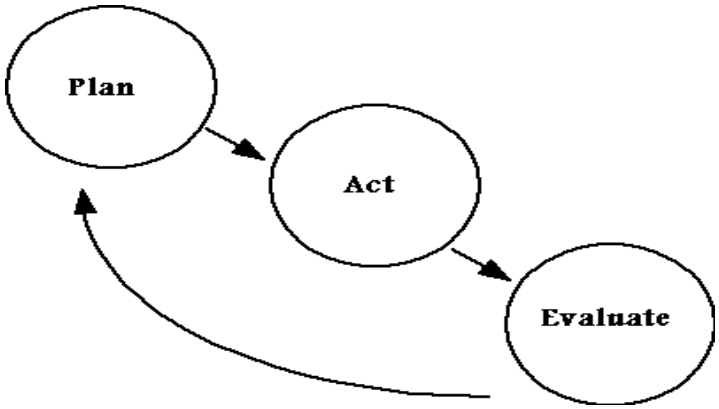


Figure 2.1 Kurt Lewin's Action research model

Lewin explain action research as arranged in a stepwise cyclic manner, each cycle is made up of three steps, starting with planning followed by implementation of planning or action taken and then evaluating the results of the action taken. However the very nature of this model demand some flexibility as social context are always intricate therefore making it very difficult to foresee the whole lot of events in advance. Hence we can see a purposeful overlaying to permit alterations in the proposed plan (Kemmis, 2004).

Kemmis' action research model: Kemmis' model can be represented as;

Plan → Act → Observe → Reflect

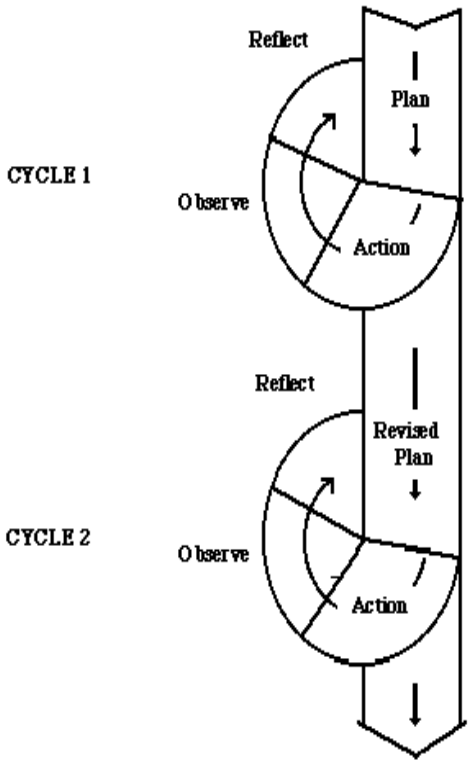


Figure 2.2 Kemmis Action Research model (cited in Hopkins, 1985)

This is quite similar to the Lewin's model with addition of one step of observation. Kemmis model is applied in educational setting. Although the cycle starts with the planning step but actually a problem is identified first than comes the planning to overcome the problem. To find a solution the best alternative available is tried out and the changes are observed. Critically analyzing and reflecting upon observations the researcher moves on to the next cycle which is also composed of the same four steps. Completing cycle after cycle until the problem is set on.

1. Gerald Susman action research model: Gerald Susman model can be represented as;

   Action → Taking → Evaluating → Specifying → Diagnosing

   planning action learning

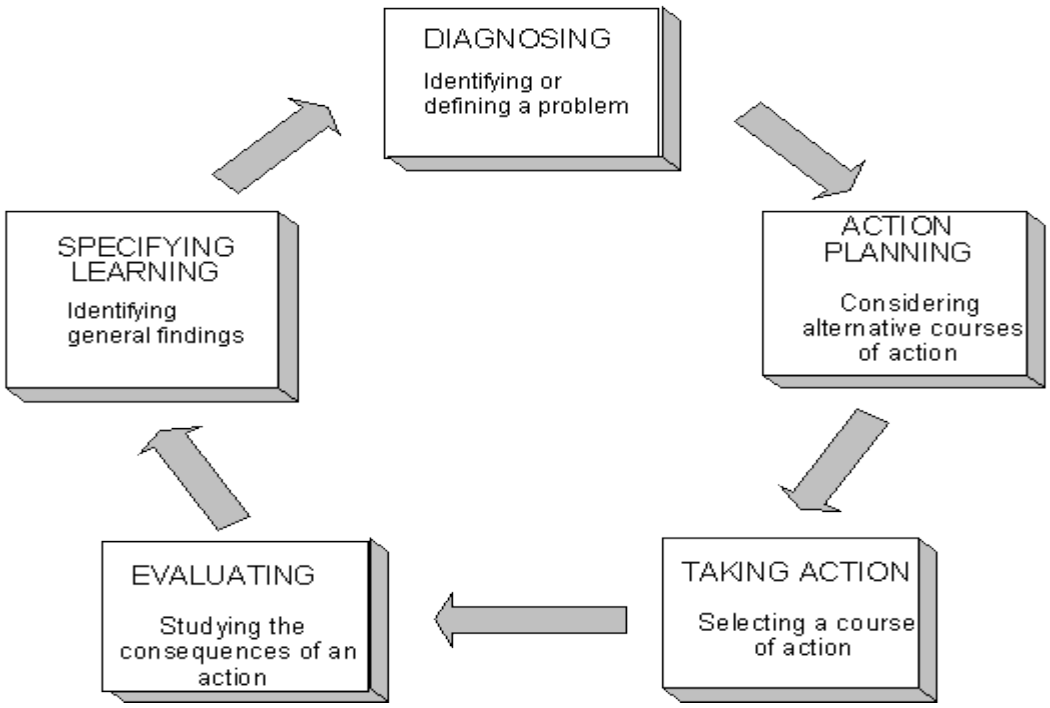


Figure 2.3 Gerald Susman action research model

Gerald's model provides rather more detailed steps. He differentiates five stages to be carried out inside every phase. To begin with, an issue is selected. Than a number of alternatives are selected and hypothesis is formulated, out of these alternatives a particular alternative is chosen and plan is made to implement that particular alternative. Data is than collected during the experiment. The data so obtained is analyzed and the results are understood in view of how fruitful the intervention has been. At this time, the problem is revisited and a new phase starts, the process begins another cycle. This process goes on s until a suitable solution is not reached (Gerald, 1983& McKay, 1992).

1. Elliott action research model: Elliott's model can be represented as;

Initially Identified idea → Reconnaissance → Planning → Implementation

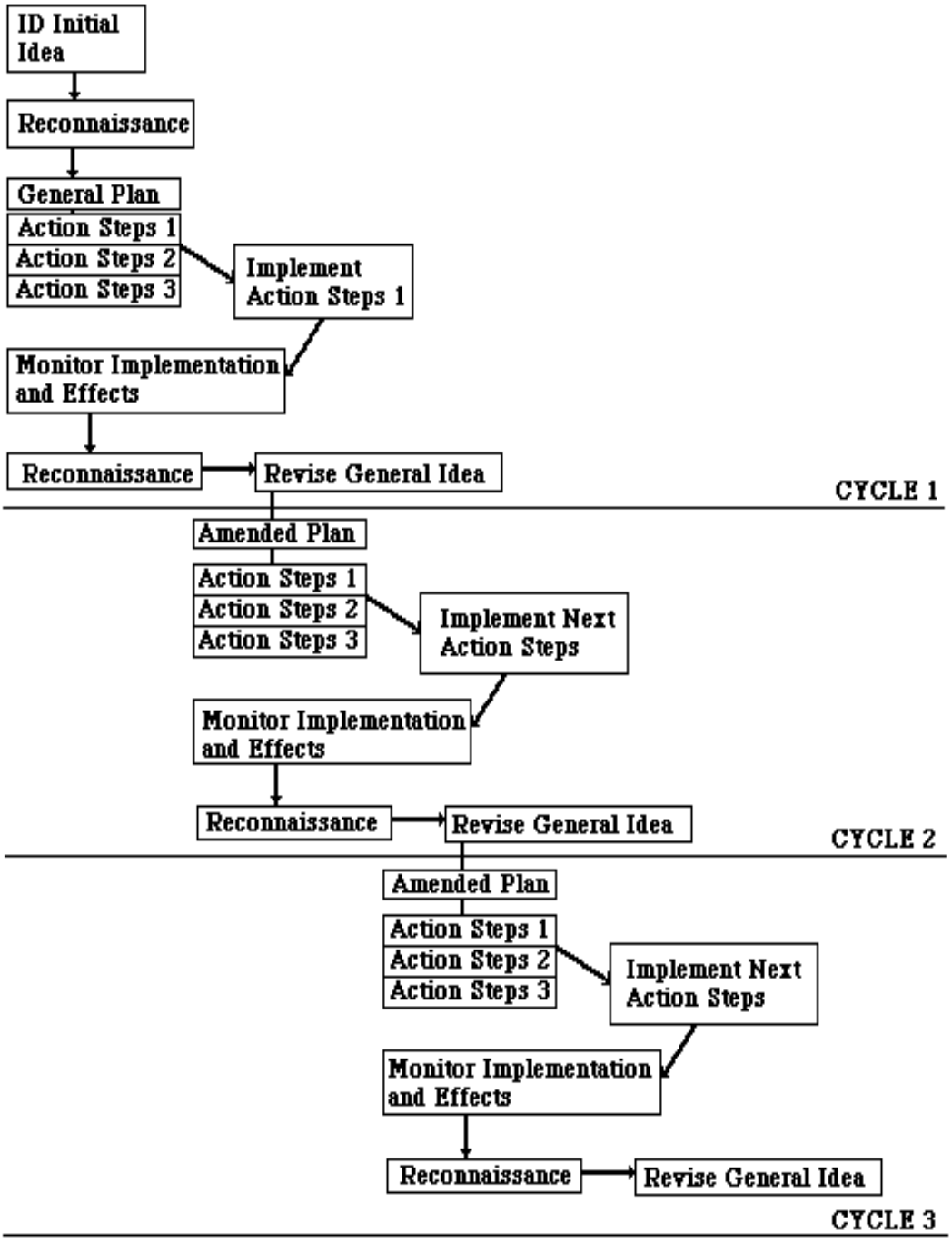


Figure2.4 Elliott action research after model (cited in Hopkins, 1985)

This model (Elliot model) stresses regular examining and redefining the initial aim all the way through a chain of exploration repeating each round. The inspection of the situation essentially consist some amount of analysis. Elliot model allows a

great deal of flexibility and enable the researcher to revisit the plan and make necessary adjustments.

5. Ebbutt action research model: Ebbutt 's model can be represented as;

General idea → Reconnaissance → Planning → Act → Monitoring

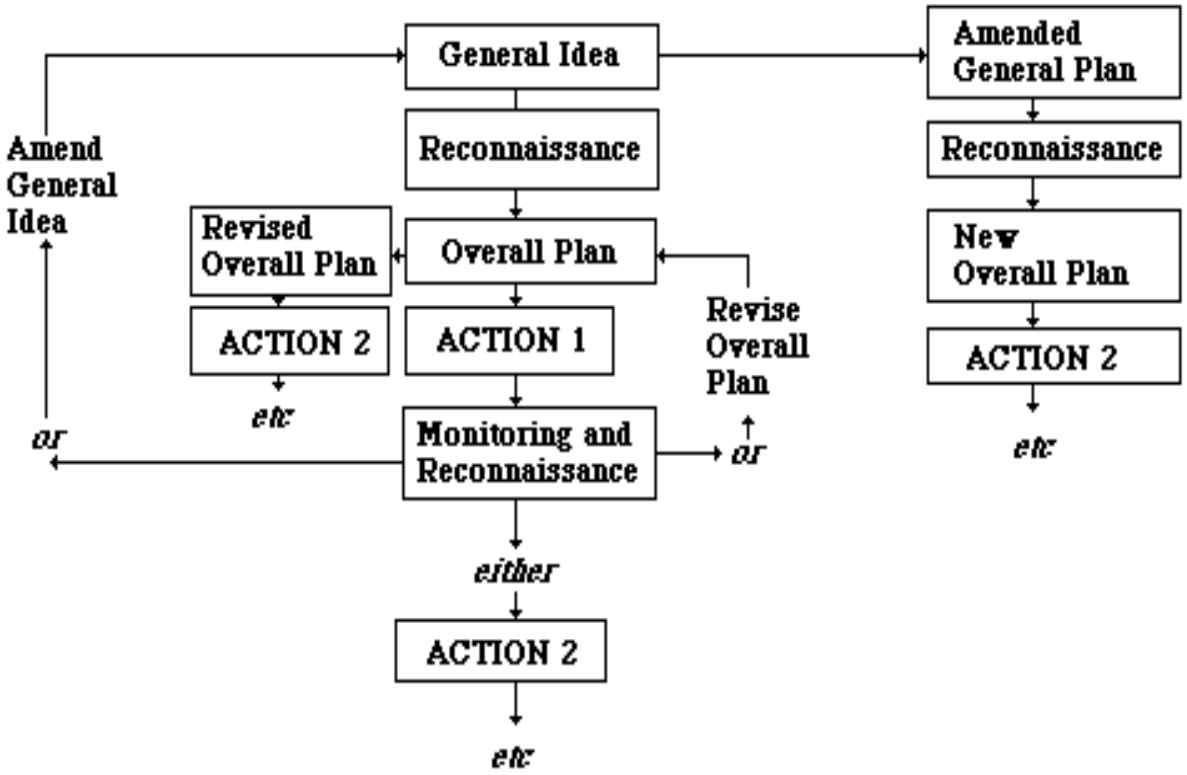


Figure 2.5 Ebbutt action research model (cited in Hopkins, 1985)

As the illustration show Ebbutt model starts with a general idea and which is explored to find the area where the researcher is interested to give input. A sound plan is than developed which implemented and monitored. If everything work out as planed then the next action is taken otherwise the initial idea is modified and the process of investigation is continued with a revised plan.

6. Michael Bassey action research model: A detailed action research model is presented by Michael Bassey (1998) which includes eight steps an abridged version of this model is as follows;

1. Current situation reconnaissance
    - Stage one: Defining the enquiry
    - Stage two: Describing the educational situation
    - Stage three: Collecting and analyzing evaluative data.
    - Stage four: Reviewing the data and looking for contradictions
2. Testing proposed intervention
    - Stage five: Tackling a contradiction by introducing some aspect of change
3. Analysis of implemented intervention
    - Stage six: Monitoring the change
    - Stage seven: Analyzing evaluative data concerning the change
    - Stage eight: Reviewing the change and deciding what to do next

Bassey 's model can be represented as;

Figure2.6 Michael Bassey action research model

Patrick (2003) states that although Michael Bassey model of action research is composed of eight stages but its foundations lie on three basic queries (Bassey, 1998,

p. 94). These three queries (rephrased) are; 1. current situation reconnaissance; 2. testing proposed intervention; and 3. analysis of implemented intervention (Patrick, J. 2003, p. 9). The model attempts to answer these questions. To answer first question the area of enquiry is identified and the study is precisely defined. Next to fully comprehend the prevailing scenario a situational analysis is done through gathering related facts, the collected facts are then reviewed in depth and challenges are located. As far as the second question is related it requires working out an appropriate strategy to embark upon the challenges. The third major question is about the impact of the intervention made; this requires monitoring, analysis and reviewing the whole plan of the study to decide the next step (Patrick, J. 2003).

2.7 ACTION RESEARCH: ITS PRINCIPLES AND STANDARDS

To support the frame work of the current study, that is to investigate how action research could be used as a tool for the professional development of school teachers in Pakistan, we shell examine the principles that governs any action research. Bargal (2006) mentioned eight fundamental and basic principles of conducting action research. These basic principles are labeled with some suitable title for the purpose of clarity:

> First principle: *studying and solving*: Action research tries to unite a logical study of certain social issue which is investigational in nature, with the attempts to resolve the issue.

The principle of *studying and solving* deals with the mutual reliance of methodical inquiry of a social crisis and the attempts next to its way out. It links the questions, what we want to find? With the question, what would be the possible answer to the investigated problem? This means that studying any problem and finding its solution take place in one set of time and place perimeters.

> Second principle: spiral approach: Action research incorporates a spiral procedure regarding different steps such as, data collection, setting goals; trying out plan, and appraisal of the findings of the input.

The principle of *spiral approach* guides us to understand the continuous nature of action research where all the different steps are followed systematically. It can be identified easily that this principle holds a meta-theoretical belief of field theory (Lewin, 1942/1951). The 'constructive in opposition to the classificatory approach' advocates the construction of the situation instead of depending up on an automatically categorizing the state as a category of conducts which is not supported by valid information. Although in other traditional types of researches many like steps are followed but the difference is that in other setting the spiral nature is not very dominant.

> Third principle: *feedback mechanism*: Action research requires opinion and views everyone who is concerned in the study about the outcome of the input.

The principle of feedback mechanism leaves no event and no individual who is connected with the research study unnoticed. It is ensured that people reflect and share very minute details which might have some effect upon the study or its results. This principle stresses equality of the research procedure, and ensure that every individual engaged in research contribute to bring in facts.

> Fourth principle: *cooperation and teamwork*: Action research demands constant collaboration among investigators and research participants.

Action research is based upon cooperation and teamwork as almost all the action research studies are carried out under some dominating social context therefore cooperation and working together to reach a common destination is the fundamental requirement. This principle demands cooperation between canvassers and people involved in the study. It demand cooperation and comments from people as individuals or in groups and demand mutual regard and egalitarianism. This approach prevails amongst person in charges and the team members in a free society. This attitude promotes autonomy of communication and room to act freely.

Fifth principle: *group dynamics*: Action research depends on the theories of vibrant group activities and has its roots in the assumption of their modification.

This principle necessitates the creation of pleasant relationship among the members of the diverse, free society. What we understand of the principle of *group dynamics* is that all human beings are capable of improving because it is embedded in their very nature. However individuals and groups pass through three major phases of change. These are thawing, activating, and molding. In the first phase people need to be relieved off their inertia then they become active and ready to take action. Once people are ready for change than they may be smoothly filled in to the desired mold (Lewin, K.1947/1951 p 229).

Sixth Principle: *emancipation*: Action research addresses the power related problems, ethical concerns, control and empowerment needs of those who are the subject of the study.

The emancipatory aspect of action research holds the claim that people could be liberated from such conditions in which they feel powerless and handicapped to bring any change in their existing situation. Action research provides opportunities and enables people to exercise control over the conditions under which they work and practice. This principle demands balance and equality among all the partakers regarding their views, beliefs and authority. Practically speaking it means that all sort of decisions like, adaptation of methodology; type of interference and justification for interference and its realization are made in democratic manner.

Seventh principle: *creation of knowledge*: Action research helps to; generate new knowledge, devise codes of intrusion and develop tools for positive intrusion and appraisal.

As time passes two things definitely change one is the time and other is the norms and standards. For example once in the history someone spread his coat on a small pool of rain water for a lady to pass over, which was considered a good deed. It was right for those times. But the same would be considered foolish now a days. What

makes the same action noble or foolish is the contextual perimeter. Same is the case with our practices as teachers. Any approach or way once effective may not be effective now. The seventh principle center on development, invention and codification of information, action research guides us to develop new strategies to be tested and practiced.

> Eighth Principle: *supporting the change agents*: Action research serves as a tool of growth, instruction, and scaffoldings for the teachers as change agents (p. 383).

When we expect teacher to play the role of change agents and we expect them to change the society in a positive direction then they deserve to be equipped with some gadget to help the curve and shape the society in the desired form. Action research serves as that gadget. This principle deals with the process of choice, training, and helping teachers as change agents helping in the action research venture.

The principles discussed by Bargal (2006) highlight the nature of action research. Being derived from Lewin's work, these principles could be best summarized by referring to what Kurt Lewin mentioned in his paper, "conduct, knowledge and acceptance of new values";

> "It is a process in which changes of knowledge and beliefs, changes of values and standards, changes of emotional attachments and needs and changes of every day conduct occur not piecemeal and independent of each other but with the frame work of the individuals total life in the group" (Lewin,1945/1948, p. 58)

He further wrote;

> "Problem solving and a willingness to expose oneself to empirical examination of ideas and conceptions is a factor of great importance in bringing about a change in sentiment is the degree to which the individual becomes actively involved in the problem. Lacking this involvement no objective fact is likely to reach the status of a fact for the

individual concerned and therefore his social conduct" (Lewin, 1945/1948, p. 63)

In the first paragraph Lewin pointed out that action research is a process in which different types of changes take place collectively they cannot take place independent of each other that is if we can change one aspect of human life than atomically others will change. Also these changes occur in a social context which cannot be restricted to individuals only. In the second paragraph the essential requirement for discovering facts and bringing change, is to be open to empirical examination and the ability to solve and involve in the problem. Without this hardly one can discover any fact to bring positive change.

A detailed synopsis of six basic principles of conducting action research was given by Richard Winter (1989). These are;

Reflexive critique

This principle makes certain that;

- people think critically about their problems and practices
- they clearly and openly analyze their supposition, prejudices, and apprehensions
- and make judgments on the basis of this analysis

Dialectical critique

The principle of dialectical critique emphasizes that;

- truth is authenticated with mutual agreement
- social facts are shared through discussion
- social facts are understood through discussion
- association between social fact and its milieu may be realized
- association among the fundamental constituents of social fact may be realized

Collaborative Resource

The principle of collaborative resource put emphasis on;

- accepting participants as co-researchers

- considering the ideas every one evenly important
- using all valid ideas as possible sources for study

Risk

Principle of risk holds that;

- change process is an intimidation to formerly well-known practices
- explicit debate of one's understanding, thoughts, and opinions may put their self-image at risk
- investigator may emancipate the participants of such fears and ask them to take part in the study

Plural Structure

This principle presents;

- diversity of views as main characteristic of study
- number of unambiguous parallel sections
- continuing argument among research partners instead of an absolute culmination of reality

Theory, Practice, and Transformation

This principle tells us that;

- theory and practice mutually improve each other
- people act in accordance with their suppositions and strongly held believes
- actions in return augment theoretical knowledge
- process of change takes place in continuous cyclic manner between theory and practice

Richard explanation of the principles of action research, guide the novice researcher to conduct valid research studies in a systematic manner, while Hopkins highlights the role and responsibilities of the teacher as researcher in his principles.

Hopkins (1992) six principles of carrying out action research inside the classroom are.

- Obligation to develop teaching excellence.
- Research as an essential part of teaching.

- Stepwise systematic approach to research.
- Central issues of teaching as research problem.
- Attitude and consistency of classroom teachers.
- The complete picture.

Hopkins principles for carrying out action research are mandatory as it is clear from the first principle; it is the responsibility of the teacher to offer lessons which are of high degree of quality. Regarding the level of excellence of lesson delivered a teacher must constantly keep an eye on his or her teaching methodology. This attitude is reflected in principle no. five. It is expected of a committed teacher that he /she will consider research-reflecting upon one's own practices (Schön 1983) as a part and parcel of his her professional duty. Hopkins further explain that to conduct an enquiry the approach must be systematic and scientific, for this end teachers might select any appropriate model which suit their particular needs.

To sum up this discussion we can say that action research, by its definition is a "systematic self-reflective inquiry by practitioners to improve practice." (McKernan, 1996), presumes that people struggle to improve their condition by performing in a better way. Therefore it is necessary to be open, critical, and share their perceptions. Members of any social group must show respect to each other's thoughts and believes and workout strategies for improvement in a free and democratic manner. To sustain the professional growth and development they must follow the continuous cyclic approach.

2.8 TEACHER'S PROFESSIONAL DEVELOPMENT

In this section I will embark upon the concept of teachers' professional development. To start with the review of related literature, I would like to put a question, is there any difference between professionally qualified and professionally developed person? My initial search was to find the dictionary meanings of these two terms.

The dictionary meanings of "professional" are;

1) "Someone who does a job that requires special training, education, or skill : someone who is a member of a profession"
2) "Someone who has a lot of experience or skill in a particular job or activity"
3) "The activity by which one regularly makes a living"

Other meanings of the term are; employment, work, trade or vocation etc. (Merriam online Dictionary).http://www.merriam-webster.com/dictionary

The dictionary meanings of "qualified" are;

1) "Someone who is qualified has passed the examination that they need to pass in order to work in a particular profession" (Collins English Dictionary)
2) "Having passed the exam or completed the training that are necessary in order to do a particular job" (Oxford English Dictionary).

Other meanings of the term are; certified, competent, eligible, trained, licensed and knowledgeable etc.

The dictionary meanings of "development" are;

1) "The act or process of growing or causing something to grow or become larger or more advanced"
2) "The act or process of creating something over a period of time"
3) "The state of being created or made more advanced"

Other meanings of the term are; expansion, growth, and progress etc.

As evident from these definitions that there is a difference in the meanings of the terms, "profession", "qualified" and "developed". But at the same time they are interlinked. There is always a minimum qualification required to enter a profession — the activity by which one regularly makes a living (Merriam online Dictionary), but as time passes experience is gained. This additional knowledge and skills pertinent to a particular job is referred to as professional development. "Professional development means the attainment of expertise and information, required for an occupation, over a period of time while accomplishing the assigned responsibilities". Thus we can say that a professionally qualified person is the one who possesses the

minimum knowledge and training, or who is being certified by some authentic agency to be eligible for a certain occupation. Whereas a professionally developed person is the one who, while performing the duties gain in depth knowledge and skills and improve his or her performance. Teacher professional development is the growth in professional paradigm that a teacher attains due to augmented know-how and probing into his or her own teaching scientifically (Glatthorn, 1995, p. 41). The interconnection of qualification and development is now quite obvious, professional development is a process for which the qualification might be considered as the starting point, as this process is continuous in nature therefore it bears no end point(McWillim, 2002). Starting with professional qualification and moving along the professional development throughout one's life, it is important to understand that being professionally qualified is as important as the professional development itself. At this stage another question arises, is professional development automatically attained as the time passes on? Or, does professional development need proper planning and deliberate efforts? The answer to the first question can be very well presented by quoting Newton, D.Baker, he says–the trouble with most men is that those who have been educated become uneducated as soon as they stop inquiring and investigating life and its problems for themselves. Relating this quotation to teachers working in Pakistani educational system (with the exception of few) we find majority uneducated and the rest are becoming uneducated day by day. The reason is that premeditated learning comes to halt as soon as formal education is completed and certificates are awarded. In the pilot phase of this study more than two hundred teachers (SST General) were interviewed by the author at Provincial Institute of Teacher Education (PITE) Peshawar and no single teacher was found who could identify a book or research journal which they have studied after they completed their formal education. Another alarming fact was also recorded that during the period of academic and professional studies the graduates mostly depend and demand class notes rarely study books other than text books and remain passive (Kulsoom, J & Khan, A. M., 2012, p. 14). Coming to our second question the simple answer is "yes"

professional development need proper planning and deliberate efforts (Guskey, 2003). Professional development needs proper planning and well-designed activities. Such activities include formal and informal experiences such as attending workshops, meetings, mentoring, reading professional publications, and research journals (Ganser, 2000). These activities provide opportunities to the teachers for their professional growth. Teachers' professional growth may take place when they progress along their job. This type of professional development is usually unstructured and termed as career development. Other type of professional development occurs through structured in-service courses premeditated to promote professional development in teachers collectively and termed as staff development (Glatthorn, 1995, p. 41). The in-service teacher training programs and refresher courses are the only activities available for the teacher's professional development in Pakistan. The status of teachers' professional development will be discussed in detail under the heading "teachers' professional development in Pakistan". Some investigation of the background of teacher's professional development in its historical perspective will help us to understand the frame work of this study.

2.8.1 Teacher's Professional Development: Historical Perspective

Concept of teacher development is as old as education itself, the earliest use of the term "professional" could be found in 1606, whereas the use of the term "development" could be traced back to 1756 (Merriam online dictionary). Teacher's professional development is one aspect of common development of humanity (Tracey, 2010) for which no one nation could be credited alone; rather it could be seen as a collective effort (unintended) by different nations at different times. However the history of teacher's professional development could be, chronologically, divided in to following periods;

1. Egyptian period
2. Greek period

3. Islamic period

4. British period and

5. American period.

2.8.1.1 Egyptian/ Mesopotamian period:

Egyptian period can be considered as the initial period of teacher's professional development. The history of world civilization indicates that oldest civilization, known to man, dwelt in Egypt and Mesopotamia, as the evidence show that formal education started in Egypt about 3000 BC. The Egyptian educational system was dominated by Priests, a scholar and political head. The curriculum included the disciplines of math, geometry, science, medicine, and humanities. These subjects were taught in proper school setting. Occupational skills involving construction, engineering, and carving were normally acquired through apprenticeship. The formal education at that time included, religion, language, agriculture and mathematics. There existed two kinds of schools working under the control of priests who also held major office in the government. One kind of these schools were for scribes (person who writes books or documents by hand as a profession and helps the city keep track of its records) and the other kind of schools were for preparing priests. Normally boys of age five were admitted in schools meant for scribes to learn reading and writing. There they studied these subjects till the age of 16 or 17, including 2 or 3 years of practical training in the office related to their future job. Regarding the teaching methodologies, Egyptians used three teaching methods first memorization second practice and exercise, third method applicable was on job practice as mentioned in the case of scribes.

Mesopotamian period:

Mesopotamian civilization also developed educational system which was quite similar to that of Egyptian system of education. Two educational streams were present for the preparation of youth for two different types of jobs, that is

priests and scribes, whose job was exactly the same as in Egyptian civilization. Priests were prepared for the management of government and affairs related to religion, while the scribes were trained for official work of record keeping and documentation. The institution responsible for any kind of scholarly activity and preparation was called library, normally functional in a temple managed by leading priests. Teaching Methods included learning by heart, verbal practice, writing and copying.

Further, the evidence show that the first ever known library was built in Babylonia round about 685(Tokuhama-Espinosa, T. 2010). The development of writing system in the form of Pictograms, Ideograms and Phonetics is related to Babylonian civilization. They also developed mathematical system with base 60, still in use for measuring time and its conversion.

Education in ancient China:

Ancient Chinese educational system was famous for its noticeably materialistic and ethical nature. Educational institutions were organized locally keeping in mind the needs of local community, schools were organized at village and district levels. Bamboo books were in common use other methods included verbal instructions, rote memorization and practice. For moral development teachers acted as role models. Education was considered as an intrinsic procedure of personality development.

Ancient Chinese civilization could be divided in four periods, which are;

In period of Western Chou (1111–771 BC)

In China between 8th and 11th century BC schools were set up for the children (mostly boys) of the upper classes of society. In these schools liberal education was offered with reading, writing, mathematic and music as major subjects. For general public separate schools existed where common people were trained for their relative field work. Higher school for both the classes of the society also existed. Schools were organized exclusively for girls where

they studied; subjects related to household and those attributes which helped strengthening family unit.

In Eastern Chou Period (770–255 BC)

This period is considered as an age of social change and era of inventive scholarly activity, with the emergence of cities and urbanization along with the expansion of business trade. The atmosphere of freedom gave birth to inventive ideas. Many thinkers strived to expand their vision of achieving a contented public and political setup. Most prominent of the schools of those times was Confucianism, which did not consider a learned individual as a tool to be used. Confucian philosophy defined a noble man as a person who abides by the rule and is not fraudulent and who could not be moved from the right path. This period left an invaluable scholarly heritage of education which was not only significant in China but also in East Asia. In 551 BC Confucius, the famous Chinese philosopher addressed the question, what was significant to deliver to the students? How this delivery mechanism could be implemented in proper educational settings. The supreme function of education was to build up wisdom of ethical sympathy and obligation toward state and its citizens. Confucius stressed that teaching process should be based upon the principle "Teach according to the student's ability" addressing the individual needs of the students. Possibly Confucius was the first person who gave the idea of individualized teaching. It could be concluded that nearly 2500 years back Confucius was convinced that individualized teaching was not only important for the individual but it was also important for the society too. The famous quote related to Confucius (551-479 BC); "I hear and I forget. I see and I remember. I do and I understand." shed light upon the way how he desired to impart education. It can be inferred that through this statement he wanted to point out the weaknesses of the educational practices of those times. At the same time he showed the way forward. Whatever the teaching practice might have been in those days, the shift from traditional to more improved style of

teaching practice is evident. The journey towards teachers' professional development started with every single effort, whether individual or collective, made to improve the teaching practices which were in use at those times. Confucius put stress on the content (what to be taught) and the teaching methodology (how to teach). Regarding the content self-control and respect comprised the major areas of content. Whereas, the teaching methodology is concerned, differentiated instruction was suggested by Confucius.

The Ch'in autocracy Period (221–206 BC)

This period is usually condemned for its brutal action of destruction of classical books and killing of many intellectuals. But certain developments like; implementation of uniform and simplified writing style which was understandable in all parts of the state; introduction of same text books for all primary schools; and introduction of writing brush and ink are associated with this period.

In the period of Han (206 BC–AD 220)

In Han period a switching over from Legalism to Confucianism was made. The lost and prohibited books were recovered and collected back. Paper was invented and first dictionary of Chinese was written.

Education in ancient India:

In ancient India the established education system, reflected in Gurukul, Parishads and Sammelan (Ghosh, 2007) educational institutions, indicate that the societies at those times were fully aware of the development of their young generations. It could not be expected that they were sloppy about the quality and standard of teaching practices.

Gurukuls, were small boarding schools with limited number of students usually 5–9 years of age living with their teachers called Gurus, like one family. The content differed for different caste; however obedience, respect,

purity of soul and basic skills and crafts were included as subject matter taught.

Parishads were bigger institutes with many teachers teaching different subjects and a larger community of students of relatively older age group as compared to the students of gurukuls. In these institutes advance level of studies took place usually, teachers and students were engaged in philosophical discussion regarding logic and mathematics.

Sammelan were gatherings where renowned scholars from different parts of the country participated for discussion and debates. These gatherings were arranged on king's invitation and great teachers delivered lectures (Mukherjee, 2007).

The caste system of Hinduism provoked rebellious and disdain for Brahmans, resulting in the raise of two new schools of thoughts which emerged as two new religions; the Buddhism and Jainism. As a reaction to Brahmanic system the two new religious streams challenged the right of Brahmans to education, instead these religions provided opportunities for the education of the common people in common languages.

The political changes that took place around 413 BC in the form of establishment Nanda dynasty and Maurya Empire had significant effect on the educational system of this region. As a result of these changes Brahmans lost their hold on religious and political claim, Kashtriyas also lost their claim of warriors. However Shudras rose from their humiliation and availed the opportunities of education. In the changed political scenario many schools (Monasteries) were established and choice of study area remained no more caste restricted. Learning seats like taxila gain worldwide status in the 6th century BC as a center of higher learning.

2.8.1.2 Greek Period:

The Greek period could be discussed under the headings of Sparta and Athens. Sparta had a well-established educational system which focused the physical training and education. Their educational system was based upon military and civic education. Physical strength meant so much to Spartans that weak children were mercilessly abolished right after their birth. Till the age of seven years children were looked after by women folk in very harsh and rough manner. The arrangement of education after the age of seven to the age of twenty was states' responsibility.

The young male of Sparta were registered into groups matching to the chronological ages., these groups were further divided into subgroups of smaller size. These sub groups were managed by young officers of the same age, called comrades. It was a joint education, which gradually detached the young boys from their relatives and prepared them to barracks life. The whole educational setup and all the related activities were organized with a vision of training for armed forces. This training was very much practical in its nature; the lads were poorly fed but encourage surviving through any means. Combating abilities were developed through mock clashes among the groups. As a part of such training night- time missions were designed for the boys to sneak in the slave dwellings and kill as many as they could for the purpose to prepare the prospective soldiers. The educational system was based upon the principles of; stern control, complying with orders without question and obedience to authority. The educational training promoted loyalty and fidelity, but at the same time the opposite behavior was attributed as an asset, when intended for crushing the opponents (an opposite to Ayubian behavior). Such an educational system seemed to be effective in the sense that Sparta enjoyed politically and martially the leading position in the Greek world.

Athenian educational system, in comparison to Sparta, was oriented towards the civil and cultural aspect of human life instead of military training. Athenian culture represented and promoted the dignified life, reflected in Homeric knight, excluding the fighter characteristic, possessing the skills of horse riding and hunting. The Athenian system of education was broader in scope as it was not restricted only to physical development of the children but its focus being the personality development. Also different educational activities were arranged at different specialized institutions, for example the Grammatistes–the writing master was responsible for the teaching of prose, took care of reading, writing and arithmetic, the Grammatikos–the literature master took care of advance learning of history and poerty, it was expected through poetry lessons to transfer intelligence and morality to the young generations, Kitharistes–the lyre master guided students to play musical instruments. The physical development was never ignored Palaestra–the gymnasium, were established to teach wrestling skills and physical fitness training (Murphy, 2006). Advance level of education existed and was managed by Sophists–the paid professional educators, who taught the selected pupils. At this level of academic activity the area of study comprised preparation for political life. The concept of professionalism in education is found in Athenians culture, where Sophists presented the skill and talent to make accomplishment in social life.

The Sophists pretended neither to transmit nor to seek for the truth concerning man or existence; they offered simply an art of success in political life, which meant, above all, being able on every occasion to make one's point of view prevail. The teaching methodology offered by Sophists represented two major courses, dialectic–the skill of rational reasoning and rhetoric– the art of convincing speech. These subjects and area of knowledge were included in the studies at higher level of education after refinement of their basic rules and

tailoring their rational configuration as a result making it feasible to conduct these subjects on academic level from top to bottom.

A divergence in Greek educational pattern is seen in the philosophy of Socrates, who, was worried by the fundamental utilitarian aspect of education presented by Sophists, thought that virtue is not anything which is subjected to teaching. Further, he considered that receiving money in return of teaching is un-noble. Socrates believed that the ultimate good of man and education could not be seeking reward in return of educational activities but the real good is the unbiased search knowledge and understanding. Further development in the educational system took place with the organization of Platonian Academy (387 BC) near grove, deriving its name from great hero "Acadēmos" and Isocratic School (390 BC). At the Platonian Academy a meticulous course extended over a period of fifteen years was designed to learn dialectics and mathematical reasoning. Such rigorous studies ensured the comprehension of true reality and those who completed these courses successfully could be delegate the task of maintaining and providing justice. Plato assumed that erudite civilization could serve the human race where philosophers ruled the state.

At the Isocratic schools the program of study was more fictional than technical. It included gymnastics, music, poetry (Homeric classics) and rhetoric. The program extended over a period of six years where the students were engaged in theoretical, analytical and practical tasks.

These two comparable types of educational systems supported by Platonic and Isocratic philosophies were not entirely in disagreement. Rather they were on the same side and were against the skeptical practicality of the Sophists and each system manipulated the other. Platonian education accepted the worth of the fictional art and theoretical oratory and Isocratic education encouraged basic mathematics to develop cognitive abilities it also permitted philosophy

to answer extensive queries of human life. The two institutions come into view as two varieties of one kind and their argumentation sustained generation after generation causing enrichment of the traditional culture, devoid of harming its unity.

Ancient Greek history of education seem incomplete without mentioning Aristotelian (384–332 BC) educational philosophy, he supposed that education ought to be managed by the government and that it ought to have education of civilians as its main aim. In his famous book (Politics) he wrote about the responsibilities of the public representative, that he should consider education of young generation as one of the most important function of his duty. And they must educate the nationals according to the form of government in which they reside. To achieve this end the institution (Lyceum) established by Aristotle adopted a four stage education program. These stages included; first stage (0 to 7 years) this stage focused physical development of the child; second stage (7 to 13 years) and focused reading, writing, arithmetic and music in addition to physical development of the students; third stage (13 to 17 years) the courses were offered in grammar, literature, and geography; fourth stage (above 17 years) was considered the final stage where only few capable and talented students were engaged in advance scholarly scientific studies.

Ancient Persia (559BC–651AD)

The three fundamental pillars of primordial Persian kingdom were; scrupulous location; Zoroastrian faith and moral values and militant, expansionist people. The educational system was based on Zoroastrian faith and moral values. It stressed strong family ties and community feelings, acceptance of imperial authority, religious indoctrination, and military discipline. Education was a personal venture. Initial education was passed on to children at home up to the age of five and then the job was carried out at formal schools for the children

of the aristocracy. Advance education incorporated; law, medicine, arithmetic, geography, music, and astronomy. Military training was imparted at special schools. Sasanians (224–651 AD) revived modified and further developed the Achaemenid social structure and education. Education was developed on even more stronger moral, social, and national foundations. The elementary education focused physical development and necessary military training. It also included reading writing and arithmetic. Education in Sasanian reign was highly developed, for instance Academy of Gondishapur was the intellectual center of the Sasanian Empire. Intellectual activities at this Academy had the flavor of Zoroastrian moral principles, Greek, and Indian philosophies. The historic importance of Academy of Gondishapur is accepted and it is agreed upon that the intellectual heritage of traditional Greek philosophies and scientific work reached to the Muslim intellectuals and through them reached to Europe.

The Byzantine Empire (330–1453)

Byzantine Empire (330–1453) an extension of Roman Empire propagated their culture and Christianity through an educational system based upon Greco–Roman Classical literature and philosophies. A tri-staged educational system included; elementary, secondary and advance levels.

Elementary education offered reading and writing skills in step wise manner by introducing letters and sounds in the start and then the syllables and next came the short passage writing. Preliminary mathematic was also the part of elementary education. Teaching methods employed at elementary level were memorization and copying exercises, usually attached with incentives and penalties.

Secondary Education

The content for secondary level education comprised of study of syntax and lexis of standard Greek literature, poetry, traditional folklore and history.

Hand written books, of grammar (Dionysius Thrax), rules of orthography (Canons of Theognostos) and explanation of poetry (Homer's Iliad) were used as text books. Due to non-availability of books for students the process of learning was based on rote memory. Teachers delivered lectures and used speech to share information, they also dictated short notes which students learnt by hearing.

Advance Education

A well-developed advance educational system provided advance courses in art of rhetoric, related model texts, composition and speech delivery. Famous schools in this regard were established in Athens and Alexandria. The advance education served to supply educated youth for key position of government and cathedral, therefore it was sustained and managed formally by the state.

Professional Education

Teaching of subjects like medicine, law, architecture and other professions was imparted as on job training. Educational heritage passed on from Byzantenian civilization to Islamic civilization (Mehdi, K. & Robert).

2.8.1.3 The Islamic period (661–750 AD)

The knowledge accumulated and preserved by different civilizations was taken over by the Muslims, who further added to, and augmented this treasure of knowledge. The beginning of Islamic period of learning could be considered from Umayyad period (661–750). In this period the work of Greek philosophers was studied and fresh researches were conducted. However this intellectual progress and development reached its climax in the Abbasid period (750–1100). All sort of intellectual activities were supported and encouraged officially by government. The tremendous job of preservation of Greek works was carried out through translation into Arabic. This incorporated Platonian, Aristotelian, Hippocratic, Galenian, and Ptolemaic works.

Organization of education and Typology of institutions of learning:

In an Islamic society the primary institution of learning was “Madrasa”. As Islam spread throughout the world the need to educate the novice Muslims and to reach the majority of the local population, masjid was the primary source, which was a place; to offer prayers five times a day; of seeking guidance and of learning Arabic– language of Quran (Makdisi,1981). In non-Arab Islamic societies masjid served two purposes; religious and educative, using the same building (not necessarily very sophisticated). Gradually these learning institutions developed in to large Madaris. These institutions (Madaris) could be divided in to two groups on the basis of content of studies, as exclusive or inclusive of foreign sciences. Whether exclusive or inclusive of the foreign sciences, maktab served as an institution of elementary education, for young children of age five and above, where they learnt reading, writing and studied “the holy Quran”. The successful learning at maktab showed the way for the study in Madrasa–the masjid-college, and to the halqas of the Jami (Makdisi,1981). According to Makdisi (1981) the hierarchy of Islamic institutions of learning may be explained as;

Mosque

- Ordinary everyday mosque called Masjid.
    - Had masjid maktab
- Congregational Friday mosque called Jami
    - Served as Madrasa, with different institutions of learning like,
        - Halqa in Baghdad
        - Halqa and Zawiya in Damascus and Cairo.

It may be noted that mosques served as places for offering daily prayers and learning–the new religion Islam. However the learning aspect of mosques was no more restricted only to Islamic sciences, but also included natural sciences, medicine, mathematic, geography, philosophy, astronomy and reading and writing. Initially the primary function of mosques was to serve as a place for

offering daily prayers and secondarily it served as learning seat. With the passage of time the learning aspect became so dominant that mosques started to serve primarily as institutions of learning and secondarily as place for offering prayers, as for instance Jami in Cairo (Makdisi, 1981). These educational institutions served as intellectual developmental centers and made many discoveries in the field of natural sciences, medicine and mathematic. But the most important point of interest regarding this study is the criteria for teaching. It should be noted that in Islamic system of education everyone was not allowed to teach but only few, highly qualified people were allowed to teach. The authorization to teach in Islamic educational system was unique in the sense that it was delegated through a top bottom hierarchy. This authorization is termed as Ijaza (Makdisi, 1981)

Beginning of the notion of "Ijaza"

The permission to teach was chiefly attached to Quran. It assured the diffusion of reliable spiritual awareness. The commanding nature of the communication of knowledge originates eventually from the Prophet (S.A.W), who was selected by God to be given the revelation–the holy and spiritual awareness ('ilm) obligatory for deliverance–"nijat". This knowledge was passed on to the Prophet (S.A.W) through Angel Gabriel. This information–the "'ilm" was transmitted by the Prophet (S.A.W) vocally to his fowlers–"ashab" and the "Suhaba"– companions of the Prophet (S.A.W), passed on this knowledge–the "'ilm" to their descendants–"tabi'in", and "tabi'in" to their descendants–"tabi'u 'l-tabi'in", and presently, in the same manner generation after generation the same knowledge–"ilm" reached the ulama. Such was the conduction of Sunna–the words and manners of the Prophet (S.A.W).

The different phrases concerned with hadith were the derivatives of the verb sami'a, meaning–"to hear". The resulting word sama' meant the credential of audition. This testimony was affixed to a register, confirming that the holder

of the testimony have acquired the specified knowledge under the guidance of the certifier. The certifier could also empower the person to spread the acquired knowledge on his permission and empowerment as the writer of the manuscript, or as one who was accordingly allowed to award the permission.

The credential of teaching was known as ijazat as-sama'. Certifier, the issuing authority was called musmi', who, sometimes was the writer– mu'allif of the material which was premeditated; or the certifier–issuing authority might have been another intellectual duly certified to impart knowledge. In such a case the certifier–the master mentioned the source of his power of certifying and empowering others to teach. This source could have been the original author himself or a series of approved intellectuals linking the original author and the certifier himself (Makdisi, 1981 pp. 140-141). In Islamic history the term "Ijaza" is referred to as a license to pass on hadith–the words of Prophet (S.A.W) and sanctioning others to further propagate hadith–the word of Prophet (S.A.W). With the passage of time the new discipline called "fiqh", factually referring to understanding, was developed hence the license to convey hadith modified into the license to educate or teach. Fiqh, also include the teaching of conducting research (ijtihad), in order to find a lawful judgment (fatwa) regarding any quire, in the light of Islamic law. In Islamic system of education the license to teach–Ijaza, received its authenticity from the Prophet (S.A.W), hence a muhaddith–a person with understanding of hadith, to permit another person to pass on a hadith, justified and supported his action from the legal empowerment bestowed upon him by his ancestor, this chain of empowerment linked back to the Prophet (S.A.W) himself, whose was authorized by God himself.

Historical evidences show that teaching was restricted to certified scholars only, and not everyone was allowed to teach, authority of granting license to

teach resided with the Alim–the religious scholar (faqih) but the appointing authority was the sovereign power (the caliph).

History of the Islamic education indicates a well-developed system of teacher training and a definite set up which encourage talented and well qualified individuals to be trusted with the responsibility of teaching. The license was awarded only when the candidate could have satisfied the investigating scholar. The testing procedure was based on an in-depth intellectual oral discussion regarding a legal argument. Candidate scholar only after satisfying the investigating scholar and proving his competency and skill was awarded the license (Ijaza).

As the profession of teaching, from the very beginning, was linked with the religion therefore the people involved in it considered teaching obligatory and a continuation of the mission of the Prophet (S.A.W). With this perspective the teachers– mu' allimin were highly respected and honored by the society. Teachers were also devout and erudite intellectuals who were committed individuals to spread the Quranic education as much as they could. To further elaboration thoughts of some renowned Muslim philosophers are presented.

The philosophy of Imam-Ghazali

The core subject of Imam-Ghazali's thinking is the perception of God and His bond with His creatures–the mankind. He has divided the universe into the temporary world and the never-ending hereafter. To him this transitory world is not managed by some methodical principles instead it is a matter of God's will. This world is sustained and managed by the will of God–the cause of all causes.

It is the foremost duty of man to know and strive to come close to his creator–God. This is only possible through education and knowledge. Imam-Ghazali considered consciousness and understanding as central attributes of man. Knowledge could be acquired through; i) his senses and logic, this source

provides man with knowledge about this material world. ii) the source of revelation and insight make possible for man to realize the hidden world. According to Imam-Ghazali accurate understanding can only be achieved through education and wisdom. As the level of true knowledge increases, man develops better understanding of his creator–God, and nearer he comes to God (Ihya' 'Ulum ad-Din, Vol. 1). He believed that parents and teachers were chiefly responsible for the education of children. He thought that in early days the purpose of education should be character building. It is important to know the psychological needs of childhood for properly rearing children; also the psychological needs differ in nature as the children progress in age for example, in childhood children take interest in playing games and fine clothes, than the interest changes as the children move on to the next stage of adolescence, they start taking interest in the opposite sex. Around the age of twenty adventurous characteristic becomes dominant and about the age of forty the focus of interest shift to knowledge and God.

It is not adequate to provide only abstract concepts which have no relation with the daily life of the child. In fact productive knowledge is one which is reflected through student's behavior. In the beginning children should be taught to read Quran, hadith and narration of the events from Islamic history. Children should be taught obedience, kindness, manners, loyalty, humility and politeness. Children should be given ample time for games and physical exercises. Imam Ghazali treats every child as a unique human being with unique characteristic and hence highly regards individual differences.

The importance of Knowledge:

Imam Ghazali says, knowledge is a source of coming close to God and earn reverence and position in this world. He has divided knowledge in to four types, which are;

- Devine or Prophetic knowledge

- Political or Ruler's knowledge
- Philosophic or scholarly knowledge
- Preacher's knowledge

1. Devine or Prophetic knowledge:

This type of knowledge is revealed to the messenger of Allah by God. The messenger of Allah communicates and passes on Allah's message to all the people without any discrimination.

2. Political or Ruler's knowledge:

According to Imam Ghazali political knowledge is exercised by the rulers in order to formulate laws and rules for the betterment of the society.

3. Philosophic or scholarly knowledge:

Philosophic knowledge is generated and refined to address the issues of common people.

4. Preacher's knowledge:

Preacher's knowledge is focused on improvement of the ethical and moral aspect of human beings.

Ibn Khaldun and his educational thoughts (1332-1406 A.D / 732-808 A.H)

The closer study of Ibn-Khaldun's theory of sociology reveals the status of Islamic educational structure. Although his thoughts pertaining to education are found in a strewn and partial manner, we cannot deny its historical importance. Ibn-Khaldun had reflected upon educational issues in an integrated style with the other aspects of social life. He advocates a holistic approach to the social development, instead of seeing things in separate comportments. He believed in the unified system of social development, considering education as an integrated component of this system.

His educational thoughts could be summarized as;

- Education according to mental level

Information may be provided to pupil progressively in phases, from easy to difficult, which the students could comprehend. When children are educated in

a systematic manner, the new knowledge provided becomes more meaningful for them. Any new information may be given to the students according to their mental capabilities. Ibn-Khaldun suggested that every concept may be repeated at least three times.

- Rote memorization discouraged

Ibn-Khaldun recommended that instead of memorizing things, the focus should be upon comprehension. The teachers should not compel their students to learn everything by heart unless they have understood the concepts completely. In case the students are forced to learn the subject matter just by memorizing then the process become complicated for the young children as the concepts are not understood and might be beyond their comprehension, therefore the process of learning is prolonged.

- Continuity in the subject

The continuity of the subject matter must be maintained and the different themes must be linked with each other. Splitting the lessons, except the logical breakup of the subject matter must be avoided. The logical continuity of the themes must be sustained as much as possible.

- One subject at a time

Ibn-Khaldun believed that only one subject should be taught at one time because, in his opinion the teaching of more than one subject at a time creates confusion in the minds of the students. in case the students are taught compound subjects they don't learn any subject. Instead if they are trained in only one subject at one time they learn new knowledge with more interest and acquire deeper understanding.

- Suitable volume of content

The content taught must have sufficient explanation, too many details, as well as too much abridged text creates confusion in the minds of the pupil. Ibn-Khaldun suggested that the content must be related with the daily life of the

children, so that the students could find relevancy in the textual information and its implication in the practical life.

- Cordial relations with students

The harsh attitude of teachers towards children especially in the early years of education can cause serious psychological disorders. The over strictness towards young children damage their self-esteem, and they start lying, concealing facts, and misbehaving. Gradually they develop a negative feeling and hater for teachers, which is than associated to all types of authority and law. Such type of attitude is contrary to the basic purpose of educative process–the development of good citizen. Hence teachers need to revisit their relations with students and these should be based on mutual respect and affection instead of harshness and censure.

- Non formal means of learning

For the strengthening clarifications theoretical knowledge must be coupled with practical experience. To gain practical experience non formal means of teaching may be adopted; in this connection Ibn-Khaldun suggested study trips and discussions with experts. He says that it is quite likely that a teacher might not posses' in-depth knowledge of all the concepts which he teaches or the technical terminologies explained in class room setting might be obscure. Consequently for clarification students must be provided with the experiences of the real life situations.

- Practical knowledge and skill development

Ibn-Khaldun is not in favor of only theoretical knowledge but he considers skill development as important as the knowledge of theoretical principles. He argues that theoretical knowledge is of little use if students are unable to apply it. Therefore he placed great stress on the development of skill like observation, analysis and application of the acquired knowledge.

- Development of science process skills

For the true prosperity of human society scientific knowledge is indispensable. Therefore teaching of art and science must be given equal importance. While teaching of science special attention may be given to the science process skills. Instead of cramming scientific information students must be guided to develop investigative attitude towards the unknown phenomena.

Educational thoughts of Allama Iqbal:

Education and philosophy are interlinked each have effect upon the other. World history show that thoughts of famous philosophers had long lasting effects upon educational practices and caused radical changes in the existing educational theories or given birth to new theories. For example Plato's theory of education was based on his idealist philosophy. Pragmatism advocated project method as one of the teaching techniques. Rousseau's ideas gave birth to the concept of education by nature. Same is correct in the case of Allama Iqbal, who is accepted as a reputed poet all over the world, his thoughts have deep impact on education and personality development. Although he did not formulated any explicit instructional procedure or method of education but through his poetry he has pointed out the elementary principles of edification. Allama Iqbal educational doctrine illuminates the core issues of our educational system and suggests their remedy (Faruqi, A.).

According to Saiyadain (1977) Education is the effect of all the forces which are influential directly or indirectly in the development of individual and the society. He further says that if the role of these forces are fully realized then any idea which is capable of shaping and directing human thinking as individuals and society as a whole, would be classified as an influential cultural force. And hence the originator would also be recognized a key agent of change. With this perception, Allama Iqbal holds a prominent position among world renowned educationists. His position as educationist should not be viewed in the narrow sense. In the broader sense any system of education is

responsible for the dissemination of history, traditions, intellectual inheritance, social and moral values of the nation to new generation. Thus educational system is greatly broader in scope when compared with the narrower view of education–the methodical activities carried out in schools and other educational institutions. The narrow views of educative process exclude the communal and the individual leverage which is capable of forming and amending the fate of the society as a whole and its members individually.

Allama Iqbal valued these social elements in particular, and based his philosophical ideas on self-realization, which is of great importance in the discipline of education. He emphasized the mutual relation of "self" and the situation in which the "self" exist. Allama Iqbal did not consider "self" just fantasy rather it is a solid reality which have its own permanent importance. Consequently education deals with the problems of society and its members, therefore the educative process should make it possible for the individuals to realize his legal and correct position and play his part in the development of society. Allama Iqbal condemned idea of self-denial instead he believed in self-realization and self-actualization.

Allama Iqbal and Naturalism:

According to naturalists the children learn better in a free and natural setting, restrictions in learning process cause psychological despair. Children need autonomy and chance for the full realization of their abilities in the natural environment. During childhood physical development and the development five senses of children is of critical importance. Naturalists do not suggest any kind of cognitive activity for mental development. Allama Iqbal also considers important the early years of child development and put emphasis on the experiential feature of comprehension. He recognized and valued the significance of insight developed through senses. Allama Iqbal put emphasis on the experiential feature of comprehension. He recognized and valued the

significance of insight developed through senses. As said by Allama Iqbal the growth of a dynamic character is not viable devoid of material milieu. Allama Iqbal believed that it is difficult to reach self-realization in the absence physical resources. Regarding freedom he believed in the intermingling of individual with the phenomena of this world and directly developing comprehension. But he show firmness in disciplining the children to meet the challenges of life. Adjustment is considered one of the aims of education by naturalists but Allama Iqbal has a different point of view regarding adjustment, he believed in subjugation of the situation instead of adjustment to the situation. He was of the opinion that the young generation should be able of creating environment of their choice.

Allama Iqbal and Idealism:

Allama Iqbal believed in the imperfection of this world and at the same time he wanted that man should have strong will power and determination. He should be capable of conquering all the opposing forces on the basis of his will and determination. He invited the mankind specially the youth to be the master of their own destiny. Generally the idealists believe that mind or sprit is primarily genuine and that the entirety the universe is in some way mind or sprit in its real meaning. Allama Iqbal has the same opinions as the idealists, that the materialistic world is an imperfect manifestation of actuality. Man is endowed with unique supremacy which expresses itself in different forms like mental power, insight, civilization, talent, probity and faith. In particular these are human characteristics which lie, undoubtedly, outside the range of affirmative knowledge.

Allama Iqbal and Unificationism:

Allama Iqbal unites the finest of materialism and of spiritualism in his thinking, and insists the human beings to fully utilize the objective side of learning, which should intend at bodily strength and attainment of

indispensable physical ability. In the view point of Allama Iqbal physical and spiritual aspect of self are the two sides of a coin which are inseparable and have common bearing. Iqbal deems body and soul as a single entity and accentuates the need of logical artistic and societal values, which must be practiced for the improvement of self. Consequently the actual meaning of reality as apprehended by Allama Iqbal is the determination of the self. Therefore, Allama Iqbal considered the strengthening of individuality as the main endeavor of learning. Here we find Allama Iqbal's thinking different than that of the naturalists, who believed that education help individuals to change themselves according to their situation. The analysis Allama Iqbal idealistic thinking it is evident that he had his own thoughts which were not influenced by any of the contemporary philosophical thoughts of his time nor his thoughts were driven from any pre-existing intellectual thinking, instead he studied different philosophies and generated his own genuine philosophy based upon "Din" the divine knowledge, encompassing all aspects from material to spiritual, from individual to social and from reality to idealism(Masoodi, 2007.).

2.8.1.4 British Period (5th to 20th century)

Using Leonardo Bruni tripartite periodization British period of educational development could be divided into following sub periods;

- **Educational development in Early Middle Ages 5th to 10th century**

In the fifth century (476 CE) Roman Empire lost its control over majority of its western areas with the annihilation of its major civic hubs resulting in decrease of intellectual activity. Gradually with the passage of time scope of education shrank and all sort of educational activities were limited to religious institutions (church schools). In these institutions the intellectual activities were further limited to the study of verse of Bible (Pierre Riché, 1976). However in Italy Spain and some southern parts educational activities continued to exist and in British Isles and Ireland intellectual activities

reappeared and people took interest in the study of Latin language and text (ibid Pierre Riché, 1976).

- **Educational development in High Middle Ages from 11th to 13th century**

After the down fall of Roman there was scarcity of intellectual resources in Europe, which comprised of a few written copies of the work of primordial Greek philosophers. Due to inadequate acquaintance of Greek languages people preferred to study the Greek thoughts in Latin. However when the European came in contact with Muslims during Crusades and Reconquista– from 721to 1492, got the opportunity to access the work of Greek philosophers and scientific investigations made by renowned Arab scientists Ibn-ul-Hathim and Ibn-Rushad. Thus in the renaissance of 12th century universities (Bologna–1088) were established, almost all the Arabic and Greek scientific literature was translated in Latin. Not only the Arab and Greek work was studied and translated but European scholars such as Fr. Rogeri Bacon contributed a lot in the development of scientific knowledge (Franklin, J. 1982).

- **Educational development in Late Middle Ages from 14th to 15th century**

The struggle that started in Itlay to encourage Roman and Greek intellectual thoughts, through the study of humanities– grammar, history, poetry and Philosophy, spread throughout the Europe in 13th century. The main shift of this movement was towards the vital thoughts and facts form the prevailing conventional Aristotelian thought. This struggle shaped into a new approach the "humanism" a deviating trend from the scholasticism–observance of the customary teachings, principles or techniques. The scholastic activities accentuated materialistic, specialized and technical knowledge for training people as religious scholars, scientists, doctors or politicians, following course of studies from standard books related to different disciplines like religion, philosophy, medicine and of course law (Craig W.2002). As a reaction to this literalism humanists wanted to generate a community including female population, which was competent enough to read and write with articulacy, hence contributing towards the public life and influencing their

contemporaries for good and far sighted deeds. Despite the fact that mainly this struggle was to invigorate the ancient languages, in addition it showed the way to novelty in many disciplines like fine arts, natural sciences and literature. This movement of humanists was further strengthened by scholarly contribution of many great minds that came over to Europe after the collapse of Islamic state in 1453 (Allmand, C.1998). The term "humanasim" refers to the study of classical literature and not the study of humans as subject (Nicholas Mann, 1996). During 13th century the dominating philosophy in Europe was Thomism –the unification of Aristotelianism and Christianity (Jones, Koenigsberger) which was criticized and was restricted– condemnations (1277). These restrictions were ratified in universities of Europe (Hans Thijssen 2003). As a substitute for Thomism, William of Ockham offered the concept of acceptance of the simplest postulation in the creation of a hypothesis (Occam's razor). He suggested that reason and faith must always be separated (Nicholas, M). This deviating trend of humanism freed scientific theories from the rigid Aristotelian notions, and as a result of this movement new trends were exercised in different disciplines. Also some discoveries and inventions, like the invention of printing press had an immense effect on the overall development of the society, especially upon the diffusion and improvement of knowledge (Grant.)

- **Early modern period from 15th to 18th century**

The intellectual thinking in Europe during 17th century deviated from the earlier traditional teachings. This era is characterized by some renowned thinkers whose contributions in the fields of philosophy, political and natural sciences proved to be of fundamental nature. These thinkers included, for example, Immanuel Kant, Adam Smith and Isaac Newton. This period produced two types of thinkers; one may be called the rationalists and the other as empiricists. The rationalist include René Descartes (1596-1650), Spinoza (1632-1677) and Gottfried Wilhelm Leibniz (1646-1716) whereas the empiricists include John Locke (1632-1704), George Berkeley (1685-1753) and David Hume (1711-1776)

Educational Thoughts of Immanuel Kant

The study of Immanuel Kant (1724–1804) Educational thoughts indicates four elements of interest these are; nurture, obedience, instruction, and ethical guidance (Kant, I. 1908) According to Kant, no other creature except man, need education, he considered nurture, obedience, teaching and ethical guidance as the four fundamental elements of education. He also highlighted the sequence of in which the human beings need to be educated, to him the educational period of a man could be divided in to three stages;

First stage (Rearing)–when man is an infant needs nursing as his educational course. Here parental affectionate care is conferred upon youngsters with the intention to check them for applying their strengths in such a way which would not be harmful in any sense to them.

Second stage (Civilizing)–while rearing continues, man in his childhood needs discipline and tutoring. During this stage man should get used to capitulate to the dominations of reason, because when a person is permitted to act according to his personal wishes and desires in the early period of life, devoid of resistance, will develop in to an individual who is habituated to lack of restrictions, and hence will forgo everything for the sake of freedom and will not yield to any authority. Because of this, the habit of restraint and self-control should be developed in children at an early period of their lives; if it is not the case, then it becomes quite difficult to modify and change the temperament of children afterward in life. This is the self-control, that put a stop to the beastly urges hidden in man and do not allow human beings to turn away from humanity, their selected destination. Self-control, for example, must hold back man from stepping into risk ignorantly and foolishly. In this sense discipline or self-control is purely negative in nature–meant to suppress the beastly urges and to work against man's innate wildness. On the other hand at the positive end of educative process lays the teaching or tutoring.

After being disciplined people require instruction or teaching in the second stage (civilizing) of their educative process. As compared to other creatures man is born with little instinctive powers but a lot of potentials, which are needed to be developed. The responsibility of human developing rests with the, no one else but the man and only through education man turn out to be a man. Man is nothing but what education crafts of him. It is evident that only man can instruct a man, this could only be possible when the educated people shoulder this load. Education was considered the only means to build the intellect of man.

Third stage (Ethical guidance)–while continuing with civilizing, the focus of education shifts towards the perfection of human conduct through moral education. Hence Kant regarded moral education the third most important part of the educative process. According to Kant it is not sufficient that man shall be disciplined and instructed only, but his temperament must be so prepared that he shall opt nothing but good—universally accepted and agreed upon, the ultimate aim of humanity. Ethical preparation, as a part of formal education appears lastly in the educative process chronologically. The reason is that the mind of a child is not prepared cognitively to comprehend moral aspect of education at an earlier stage. But this doesn't mean that moral education may be differed to latter stages, instead it should be taken care off from the beginning along with physical education, as the absence of moral education may cause problems which could become hard to solve in the latter stages. The problem of moral education may be dealt with techniques appropriate to child's age for example, through story telling or historical vents.

Educational Thoughts of Rene Descartes

Rene Descartes (1596–1650) is known as the father of modern philosophy, whose study focused all metaphysical and mathematical concepts. He laid down the foundation of analytical geometry and coordinate plane, known as

Cartesian plane. His famous work includes the Discourse on Methods and Le Monde. Descartes religious background, his education and love for mathematics shaped a unique view of natural phenomena his ideas had great implications in the field of education. His thoughts could be categorized as;

- **Theory of human nature**

Descartes, in his theory of human nature compared humans with other animals and stated that both animals and human beings are like machines (Watson, 2002) but human beings differ from all other animals in two aspects; one is the ability of reasoning, which is the characteristic of human nature only, and other is the faith or religion, attribute unique to human nature (Smith, 2004).

In his last work "Les Passions de l'ame" (1649) Descartes discussed the human feelings and the way we understand and act under our feelings and emotions. Here it is pointed out that our behavior is not always controlled by our thoughts but often our actions are the results of our emotions. This conform our very human nature that is as humans we usually act according to our feelings and not according to our deliberate thinking. Although, Descartes preferred that man's actions and his behavior should be subordinate to his thoughts, but in his views such a life would be weirdly dull and monotonous, in contrast to the vibrant interaction of sentiment and sensation that distinguish the human way of life, Cottingham,J. Stoothoff,R. Muroch,D and Kenney,A. (as cited in Monk,R and Raphael,F. Eds. 2001)

- **Theory of knowledge**

According to Norman (2010) Descartes believed that knowledge is confidence founded on grounds so physically powerful that it cannot be upset by a stronger explanation. Employing the rational process of doubt, Descartes considered that the quest of knowledge requires the quest of passions that revealed the most ideal belief (Norman, 2010). The most important "belief" achieved following the rational process of doubt, is the reality of the self; that

is, “I think; therefore, I am” (Descartes). Baird & Kaufmann, (2003) explained that regarding the reality of God Descartes argued that the belief in God, as a faultless Originator, is understandable on the grounds that only God–the perfect being, is capable of originating the idea of God” within a thinking being (p. 397). Therefore, any proclamation that rejects the normal rules of rational and mathematical analysis would be deemed as an error of logical thinking. In view of the fact that human thinking cannot be perfect and most probably prone to error, therefore human observations have the probability of fallacy (Baird & Kaufmann, 2003). Descartes views regarding religion and science highlight the difference between the two in very simplified form, any concept, according to Descartes, if believed to be true devoid of objective and rational confirmation, could be termed as faith, belief or religion. According to Descartes faith or religion is not something intellectual but it is more an act of will rather than human intellect, while on the other hand scientific concepts are the human intellectual efforts and experimentations (Bell, 1937). This difference between the two spheres of knowledge demand different types of enquiries for acquisition of these two types of knowledge.

- **Theory of learning**

Knowledge that we acquire with the help of our senses was doubted and distrusted by Descartes. He considered that such knowledge which is based only upon the sense perception may be misleading and incorrect. Descartes believed that the accuracy of the information obtained by our senses may not be reliable. According to Descartes, for valid and reliable knowledge it is necessary, as an initial step, to refute all what is known before establishing and proving anything through logical reasoning. In this process of destruction and reconstruction of ideas, Descartes wanted to establish the fact that human senses sometimes betray, and we cannot depend upon them entirely, therefore inferences thus made become unreliable too. As mostly all the scientific studies involve and depend on senses, therefore need to be cautiously checked

in order to ensure the validity and the reliability of their outcomes, exercising logical reasoning. Descartes suggested that any issue under study may be split in to its fundamental components and then each and every component may be carefully studied and the process and the products may be articulated in mathematically. In this way the position of the sense observation may be minimized and exercising the impartial reasoning we can obtain a correct conclusion. Descartes strongly assumed that all humans are endowed with ability of reasoning and the real knowledge is gained by studying the natural world and systematic implementation of logical reasoning. Descartes deviated from Aristotelian approach for acquiring knowledge by assuming that people should investigate their problems and find their unique solutions, instead of depending on formal procedures and customs.

- **Theory of value**

Descartes valued that knowledge which results in concrete outcome (Finkle, 1898), he preferred science and mathematical knowledge over the arts. He argued that learning just for learning, without any practical implementation is of little use. He had a clear vision regarding the question which knowledge, skill or type of education is important enough to be received? Answering this question Descartes put forth the argument that any knowledge which have no application and impact on; the world of nature, physical nature of the human body and the moral conduct or social behavior of man, is not worth receiving. On the other hand the subjects which are somehow beneficial for human and have effect upon our health (medicine), or which are supportive for the development of physical world(mechanics, physics) and those subjects which are helpful in developing human moral character (morality) are worth studying (Ariew, 1992).

Educational Thoughts of John Locke

John Locke (1632–1704) in his early days of practical life served as a lecturer, he also served as a physician, statesman and a private tutor but his reputation

as a philosopher was supreme. John Locke criticized the methods of education which were practiced in schools at that time. He also condemned traditional Aristotelian philosophy–scholasticism; instead he supported experimental approach–empiricism. Regarding educational thoughts of John Locke, he specially stressed that development of habits, insight and good qualities instead of focusing upon collecting information as an aim of education.

Knowledge is the “awareness of the relationship among different concepts and ideas, the mutual relation between two ideas could be positive or negative, Locke described positive relation as “agreement” and the negative relation as “disagreement”. He further classified knowledge in two categories, that is “actual knowledge” and “habitual knowledge”. While explaining the “actual knowledge” he stated that when mind is currently and actively engaged in establishing the “agreement” or disagreement" relationship between two concepts or ideas, “actual knowledge” is produced. But when mind is engaged in examining the previously established agreement or disagreement relations between two concepts or ideas, and not depending upon the current relations, then this mental activity is based on habitual knowledge.

John Locke considered following elements important for acquiring knowledge;

- Experience
- Our senses
- Perception
- Observation and reflection
- Retention
- Memory
- Discerning
- Comparing
- Compounding
- Abstracting

According to Locke knowledge is created and acquired through experience. He further explained that we gain experience through our senses, senses communicate discernment to human brain. Brain interprets these sense perceptions and generates knowledge (actual or habitual).sense perceptions belong to either observational category or to the category of reflection. Consequently, through observation the bits and pieces of external world and functioning of human mind through reflection, serve as object of awareness and knowledge. Based upon the stages of human development children get reflective ideas later on, at relatively mature stage because, reflective ideas need maturation and attention, which the child can not apply at the earlier stages of their cognitive development. Next in the process of knowledge acquisition, retention is an element of great importance which is responsible for withholding basic ideas obtained through sensation. Human mind retains ideas either by memory–the ability of human mind to restore perceptions or by contemplation– thoughtful observation.

Memory is vital for gaining knowledge because without memory it is impossible to imagine ahead of the current substances. But one can have two types of deficiencies with memory one is forgetfulness–oblivion and the other is sluggishness – slow retrieval of the facts and ideas.

According to Locke further discussed that based upon memory and retention the human mind is capable of discriminating two sets of ideas, no matter how similar they might have been. Also human mind possess the ability to judge ideas against each other and take decisions. Even at more advance level human mind put together different simple ideas and combine them to develop a complex idea. Lastly Locke discussed generalization of specific ideas and using these generalizations for all other like concepts and ideas.

Late modern period from 19th to 20th century

Late modern period witnessed many global changes; many nations became independent which give new direction to the world wide opinion by considering

education as a mechanism of development and understanding others view point. For this reason efforts were made to wipe out illiteracy, hence new schools, colleges and universities were set up in great numbers throughout the world and the trend of education shifted from elite to masses. Especially after Second World War greater need for education at secondary level as well as at higher level was felt. This need was also felt due to the shift from agricultural to process of industrialization which needed modern skilled manpower with modern scientific and technological knowledge. Thus the focus of education changed from philosophical aspect to utilitarian aspect with the acquisition of technical information and behavior modification strategies.

Some key academic activities

Friedrich Herbart(1776–1841) applied the scientific approach to learn about education as a discipline He assumed that each child is gifted with a distinctive ability, which is not satisfied until it is investigated and changed by education in harmony with the built up standards of society(Blyth, 1981). He drew our attention for application of psychology to education. This lead to a chain of educational development efforts made by many renowned educationists and psychologists, for example, Wilhelm Wundt (1832–1920) who tried his level best to distinguish psychology as separate discipline from philosophy and wrote his famous book "Principles of Physiological Psychology " in 1874 bearing considerable influence upon the discipline of education in the times that followed.

Sigmund Freud (1856–1939) was among those who initiated the study of unconscious processes of learning and modification. He introduced the Psychoanalysis theory of learning which could be considered as an educational process in which unintentional conflicts are intentionally tackled. Sigmund Freud explained how important it is to understand the unintentional actions to change and modify out conduct.

This approach aroused the interest of many thinkers to apply educational psychology to educational practices and training. Thus educational psychology was being considered as a separate main subject and was applied to; bring desired changes in behavior, motivating learners and personality development. Different educational theories such as classical conditioning(Pavlov) operant conditioning (Skinner) social learning theory (Bandura), social development theory (vygtosky), stage theory of cognitive development(Piaget), experimental learning (Kolb), Blooms taxonomy(blooms), Maslow hierarchy of needs(Maslow) and stages of development(Erikson) were studied and experimented with to improve the teaching learning situation. These theories helped and contributed a lot comprehend the role of inheritance, common situation, and of school in the process of learning and improvement. The connection of different learning theories with other important elements of educative process, like subject matter, curriculum and teaching methods became closer. Efforts were made to find out and investigate what in reality take place inside a classroom during educative interaction.

One of the distinguishing elements of twentieth century education was the progressive education–an educational struggle which started parallel with the conventional education of nineteenth century which was entrenched in traditional training for university education and highly set apart by socioeconomic status. In comparison with conventional education progressive education focused at the current experiences of the children. All such courses that followed progressive approach have following common elements, such as critical thinking, learning by doing, and collaborative learning. Progressive education aimed at socialization by developing social skills and development of democratic attitude through self-responsibility. Pestalozzi(1746–1827),who is considered to be the father of modern educational science (Hayes, William, 2006) considered education an enterprise which allowed young children to learn using all their abilities that is cognitive, affective and psychomotor , in an environment which provide experiences involving object learning. He suggested that it is the job of the teacher to direct his pupils to learn in a

natural environment. He stressed upon internal motivation rather than external motivation. Friedrich, W. Frobel (1782–1852) a follower of Pestalozzi , assumed that students have distinctive abilities and needs, therefore the best way for them to learn through self-directed activities, he further thought that “play” was a key element in child learning. Frobel introduced the idea of Kindergarten.

Second characteristic element of twentieth century education was the child centered approach–educating children according to their needs and desires. The supporters of the child-centered approach to education propagate in general, that all educational activities inside or outside the school premises must suite to the needs of children. Children should not be molded to fit in the educational activities (Rousseau, 1762). In 1875 Francis W. Parker put this approach in practice and made efforts to impart education through active learning, creative thinking and social development. Child centered teaching was also used for the education of children by Dr. Maria Montessori (1870–1952). The same approach was also used by Jean ovide Decorly (1871–1932). Initially this method was used for the education of special children but latter on the same was successfully used for the education of normal children. The basic principle of child centered education is to provide an environment to the children where they could learn and grow according to their own needs and interests. This approach proved its worth and was accepted worldwide for the education of children in their early years of schooling.

Third unique aspect of the twentieth century education is the Systematic-pragmatic education–provision of education on scientific bases. This concept of systematic and pragmatic education developed in early twentieth century. Jean Piaget (1896–1980) in 1920 made a scientific study how young children learn and think. He for the first time studied and proved with evidence that children think differently than grownups. He explained that it is wrong to assume that children are less competent than adult but the fact remains that they are not less competent rather their thinking

style is greatly different than the adults. Piaget's work had a profound effect upon educational practices for the years that followed (Berk L.E, 2001).

2.8.1.5 American Period

Communal education in America varies from the educational system of many other countries, in the sense that, basically states being responsible for carrying out educational functions. During the nineteenth century the nationwide educational system emerged, Thomas Jefferson (1743–1826) introduced the idea of public school system, which latter on served as the foundation of national education system of America. Others including Horace Mann (1796–1859) and Henry Barnard (1811–1900) contributed a great deal in the development of public education. As a result of their efforts normal schools were established in Massachusetts, Connecticut and Rhode Island. Another characteristic which set apart American public educational system from rest of countries of the world is the legislation which supported and established the right of state in taking regulatory role and educational authority. The supporters of public school system believed that public school system in the supervision of state could produce high-quality general public, bring together this general public and put a stop to transgression and eradicate poverty. Consequently, free of charge communal education was accessible for every American child; supported by law (Compulsory school attendance laws in 1852, Massachusetts).similar legislation was made in other states in the first decade of 21Ist century, necessitating children to go to schools at least up to primary level. In late eighteenth century (1790) about half (seven) states of USA did legislation and had detailed allocations made for education. This was assumed that educational system must be secular, without any religious prejudice, accessible to every citizen and monitored and controlled by State (Jefferson, 1813). This gave rise to the establishment of Education Deportment in all the States included in USA, thus authorizing the states independently to pass Laws related to matters such as, financing, recruitment and employing staff in schools, pupil presence and matters

related to curriculum development. Normally, school administration was the function of the district to which school belonged. However, matters regarding certification of teachers, health facilities and safety measures were looked after by the Federal government. School expenditures were realized through public funds mostly property tax collected from the local residents; hence schools revealed the instructive ethics and pecuniary potential of the home districts where the school were situated.

The next important move in educational reforms was the concern about standard and quality of education, hence around end of twentieth century all states of USA paid exceptional thought to their responsibility in lifting up the quality of teaching. Further focusing upon educational reforms government paid special attention to increasing access to education for deprived children (Elementary and Secondary Education Act 1965. International Education Act 1966)

Scholarly Efforts

In 1890 William James (1842–1910) published his book "The Principles of Psychology" and mentioned revolutionary ideas regarding education as discipline. He explained that the main objective of education must be to prepare the children for social adjustment and adjustment to their physical surrounding. Further the introduction of educational psychology by Thorndike (1874–1949) established psychological studies and it application to education on purely scientific grounds (Thorndike, 1903). Attempts were made to understand cognitive developmental stages of children from time of birth till adulthood.

John Dewey was among those who propagated progressive education. The major contributions of John Dewey in the progress of progressive education were, The School and Society (1900), The Child and the Curriculum (1902), How We Think (1910), Democracy and Education (1916), Experience and Nature (1925), and Philosophy and Civilization (1931).

Carl Rogers (1902–1987) explained the concept of LCE–verbal interaction, in his book "Client-Centered Therapy" and the same was also discussed in "freedom to

learn". The basic suppositions about LCE, according to Rogers (1951) could be summarized as;

- We cannot teach anybody directly but can only guide him or her to learn.
- We considerably gain knowledge of only what is perceived by us for the continuance of or enrichment of the composition of self.
- An incorporated piece of knowledge which tends to alter self-management is opposed through refutation or deformation of representation.
- In the absence of intimidations a person become more open for adaptations whereas under the influence of intimidations we are inflexible to any change.
- Any considerable amount of learning takes place under two conditions, when there are no threats and distinguished awareness of the area is made possible.

The application of Rogerian psychotherapy to education and teaching learning process is discussed in his book "On Becoming an Effective Teacher–Person-centered Teaching" published in 2013.

Skinner (1904–1990), one of the great psychologists and educator of his time, believed that education serve two main objectives first to teach all the skills and techniques of both spoken and nonverbal conduct and to support learners to exhibit an attention in teaching. Skinner was convinced that positive reinforcement had tremendous effect upon human learning and very small and simple act like, praise or moving into an advance level of the task have reinforcing effect(Skinner,1961).He wanted to manage learners behavior by strengthening it when the desired behavior was the result of a specific impulse.

To him learners should play an active role in the learning process, they ought not to be inactive addressees of teachers. Skinner was of the opinion that while learners taking initiative in learning and behavior modification process, they should be encouraged. This is possible when the teachers were trained in effectual teaching methodology–based upon positive reinforcement than punishment. Negative reinforcement–punishment built up a behavior of staying away from punishment. Punishment dose not promote learning (ibid). Discussing the teaching methodology,

Skinner (1968) explained that teachers, usually unaware of the scientific principles supporting the teaching process, adopt apathetic methods and techniques which are not appropriate for the learning of young children. Mostly teachers depend upon informing and elucidating, which have little effect on the learning of children. He further explained that teachers are unable to adjust their teaching according to the level of their students. They also fall short in encouraging their students and reinforcing their correct responses. Skinner suggested that teachers ought to make clear what they expect their students to do, then divide the task in to many interlinked smaller steps which could be achieved by students easily. Students must be given time to accomplish these steps along with the proper reinforcement for every accurate move, so that the whole task is accomplished successfully (ibid).

Abraham Maslow (1908–1970) has been credited for the development of humanistic Psychology–the study of a person as a whole. He stressed certain traits for example, ingenuity, self-realization, and ethics, he believed that growth of hidden human abilities, human pride and value of man are eventually important. He realized that human beings were intrinsically motivated supported by the hierarchy of needs (Maslow, 1943). According to Maslow (1943) the compulsion to learn is built-in. every individual strives to achieve his or her full potentials. Therefore the function of education is to attain the level of self-actualization and hence the objectives of the teachers should be to help students to reach this level. Maslow segregated knowledge as experimental and spectator knowledge but to him experimental knowledge is superior to spectator knowledge (Maslow, 2002).

In 1947 Bruner conducted a study on perceptions which paved the path for researchers to investigate not only stimulus response relationship but the internal interpretations of an organism. These experimentation with perceptions lead Bruner to the investigation of real cognition which is linked with perceptions of an organism (Bruner, 1947).In the field of developmental psychology Bruner contributed by studying how children learn? And described how children construct new knowledge

upon the facts which they have acquired previously (Bruner, 1977). He believed that children are capable enough, even in the earliest days of their lives, to learn anything appropriate to their age if the mode of training is in accordance with their age (Bruner, 1974).

The concept that cognitive process is influenced by social context in which learning takes place was introduced by Albert Bandura. He proposed the Social learning theory–learning in the social context through modeling and observation. Basically the behavioral learning theory and the cognitive learning theory were combined to present a broader form that could explanation for the large variety of learning incidents that take place in the actual situation (Bandura and Walters, 1963).education has been recognized as a social function (John Dewey, 1916). Most of the class room classroom instructional approaches are based upon the main beliefs underlying the concept of learning in the social context to augment learner's comprehension. Bandura (1961) conducted an experiment intended to demonstrate that comparable behavior was learnt through observation of the acts of the person being observed. He concluded that young children are highly influenced by what grownups, in close contact with them, do. This is truer for aggressive behavior shown by adults (Bandura and Walters, 1959). Eventually the studies conducted by Bandura lead him to analyze the ability of human cognizance in social context with the emergence of social cognitive theory. This theory basically involves modeling and learner–the observer draws the ideas from examining the organization of the conduct being observed (Bandura, 1989). In contrast with theories of conditioning, the social cognitive theory considers people as, practical, responsible, planned, and thoughtful organisms capable of learning and modification (Bandura, 1986). Bandura concluded that man has developed a superior competency for acquiring knowledge through observation enabling man to increase his acquaintance and talent quickly by receiving information communicated by different models being observed (Bandura, 2008). This assumption that the preferences could be manipulated by finding out the consequences of dealings of others can be implemented for educating children. As

discussed by Bandura (2001) that the element influential to picking any modeling behavior can strongly shape the path of personal growth could be applied to educate and shape the behavior of the young generation. However people do not follow all social leverage they come across, people make their choice by reflecting critically what should be followed and what should be ignored. People predict the possible results of their future dealings and plan what behavior should be adopted. Hence they encourage themselves and direct their actions (Bandura, 1989).

However the findings of Howard Gardner changed the whole situation in an opposite direction. Instead of considering intelligence a single element, teachers started to believe in a set of intelligences, each intelligence being different and free form the influence of the others. Individually all intelligences have their unique characteristics, strong points and limitations. The mind was no longer considered "tabula rasa" (John Locke, 1690). This conception of innate intelligences made teaching even more challenging in case of teaching concepts which are not in harmony with a specific intelligence (Gardner 1993). Although the Gardner's work made teaching a challenging job but it also gave a wider scope to the classroom teaching in particular and education in general. The understanding of many intelligences instead of only one expanded the range of educational activities and teaching methods applied. The need to address all the intelligences was felt by the educationists and teachers for their optimum fulfillment in the class room. Hence classroom teaching required "depth" along with "breath"(Kornhaber,2001) through unlimited chances and a variety of approaches to study and practice any concept or skill.

Howard Gardner can rightly be regarded as a "paradigm shifter" (Smith and Smith's, 1994) because the aim of education shifted from "adjustment" to "development" when the purpose of education is no longer limited to the understanding of this world for better adjustment to it, but the aim of education turns to enable young generation to make this world a better place (Gardner, 1999). This

change in the aim of education turned educator's interest towards the development of deeper understanding of learners through comprehension, active involvement, investigation and ingenuity of the learners. These radical changes involved in teaching could no longer be housed in the conventional type curricula and could no longer be assessed through conventional types of evaluation (Gardner, 1999), therefore a restructuring and redesigning of the curricula is needed which will demand appropriate class room size and even the whole new school plant to carry out the educational activities according to the Gardnerian curriculum (Project Zero, 2001).

The back ground of the intellectual development of mankind, in general, influenced the educative process and the existing practices at all times. Evidences of human intellectual development from the recorded history of mankind (3000 BC to present times) show that these developments had always a profound effect upon the educational trends of those times, for example the educational system back in the ancient Egyptian period strive to develop youngsters as scribes and priests for carrying out two different duties in future. While occupational skills were taught through apprenticeship. The institution responsible for any kind of scholarly activity and preparation was called library, normally functional in a temple managed by leading priests. Teaching Methods included learning by heart, verbal practice, writing and copying. Also on job practice was included in the training of scribes. Priests were prepared for the management of government and affairs related to religion, while the scribes were trained for official work of record keeping and documentation. The Spartan and Athenian educational system highlighted their philosophies of life respectively educational system in Sparta was focused on civic and military education designed to discipline their citizens to carry out orders and to be obedient to law. Whereas the Athenian educational system was broader in scope as it was not restricted only to physical development of the children but its focus was the personality development. Also different educational activities were arranged at different specialized institutions, for example the Grammatistes–the writing master was responsible for the teaching of prose, took care of reading, writing and arithmetic,

the Grammatikos–the literature master took care of advance learning of history and poerty, it was expected through poetry lessons to transfer intelligence and morality to the young generations, Kitharistes–the lyre master guided students to play musical instruments. The physical development was never ignored Palaestra–the gymnasium, were established to teach wrestling skills and physical fitness training (Murphy, 2006).

On the other hand if the intellectual development in Islamic period is critically analyzed it may be noted that mosques served as places for offering daily prayers and learning–the new religion Islam. But the learning aspect of mosques was no more restricted only to Islamic sciences, it also included natural sciences, medicine, mathematic, geography, philosophy, astronomy and reading and writing. In the beginning the primary function of mosques was to serve as a place for offering daily prayers and secondarily it served as learning seat but with the passage of time the learning aspect became so dominant that mosques started to serve primarily as institutions of learning and secondarily as place for offering prayers, as for instance Jami in Cairo (Makdisi, 1981). These educational institutions served as intellectual developmental centers and made many discoveries in the field of natural sciences, medicine and mathematic. But the most important point of interest regarding this study is the criteria for teaching. It should be noted that in Islamic system of education everyone was not allowed to teach but only few, highly qualified people were allowed to teach. The authorization to teach in Islamic educational system was unique in the sense that it was delegated through a top bottom hierarchy. This authorization is termed as Ijaza (Makdisi, 1981).

Whereas the focus of education kept changing in European period, during early middle ages the scope of education shrank and all sort of educational activities were limited to religious institutions (church schools). In these institutions the intellectual activities were further limited to the study of verse of Bible (Pierre Riché, 1976). In High Middle Ages from 11th to 13th century the scope of education

expanded when European came in contact with Muslims during Crusades and Reconquista–from 721to 1492, got the opportunity to access the work of Greek philosophers and scientific investigations made by renowned Arab scientists Ibn-ul-Hathim and Ibn-Rushad. Thus in the renaissance of 12th century universities (Bologna–1088) were established, almost all the Arabic and Greek scientific literature was translated in Latin. Not only the Arab and Greek work was studied and translated but European scholars such as Fr. Rogeri Bacon contributed a lot in the development of scientific knowledge (Franklin, J. 1982).

The intellectual thinking in Europe during 17th century deviated from the earlier traditional teachings. This era was characterized by some renowned thinkers whose contributions in the fields of philosophy, political and natural sciences proved to be of fundamental nature. These thinkers included, for example, Immanuel Kant, Adam Smith and Isaac Newton. This period produced two types of thinkers; one may be called the rationalists and the other as empiricists. These scholars highly influenced the educational practices and gave new directions to education as a separate discipline.

Educational development discussed under the heading of American period is unique in the sense that educational development efforts took place at two main levels one at the governmental level and the other at the scholastic level both drawing their strength from each other. Education with the additional support of psychology has changed the routine procedural classroom teaching into a scientific activity. Today class room teacher in no longer a conventional conveyer of information, he is an investigator and developer of new knowledge.

In the light of previous section we see that teachers had been confronted with four main questions; Why to teach? What to teach? How to teach? and Whom to teach (psychology)? Educational history extending from ancient times to the present times, contain the answers. These answers varied in depth and scope according to the chronological period, for instance the answer to the question “how to teach” was

certainly different before and after the development of writing system around 3500 B.C. obviously the hand written scripts were fewer in number, hence, the fourth question “whom to teach?” emerges to the surface making it possible only for the elite to get education. This restricted education to the upper class of the society. Now the first two questions catch our attention, here too the content remained limited only to the religious and political knowledge. The content also included acquisition of reading, writing and computational skills. Learning occupational skills remained outside the circle of formal education for a longer period. Paper production on commercial bases along with the development of water powered paper mill changed the teaching practices and formal education at that time. Similarly the invention of printing press in 1445 dramatically changed the depth and scope of four main questions regarding teaching process. This technological development had a direct effect on the formal education which in turn influenced the teaching profession. Beside this many others technological developments like development of micro scope and telescope around 1600 brought a revolution and the existing knowledge multiplied increased may times. In 1800 the invention of electric battery by Alessandro Volta opened new fields of studies for investigation and further propagation. The use of stationary steam engines served as a key factor of the industrial revolution (1760–1840) which was defining moment in history of the world almost each side of everyday life was influenced in some way or the other. According to Robert (1995) the living standards of the masses of ordinary people begun to undergo sustained growth as the average income raised. The introduction of internal combustion engine (1860) further enhanced the economic activities throughout the world. This brought scientific, economical, and industrial influence in the formal education.

In shot we can say that any new development, discovery, or invention in the fields of philosophy, science, technology, and psychology had its direct influence upon the four main questions of teaching process. Therefore continues readjustment to the aim, content, and method of education was made. The efforts made for these

readjustments could rightly be considered as teachers professional development efforts.

The two great wars i-e World War 1 and 2 occurred on the basis of change in thinking–nationalism and imperialism. And their post effects also brought changes in the philosophical thoughts, which once again revolutionized the formal educational system of the world. It was believed that restoration of peace and economic development is possible only through education.

The analysis of the four fundamental question regarding education show that the first question–why to teach? Addresses the philosophical aspect of educative process, the second question–what to teach addresses factual and informational aspect of the educative process. The third question–how to teach, deals with pedagogical instructional techniques, while the third question of whom to teach requires sound understanding of child and educational psychology on behalf of the teacher. As a matter of fact these four areas are subjected to continuous change development. Hence the teacher, the main player of the educative process, therefore needs a continuous process of updating his or her professional knowledge.

2.8.2 Teacher's Professional Development: Global Perspective

Irene Psifidou, (2010) teachers are recognized as main players for accomplishing basic change and improvement in education. Research findings show that there is a relationship among quality education and teacher training which confirm that teachers can play a significant role to ensure quality education (Hattie, 2003). Teachers being the focal performers in educational field therefore the quality of education provided at any level depend upon what teachers receive through teacher education and teacher training programs. Also what teachers actually practice inside the classroom determine the quality of what children receive. Thus to suggest any improvements in the quality of education at any level would not be effective unless the teacher education and training programs are not improved (Griffin, 2012). This would suggest any quality enhancement activity at any level could only be achieved

through teacher's professional development (TPD), or we can say that quality enhancement of education is directly associated with TPD.

Villegas-Reimers (2003) considers TPD as lifetime practice during which teachers gain, expand, and make their factual understanding deeper. Although the journey of TPD starts with the proper pre-service and in-service teacher training programs (TTP) but it is foster more through such unceremonious incidences, for example personal observations (Lortie, 1975) on job communications with colleagues and the practical experiences which teachers gain through classroom teaching (Lacey, 1977). Research studies show that teachers learn, develop and change through a number of sources, different forces in this regard are policies, cultural values, and organizational structure (Ginsburg, 2011). Studies also show that attitudinal and behavioral changes take place more readily when teachers are practically involved in structured or unstructured PD activities which are directly related to their instantaneous tasks and challenges such as action research (Ginsburg, 2010).

Considering the importance of teacher's role in shaping to days and the future society standing on sound economic, cultural and moral grounds, efforts have been made throughout the world for TPD. OECD in its report published in 2012 announced (PISA) results which showed that Shanghai was on top, in language, mathematical performance and science performance. Finland and Singapore were placed at second position where as Canada and Japan on third. These countries are considered to possess world's highest performing school systems. The outstanding performance of school students on PISA reflects the high quality of teacher education programs and professional competency of the teachers of these countries. A brief summary of teacher education programs of these countries and some others is included in this literature review to integrate the conceptual frame work of this study.

Teacher Education in China

Teacher education program in China have two components–Pre-Service and In-Service. Each of these components plays their role in the overall Teacher's

Professional Development (TPD). One by one all these components are discussed in detail in the proceeding lines.

Pre-Service Teacher Training Program

The Pre-service teacher Training for Primary and Secondary Schools in China is organized in three different levels; 1- Teacher Education Higher level (General). 2- Teacher Education Secondary level (Regular). And 3- Education of minorities teachers (CERNET, 2013)

1- Teacher Education Higher level (General)

Purpose:

Training of secondary school teachers (SSTs)

Number of Institutions:

Two hundred and twenty nine (229)

Total Enrollment:

Six hundred and ninety thousand (690,000)

Duration of Course:

- Duration of training for senior SSTs is 4 academic years.
- Duration of training for junior SSTs is 2–3 academic years.

Curriculum and Content:

The curriculum for SST education includes

Pedagogical knowledge, Language and Literature, Ideological and Political Education, Mathematics, Science and computer Education, Music, Fine Arts and Physical Education

Linkage between pre service and in service programs:

To fill the gap and strengthen the acquired knowledge and skills of the teachers the task of in-service training of the SSTs is assisted by the

same institutions responsible for pre-service training of these teachers (ibid).

2- Teacher Education Secondary level (Regular)

Purpose:

Training of primary school teachers (PSTs), pre-primary (KG) and special education

Number of Institutions:

Total eight hundred and seventy five (875) with a breakdown of 811 for PSTs, 61 for KG teachers and 3 for special education teachers.

Total Enrollment:

Nine hundred and twenty thousand (920, 000)

Duration of Course:

Duration of training for PSTs is 3–4 academic years.

Curriculum and Content:

The curriculum for PST education includes four areas; compulsory and optional courses, practical subject include practice of teaching at primary level and courses for co-curricular activities.

Compulsory courses include Pedagogical knowledge (primary), Language and Literature, Ideological and Political Education, Mathematics, Science and computer Education, Music, Fine Arts and Physical Education

Optional courses include those specialized subjects which fulfill localized and regional needs of the students. Optional courses also include a variety of vocational as well as technical subjects.

The practical aspects of these courses comprise teaching practice, school visits, teaching under guidance of supervisor and probational teaching.

The co-curricular activities include seminars, workshops, lectures, group organization and presentations. These activities are arranged in diverse areas like science, arts, languages, and sports.

2a- Teacher Education Pre-Primary (kindergarten–KG)

Purpose:

Training of pre-primary (kindergarten–KG) school teachers

Number of Institutions:

Sixty one (61)

Total Enrollment:

Fifty eight thousand (58,000)

Duration of Course:

Duration of training for pre-primary KG teachers is 3–4 academic years.

Curriculum and Content:

The curriculum for KG teachers also includes the same four areas;

i:-compulsory subjects, ii:-optional subjects, iii:-practical subject including practice of teaching at primary level and iv:-courses for co-curricular activities with slight difference in content.

Compulsory courses include Pedagogical knowledge for pre-primary children, Early child hood psychology, Language, Ideological and Education, Mathematics, Science and computer Education, Music, Dancing, Fine Arts and Health Protection

Optional courses include those specialized subjects which fulfill localized and regional needs of the students. These courses help to expand early life experiences and develop life process skills. The practical aspects of these courses comprise teaching practice, school visits, study of preschooler's mental and physical growth and probational teaching.

The co-curricular activities include seminars, workshops, lectures, social circles and presentations. These activities are arranged in diverse areas like science, arts, languages, and sports.

2b- Teacher Education Special Teachers

Purpose:

Training of special education teachers for primary schools

Number of Institutions:

Thirty Three (33) institutions were involved in special education training for PSTs out of which three were exclusively committed to special education training programs.

Duration of Course:

Duration of training of special education teachers is 3–4 academic years.

Curriculum and Content:

The curriculum for special teachers also includes the same four areas;

i:-compulsory subjects, ii:-optional subjects, iii:-practical subject including practice of teaching at primary level and iv:-courses for co-curricular activities with inclusion of, subject like introduction to special education. Specialized courses are separately offered for visually, auditory, and mentally impaired students.

In-Service Teacher Education Program

China has a well-organized and comprehensive in-service teacher education program which has been designed to meet specific educational needs. The in-service teacher training program comprise of two streams, one is called Degree program and the other is called Non-degree program (Education in the People's Republic of China, 2005).

Degree Program:

The Degree program serves double function, on the one hand this program provides opportunities for those teachers who do not possess any certification in the field of education, and hence the program serves as a "make-up" activity for these teachers. On the other hand degree program serves as an "upgrading" activity for those teachers who already possess certificates in teaching and are qualified teachers (CERNET, 2013).

Non- Degree Program:

The non-degree program for in-service teachers' education can rightly be considered as the real life long educational activity for teachers of secondary and primary schools in China (ibid).

According to Teacher Education Department (TED)SEC–China (2005) specific guidelines were issued these guidelines provide the broader frame work which serves as a reference for the development courses regarding continuous teacher education for secondary as well as primary school teachers. These guiding principles are formulated for either of the primary schools and secondary schools. These guidelines further specifies the course in two groups, one as the "public" and the other as "specialized" which are further divided in to "compulsory courses" and "optional courses". These guidelines mentioned eight hundred and eight courses in totality focusing eight main areas of teacher education (CERNET, 2013).

The guidelines issued by TED of the State Education Commission (SEC) highlighted professional ethics and focused on course contents, techniques of educational measurements, evaluation techniques, and supporting the management to develop and assume leadership role.

Continuous teacher education program was initially started with the primary school teachers in two components. One component of the program dealt with the training of probational teachers and was termed as "probation period" training and the other component is called "post training" which is designed for the practicing teachers.

The “Probation Period” training focused on professional code of conduct, use of text books and teaching methodologies.

The “Post Training” included job specific courses to upgrade and deepening the existing knowledge and skills of the practicing teachers.

Teacher Education in Singapore:

At the time of independence (1965) Singapore had scanty natural resources– drinking water imported from Malaysia. In the face of scarcity of natural resources the Singaporean leadership turned their attention towards the human resource (Stewert,V. 2010). Human resources development was carried out through education, for this reason a comprehensive educational system was developed and implemented throughout the country (ibid).

Singapore have one of the best performing school systems in the world, it became possible because Singapore have a very efficient teacher education program. Potential teachers are selected by the Ministry of education; only those graduates with high academic achievements are selected for pre-service teacher training program at NIE–the only teacher education institution of the country. The selected trainee teachers' receive salary during their stay at NIE. Different teacher training programs (Diploma and Degree programs) are conducted at NIE depending upon the level for which the teachers are recruited (Gopinathan, S. 2001).

TPD program in Singapore have two components, the pre-service component and the in-service component. A closer look of the Singaporean educational system reveals that the pre-service component starts with the selection and recruitment process proceeded by the training of the prospective teachers. After the final selection is made the future teachers attend different training programs at National Institute of Education (NIE). The pre-service part of teacher education program starts with;

1. Selection and Recruitment:

   For selection and recruitment the candidates are required to have the following qualifications;

- University degree
- Have passed English Proficiency Test or "O/A" level with grade B3 in English Paper (For English Teachers)
- Teachers for Chinese, Malayan, and Tamil languages are exempted from EPT.

2. Training of Prospective Teachers:

2.1 Teacher Education Programs and Duration;

Teachers training programs at NIE for different levels of teachers are of different durations which are;

- The Postgraduate Diploma Program in Education(PGDE) extend to one academic year
- Diploma Program in Education(DipEd) extend to two academic years
- Bachelor Program in Education extends to 4-5 academic years. Including BA Education (BA.Ed) and BSc Education (BSc.Ed).

2a Courses and Contents

All the courses offered for teacher education programs are designed and developed at NIE. Usually these courses include;

- Education as major subject area including principles of education and modern educational concepts.
- Pedagogy, Curriculum designing, Class room Instructions.
- Mastery of the related Subject taught at primary and secondary levels.
- Teaching Practicum
- Language enhancement skills and teaching strategies.

3. Enrollment:

The number prospective teachers (both male and female) enrolled in different teacher education programs at NIE is more than five thousand (NIE, 2007)

According to Stewert (2010) the in-service part of teacher education program includes;

1. **Professional Development**:

   For the continuous professional development of teachers the practicing teachers working at primary or secondary levels are required to complete one hundred hours in-service training each year. These trainings are usually arranged at NIE or at different schools looked after by senior members of school staff. Schools can also support their staff members out of their own resources. In 2010 Teachers' Centre was established to promote share their experiences and success stories.

2. **Performance appraisal**:

   Teachers' performance is evaluated on annual bases. This includes different aspects like academic performance, social involvement of the teachers with community, and team work skills. The teachers' assessment process also take into account the students' achievements and behavior.

3. **Career Development**:

   On the bases of teachers' assessment conducted after the completion of a period of three years of teaching, talented and hardworking teachers are identified and further trained as master trainer, curriculum or research specialists, or school manager. These talented teachers are than trained accordingly.

Singaporean educational system in general and teacher training in particular have a clear vision–Economic Growth through education, this vision is turned into reality. We find close collaboration among different partners of this struggle, right from policy making to classroom teaching at the gross root level. Every person plays his or her role with commitment and zeal (Deng, 2004).

Teacher education in Finland:

Finland is republican state with a population more than five million. Timber being the most important of Finland's natural resources. About 75%of the total land (338,000 km^2) is covered with forests. Other natural resources include, metals– iron, copper, gold, and silver. About 60% of Finland's population is educated–secondary level.

Finland have one of the best performing school systems in the world (OECD, 2010) it became possible because Finland have a very efficient teacher education program. Historicaly schooling and teaching as occupation is hifhly regarded in Finland therefore educated people are easily attracted to teaching profession (Kari, J. 2002). Teacher education is provided at many institutions (University of; Helsinki, Lapland, and Tampere). Teacher education in Finland has the following main components;

I:- Classroom Teacher Training

II:- Subject Teacher Training

III:- Kindergarten Teacher Training

IV:- Vocational Teacher Training

Selection and Recruitment:

Generally all candidates applying to seek admission in teacher education programs face tough competition; only top 10 to 15 candidates out of hundred contestant are selected for training. However the candidates who are selected for classroom teacher education start their training with education as the main subject of their studies. While those who opt for subject teacher start their studies with the relevant subject and after a period of two years' of studies in the relevant subject join the teacher education program (Kansanen,P. 2003).

I:- Classroom Teachers'(CT's) Selection:

Phase-I

On the basis of performance in matric exams, school evaluation and work experience–with children if any, selection is made.

Phase-II

The second phase includes a written test, an assignment to measure Social and communicative skills and an interview to find out the reason why a candidate desire to become a teacher.

The Education and Training of Classroom Teachers:

All the prospective classroom teachers, who are responsible for teaching of class 1 to 6 students, study for 160 credit (cr) hours which could be completed in a period of five years. Different subjects compulsory for classroom teacher are;

1. Education(main, 75 crs)
2. Pedagogy(35 crs)
3. Didactic (35 crs)
4. Minor subject (35 crs)
5. Language and communication (12 crs)
6. Optional (6 crs)

The program comprise of Master's degree with the objective to acquaintance prospective teachers with theories; of personality development, learning and education. It is ensured that the prospective teachers, during their training become competent enough by themselves to analyze and solve classroom instructional and educational problems in such a way that they are in a position to handle any situation with in the classroom. The prospective teachers develop their research competency so that they are able to conduct small scale research studies to solve their immediate problems within their own resources.

The Education and Training of Subject Teachers:

According to Kiviniemi (2000) all the prospective subject teachers, who are responsible for teaching of class 7 to 12 students, complete their study in the

particular subject for 4 to 5 years. Subject teachers join teaching profession, by and large, at some stage in the 3rd year of their studies of the particular subject or sometimes subject teachers may join in after the completion of their master degree in the subject of their interest. Whatever the case may be the pedagogical requirements (at the University of Helsinki) for these teachers include subjects like;

1. Introduction to teaching (02 crs)
2. History and educational Philosophy (09 crs)
3. Didactics (15 crs)
4. Research methodology (07 crs)
5. Social foundations of education (02 crs)
6. Pedagogical studies (35 crs)

Usually the subject teachers spend almost 180 credits–one credit is equal to 40 hrs. Mostly subject teachers prefer to study more than one subject as specialized subject depending up on the nature of position they plan to take in school in future.

The Education and Training of Kindergarten (KG) Teachers:

The KG teachers' education program is of bachelor level(120 crs) organized on the same pattern as of classroom teacher program. These programs mostly have the same courses as offered to classroom teachers. KG teachers training program put stress on the study of early education (35 crs) as the main subject along with study of multi-field early education (35 crs).

The Education and Training of Vocational Teachers:

Those candidates who opt for vocational teachers receive training at vocational colleges for teacher training. Depending up on the trade or vocation, the courses differ from one another but the focus of training remains pedagogy. Vocational teachers, if they wish to continue their studies in future have the opportunity to become classroom room teachers or the subject teachers on completion of credit hours and relevant subjects required.

In-Service Teacher Education Program:

Although the teachers of secondary schools have yearly compulsory in-service training but we don't find any proper system of in-service teacher education program in Finland however almost every university offers summer courses for practicing teachers to update their knowledge and skills. Beside universities teachers' unions and association arrange in- service teacher trainings on a regular basis. Teachers take part in such courses voluntarily.

An out of the ordinary test which is also known as Professional Development (PD) Examination is a common practice. Those interested teachers who desire to enhance their professional abilities join this program. However its position is totally unofficial (Ronnberg,U. 2000).

2.8.3 What is Continuous Professional Development (CPD)

Continuous Professional Development (CPD) is regarded as an intended, incessant and enduring practice designed and planned to help and facilitate teachers to build up their abilities as an individual and as a professional. CPD is procedure through which one can develop his or her professional knowledge, expertise and performance (Padwad, A. &Krishna, D. 2011). The most common type of CPD is the usual "in-service staff training" (Villegas, R. 2003). But this represents a narrower view, and CPD is commonly perceived as certain secluded, segmented and additional activities focusing only on the introduction and acquisition of certain new skills and fresh connectional knowledge. In fact CPD is rather broader in its scope (Glattenhorn, 1987) than this, all types of in-service trainings could be considered as a part of CPD (Ganser, 2000). The process of CPD begins when someone joins any profession and carry out his or her duties (Day, C. 1999).

According the definition given by National Staff Development Council CPD is a mechanism by which the effectiveness teacher's is increased to lift up learners' achievements. In the light of this definition we come up with two things one is teacher's effectiveness and the other is students' achievements, now during the process

of CPD teachers undergo certain modifications and changes in such a way that they become more effective and capable to help their students perform at the highest level of their potential. Evans (2008) highlighted the following intended modifications and changes through CPD;

1. Professional behavior modification
2. Attitudinal and intellectual modification
3. Epistemological changes
4. Rationalistic changes
5. Diagnostic changes
6. Comprehensive changes
7. Perceptual changes
8. Evaluative changes
9. Motivational changes
10. Processual changes
11. Procedural changes
12. Competential changes
13. Productive changes

The National Staff Development Council (2007) produced and laid down the following norms for all types of PD programs including teachers' professional development, these are as follows;

1. Improvement of content knowledge
2. Quality augmentation of teaching
3. Research based instructions
4. Teamwork
5. Addressing varied learning needs
6. Conducive learning environment
7. Involving family members in learning process
8. Appraisal
9. Self-learning

According to Villegas-Reimers (2003) TPD may be seen as a continuing, collaborative and contextual process following the constructivist approach and

assuming teachers as active learners and reflective practitioner. Teachers' professional development (TPD) programs should be closely associated with school improvement plan. Such programs need to be arranged at national level meant to achieve long term objectives. All TPD programs must have some follow up mechanism to record the impact of TPD programs (Richardson, 2003). He further says that TPD programs should develop a collaborative culture which is capable of benefiting from external resources and recognizing good current practices internally (ibid).

This shows that any professional development program must have at least the following main elements; use of the new knowledge because all additional knowledge is only effective when it is utilized in the real situation and integration of different components of professional development (Evans, 2008) in a unified whole. Major parts of professional development include associating TPD with pupils' achievements; variety of learning opportunities; estimation of augmented professional competencies and future plan for the implementation of the extended knowledge and skills (Darling, 2000).

As teachers are seen active learners in their classrooms on daily bases (Kathryn & Evans, 2006) this active learning of teachers can rightly be considered the core of continuous professional development (CPD). According to Heideman (1990) TPD is not just giving information to the teachers about new concepts or skills but it is more than this which also includes the ability to, make adjustments, change in accordance to modify the teaching learning process, changing teacher thoughts to improve the educational outcome and students' performance (Heideman, 1990). Broadly speaking TPD is nothing but a mechanism to fulfill and satisfy personal needs and professional demands. It helps teachers and educational managers to achieve organizational objectives (ibid). TPD can also be recognized as those opportunities which enable the teachers to develop and master such innovative skills which could be implemented in the classroom to improve and develop the existing teaching practices (Bredeson, 2002). All of us gain experience with the passage of

time but Villegas Reimers (2003) is of the opinion that only that experience and insight which is based upon methodical study is capable of changing and modifying our professional behavior to increase our professional efficiency.

Behind learning process especially TPD programs there is an continuing thoughtfulness regarding so many interrelated aspect which include teachers' self-learning and their influence upon pupils' learning and performance. Other elements which need consideration are the context in which learning takes place; the everyday veracity of teachers' experiences and the empirical knowledge gained as the result of research, these factors need careful consideration because they have direct influence upon all types of TPD programs. Teachers' own interest and motivation is still another factor which is important to be taken into consideration. Evaluation and assessment of TPD along with the establishment of achievable and realistic standards make TPD programs effective.

CPD is generally seen as a chain of some mutually independent out of the way in-service training activities meant for teachers, focused to achieve interim objectives of attaining some new knowledge and skills. In reality TPD is not limited to some isolated knowledge acquisition it may be referred to the enrichment of specialized competencies by augmentation of job specific experiences and deepening the insight regarding the underpinning elements of teaching learning process thus establishing the professional authority. It is seen as an intellectual activity–change in thoughts to change practices (Kushel,G. 1994). In view of the fact that CPD is an intellectual process focusing the internalization mechanism through which people come to the point where they start realizing that they are now aware of something new related to their job (profession) which was not known to them before, or people realize that now they have the clarity of mind which they did not have earlier, or the level of their performance become higher than before, or people think differently what thought in the past (Evans, 2006).

Up till now what has been presented in this literature review tell us that teachers' professional development is a continuing process(Mooney, G. 2007) which involve distinct interlinked phases (Steffy and Wolfe 2001). Although the main frame work for CPD remains the same however teachers may be placed in different successive phases.

Studies of professional learning suggest that teachers may perhaps have diverse and distinctive requirements regarding their specific job they may possibly have individual needs also, therefore all CPD activities should be flexible enough to accommodate diverse individual needs. Any mismatch between the CPD activities and teachers' personal needs may lead to wastage of resources hence it is necessary that these two factors–CPD activities and teachers' personal needs should synchronize together (Goodall, 2005).

Different outlines for TPD have been suggested (Guskey, 1995; Hammerness , 2005). These outlines propose possible professional path, to be adopted for the fulfillment of different requirements of the varying phase of the professional development (PD) cycle. These outlines tell us that the progression and chronological order in which these stages may be proceeded. Also we come to know through these guidelines that they may be deviating in nature, exclusively personalized, repetitive and continuous in preference to discrete. For further illustration few career development models are presented which the researcher consider closer to the Pakistani context.

Career development model proposed by Huberman (1995) consists of five stages. Huberman's model is explained in the following table;

Table 2.1

Huberman Career development model (1995)

stage	description	period	characteristic	Skills learned
One	career entry	first three years	transitioning	classroom management
Two	Stabilization	Four to sixth year	Confidence building	Development of own teaching style
Three	Experimentation	Seven to twenty-fifth year	Become more and more independent	Researching new ideas
Four	Serenity and Conservatism	After twenty-fifth year of service	conservatism	reflection
Five	Disengagement	Last two years of service	convenience	withdrawal

He clarified sthat the third stage–experimentation is the most important one because teachers in this phase try to develop and supplement their professional knowledge and skills; they are worried about to increase their effectiveness. Teachers apply different approaches to solve their classroom problems they are eager to develop and implement innovative and creative plans and try out different techniques to make classroom instructions more effective. Furthermore he revealed that professional teachers have a tendency to bracket together three things to their most rewarding practice in third phase, these may be;

- Taking the role of an instructional leader
- Establishing strong bond with particular course or groups of learner;
- Deriving important outcome from their instructional activities or

we can say that they have a direct influence upon learners' performance.

Another model was proposed by Steffy and Wolfe (2001) which is comprised of six phases. Steffy and Wolfe model is explained in the following table;

Table 2.2

Steffy and Wolfe Career development model (2001)

Stage	Description	Period	Characteristic	Skills Learned
One	Novice	Pre-service teacher education	Trainee teacher	Subject knowledge and practicum
Two	Apprentice	Induction to 3rd year of teaching	Independent teaching & Confidence building	Development of pedagogical skills
Three	Professional	Next five to ten years of service	Well planned and command over the subject	Using learners' feedback for self-improvement
Four	Expert	After fifteen years of service	Achievement of the highest standards set by institution	Development of insight of content and instruction
Five	Distinguished	After twenty-fifth year of service	Influential at a larger level city or district	Become agent of change
Six	Emeritus	End of service	Honorably retired	Life time experience

Steffy and Wolfe smodel emphasizes the particular needs and activities that teachers deal with at each phase of their career development cycle. This model is derived by means of reinforcement teachers get through experience. In case of positive experience teachers are pushed forward and in case of negative one they fall towards withdrawal. They proposed that any professional development activity for

teachers at different phases should incorporate teamwork and cooperation by means of study clubs, sharing of experiences, attending professional development colloquiums, and working as a guide or instructor Steffy and Wolfe (2001). Berliner (2001) also suggested a similar model consisting of five stages starting with neophytes and reaching to the proficient stage moving through the stages of beginner teacher, experienced teacher and skilled teacher.

Another model which is also considered very much applicable and quite effective for teachers' professional development (TPD) is termed as Concerns-Based Adoption Model (CBAM). This model is based upon the assumption that change is the outcome of learning; this model could be used to bring change in teachers (Hall &Hord, 2011). This model explains that those individuals who take into consideration and undergo change progress in the types of queries they have and in the implementation of the change they had experienced. The types of questions which are generally raised are of three types;

- Self-focused
- Task focused
- Impact focused

Self-focused questions are usually oriented towards their own self for example; what the intended change is about? and How possibly will it affect me? After such questions are being satisfied next type of questions are raised.

Task focused questions are task-related rather than self; for example, How can I do it? How could these objects be used efficiently? How can we organize and plan? and What obstacles could be there while applying new strategies? Lastly, after the first two types of questions are satisfied, people can turn their attention to the third type of questions.

Impact focused questions concerned with the impact and effect of the innovation brought in; people ask questions like what would be the impact

innovation? What bearing it would have upon institution, faculty and students? Is there any effect of the change on student achievement or Is there anything else which can render better results?

CBAM guide the TPD programs by indicating the value of taking into account individual's current stage–stage of concern and concentrate on the queries they have. It also recommends to be focused that this model will extend over a period of many years because it takes some time to first resolve the initial three (awareness, informational and personal) concerns and then the proceeding concerns will be dealt with. It is important to note that teachers are geared up to concentrate on learning any kind of innovation only when the self-related concerns are removed. In addition a comprehensive follow up mechanism is required to make CBAM an effective model (National Academy of Sciences, 2005).

Concerns-Based Adoption Model (CBAM) have identified seven stages of concern and level of use CBAM spot and offers means to evaluate these stages of concern. These stages of concern and level of use are explained in the following table;

Table 2.3

Concerns-Based Adoption Model (CBAM)
NAS (2005)

Stage of Concern	**Expression of Concern**	**Behavioral Indicators of Level**	**Levels of Use**
Refocusing	I think new method will be more effective if… I think the new method will work better if readjusted to the current needs.	The engaged teacher is at the stage where s/he is looking for new and effective options to the conventional use of a certain method.	Renewal
Collaboration	How can I compare my performance with the performance of others?	The engaged teacher is intentionally trying to synchronize with peers to use something new.	Integration
Consequence	What is the impact of my performance on students' learning? What can I do to be more effective?	The engaged teacher is performing in the routine pattern. The engaged teacher is trying to bring positive changes to become more effective.	Routine/ Refinement
Management	I spare some of my time to plan and prepare teaching materials.	The engaged teacher is trying to adapt to improved and organized use of new techniques.	Mechanical
Personal	What benefits would I get by switching over to the new method?	The engaged teacher has a clear-cut strategy to start using the new techniques.	Preparation
Informational	How can I learn more information about this approach?	The engaged teacher is trying to learn and command the new strategies.	Orientation
Awareness	It is not related to me.	The engaged teacher is least interested and inactive.	Non-Use

Relevancy of Concerns-Based Adoption Model (CBAM) to the current study is obvious as this study intend to investigate how can we as teachers improve ourselves to enhance our professional competencies, using Action Research? This means that how can teachers change and become reflective practitioners to increase their professional competencies, CBAM is helpful in the sense that it analyses the

process of change and provide principles and guidelines for understanding and controlling the process of change (Hall and Hord, 2011). This model facilitate to; develop understanding of the process of change, know how people act in response to a change, and what steps may be taken to indemnify that the proper measures are taken to make certain the accomplishment of the change plan. It is also helpful to evaluate the whole program.

It should be made very clear in mind that Professional development may not be a simple straight progression which is strictly based upon predetermined steps of any developmental model used. TPD cannot be measured by the duration or number of years engaged in PD activities (Hammerness, 2005).

2.8.4 Standards for Teaching Profession

In different countries of the world teachers are expected to meet well defined standards while performing their professional duties. For becoming an expert teacher it is necessary to possess full command over the content knowledge as well as pedagogical knowledge, which supports the required skills, abilities and traits for effective teaching professional development of the teachers (Darling-Hammond, 2001)

Professional standards are seen as ways by which high-quality education is differentiated, acknowledged and evaluated. These are applied to guide trainee teachers to perform at the expected level during their training and these also guide the practicing teachers to perform their duties accordingly. Teachers professional performance standards(TPPS) can also be used to formally assess and evaluate the practicing teachers and are used to provide guidance and transparency for teachers seeking certification, continuing professional learning, and/or needing some form of formal assessment (Lustick & Sykes, 2006).

All educational standards are rooted in the wider educational setup and influenced by the prevailing educational philosophy and not only upon the

frameworks which designed to enhance the professional capabilities of teachers. It is also evident from literature that any framework designed for the TPD have its own limitations not only all TPD programs have their limitations, some reviewer are of the opinion that measuring teachers' performance by their capabilities sometimes have negative effect and teachers performance limits to repetition of the conventional every day school routines instead of the creative and innovative learning process (Hay McBer, 2000).

A brief account of the professional standards for teachers in different countries is included in this literature review.

2.8.4.1 Teachers' performance standards in UK

In UK Teachers' are expected to meet Performance Standards defining the least level of performance during pre-service teacher education courses or as licensed teachers.

The performance of all the teachers throughout their professional career, from novice to expert is assessed using these standards (The Education Regulations, England, 2012).

The detailed paper is comprised of three parts, an introduction, first part and second part. All the three parts collectively make up the Teachers' Standards.

The introduction gives a brief summary of values maintained and the attitude exhibited by every teacher. In the first part eight teaching standards are explained and in the second part standards regarding the personal behavior and professional ethics are explained. It is mandatory for all the teachers to fully accept and acting upon all the three parts to perform at a satisfactory level.

Teaching Standards

1. Setting high expectations for inspiring, motivating and challenging students.

2. Promoting outstanding improvement and result of students.

3. Showing high-quality acquaintance regarding subject matter and instructional awareness.

4. Planning coherent lessons and teaching accordingly.

5. Adjusting classroom teaching to satisfy each and every student.

6. Making correct and fruitful use of evaluation.

7. Managing behavior successfully to make certain that an excellent and protected learning atmosphere prevails.

8. Realizing broader professional obligations.

Personal and Professional Standards

All teachers are required to display high level personal and professional standards always. Following points explain the type of conduct and outlook expected of teachers to be demonstrated during their entire professional career.

- Sustaining communal faith in teaching profession by observing ethical values and demonstrating tolerance, respect and equality.

- Maintaining; professional dignity by showing commitment to teaching profession and observe apposite limits suitable to the role of a teacher.

- Looking upon appositely at the philosophy, culture, rules and procedures of the institution where they are working, and observing their own practice in terms of attendance and regularity.

- Abiding by the educational code of conduct and performing at their highest level of competency.

2.8.4.2 Teachers' Professional Performance Standards (TPPS) in US

As per standards set by National Council for Accreditation of Teacher Education– NCATE five major areas are identified in which teachers' performance need standardization, these areas are;

- Language
- Culture
- Instructional Planning, Management and Implementation.
- Assessment
- Professionalism

1. Language:

In this field, both novice and practicing teachers are expected to meet the following standard;

Standard #1 Have comprehensive knowledge of language regarding its structure and acquisition. Teachers must display in-depth understanding of various parts of a language system such, study of sound (phonology), study of the structure of words (morphology), grammar, study of language use (pragmatics) and study of meaning (semantics). Teachers are expected to demonstrate excellent verbal and scripture language. They are expected to have the ability to effectively implement theories of language learning.

2. Culture:

The role of Culture in language learning is evident from research studies, teachers (novice and practicing) are expected to meet the following standard;

Standard #2 Possess practical knowledge and insight of the most important assumption and related researches about the role of culture in language learning and how the individuality and character of any culture can influence linguistic abilities. Teachers fully realize the importance of involvement of family, home and community in acquisition of language.

3. Instructional Planning, Management and Implementation:

In the domain of instructional planning teachers are well-informed and skilled enough to combine apposite strategies and utilize supplementary teaching materials which are most suitable and effective for language learning. Teachers are expected to meet the following standard;

Standard #3 For effective instructional planning, management and its implementation teachers have the knowledge to plan lessons and skills to work in accordance with the broader educational objectives.

Teachers plan for a wide range of teaching methods for a number of situations in which learners act together and apply their previous knowledge to learn new concepts and skills. Teachers are well informed about a variety of teaching materials and other resources including IT, they are skilled to select the best resources for effective teaching.

4. Assessment:

In the field of assessment, both novice and practicing teachers are expected to meet the following standard;

Standard #4 Teachers can recognize different issues related to assessment and evaluation such as liability, partiality examining particular educational needs**,** verbal communication expertise, and adjustment in proper testing condition. Teachers are having full expertise for assessing language skills and implementing different performance-based appraisal tools.

5. Professionalism

In professional domain teachers regularly update themselves with latest information about teaching and learning, they are expected to meet the following standard;

Standard #5 Teachers are well informed and possess up to date knowledge about teaching methods and techniques, current educational policies, and related research findings. They use this knowledge for; their own professional development, and providing guidance and support to their colleagues to create a better learning atmosphere. Teachers take benefit of all professional development chances and show the ability to work in close collaboration with other staff members, students, their families, and other community members to promote socialization adjustment.

2.8.4.3 Teachers' Professional Performance Standards (TPPS) for Chinese Teachers

Chinese Language Association of Secondary-Elementary Schools (CLASS) in collaboration with National East Asian Languages Resource Center (NEALRC) developed a set of standards for the professional performance of teachers for Chinese language at schools level (Ohio State University, 2003).

These standards are listed here;

Standard # 1(Language Proficiency): Teachers show top class capability as using Chinese language in practical life situation. They are expected to perform successfully in different styles of communication in the existing social background.

Standard # 2 (Linguistic Competency): Teachers show a ample information and comprehension of Chinese language and its grammatical structure. Teachers are aware of the significance of language learning in its real contexts.

Standard #3 (Cultural Knowledge): Teachers have vast information of the varied traditions of the Chinese culture. They fully realize the incessant and organized incorporation of Chinese way of life is vital acquisition of Chinese language.

Standard # 4 (Second Language Acquisition): Teachers are expected to relate existing knowledge and second language learning to assist second language (Chinese) learners attain full command over it.

Standard # 5(Child Development and Growth): Teachers have the ability to make available such opportunities to their students which are suitable and appropriate child development and language learning. They select such activities which promote effective learning and fulfill their psychological needs.

Standard # 6 (Diverse Learners): Teachers are familiar with individual differences and they facilitate learners to achieve their goals following their own unique learning style. They plan diverse and flexible lessons which satisfy individual student learning needs.

Standard # 7(Learning Environment): Teachers are expected to fashion and preserve a helpful atmosphere that promotes effective language learning.

Standard # 8 (Instructional Planning and Strategies): Teachers are expected to plan and fashion such courses that concentrate on student's cognitive needs and their performance level. They are familiar with the implementation of different teaching methodologies which facilitate learners to slot in the real-life activities which are significant and appealing for learners.

Standard # 9 (Assessment): Teachers are expected to assess student's performance and their achievement using formative and summative approaches.

Standard # 10 (Communication Skills): Teachers have full command over the effective use of different communicational techniques, spoken and written to promote and carry on the interactions among students during the class and during the whole school day.

Standard # 11 (Technological Knowledge and Skills): Teachers fully realize that technology can be used as a means to prop up the language acquisition. They put together technology with planning and classroom teaching.

Standard # 12 (Professional Development): Teachers are self-motivated and strive for their professional growth and development. They avail every opportunity which could be helpful in professional development.

2.8.4.4 Teachers' Professional Performance Standards (TPPS) for Singaporean teachers

National Institute of Education (NIE) Singapore designed a model of teacher education titled as "TE^{21} model" which offers the decisive hypothetical groundwork indispensable to create “thinking teachers” who have a strong foundation of research base content knowledge and instructional skills (Program Review and Enhancement (PRE) 2008-2009). This model is an attempt to offer the finest quality education to the teachers to meet the challenges this century. The fact has been acknowledged across the world that the quality of teacher education decides the quality of classroom teaching. In order to raise the classroom teaching standards, teacher education must be planned in such direction which assists future teachers to acquire such training to enable them to become effective teachers in the sense to produce the desired results of schooling.

According to National Institute of Education (2010) recommendations suggested in TE^{21} model are;

- New V^3SK
- Graduand Teacher Competencies
- Strengthening the Theory-Practice Nexus
- Program Refinements and An Extended Pedagogical Repertoire
- Assessment Framework for 21st Century Teaching & Learning
- Enhancing Pathways for Professional Development

Recommendation # 1: New V^3SK Model, V3 (3Values) S (Skills) and K (Knowledge)

The V^3SK model is based upon the fundamental concept of developing teachers through an educational system which develops among the teachers a constructive approach towards teaching and learning, essential skills required for effective teaching, and insight of the content knowledge to produce creative minds.

This model (V^3SK) includes three values;

1. LC–Learner-centered

   Student (learner) is the center of all educational activities.

2. TI–Teacher Identity

   It means to meet the highest standards of educational excellence, self-motivated to gain knowledge and receptive to the learners needs.

3. SPC–Service to the Profession and Community.

   These values demand teachers' dedication to their job through dynamic teamwork and determination to become an effective teacher through professional development and growth to profit the teachers' community.

Recommendation # 2: Graduand Teacher Competencies (GTC) Framework

The GTCF gives us certain aims, indexes and standards for NIE passing out novice teachers. It recommends three aspects of teacher's performance including; professionalized teaching practice, effective organization &leadership for classroom management and personalized efficacy. GTC is meaningful in some other ways also like guiding principles for continuous teacher's development and assessing teachers' performance.

Recommendation # 3: Strengthening the Theory-Practice Nexus

Recommendation number three necessitates reaching equilibrium between theory and practical learning. This distance between theory and practical learning is universally recognized as a major defect of any plan designed to prepare teachers for classroom instruction. A strong connection between theory and practice enables teachers to control the teaching learning process and effectively transfer knowledge to the students. Some of the common strategies of linking theory and practice are educational researches, reflective thinking, pragmatic knowledge, and modern instructive approaches which furnish real classroom evidences for advance scholarly studies.

Recommendation # 4: Program Refinements and an Extended Pedagogical Repertoire

Realizing the predetermined teaching and learning objectives it will be made certain that useful pedagogies along with supporting teaching amenities are the part of teacher education plan to handle the shifting character of subject matter – regarding the user-friendliness, innovations and circumstances for new learning to take place. Therefore the commendation by the review committee (2009) was to include necessary changes wherever applicable. As a result NIE set up a plan to make certain that suitable and useful pedagogies are included in teacher education courses to train teachers to use effective teaching approaches required for classroom instruction.

Recommendation # 5: Assessing the 21st Century Teaching – Learning process.

Following the recommended assessment structure both the teacher trainers and the teachers will use modern assessment techniques. This will **e**nable teachers at school level to implement the most effective and appropriate assessment techniques to calculate learner performance. Assessment structure recommended in the NIE report (2010) set standards for the practicing teachers to evaluate pupil performance ensuring that the real cognitive, affective and motor achievement is accurately measured without being affected by irrelevant variables.

Recommendation # 6: Enhanced Pathways for Professional Development

For the purpose attracting the top and brilliant graduates (top 10%) to the teaching and making it a first choice not by chance profession, the status and professional dignity of teachers should be enhanced. The fresh graduates and working teachers are encouraged and facilitated by providing CPD programs.

Assessment of Professional Development Process

In this section we will focus our attention on the assessment of professional development of teachers and study different approaches adopted for this purpose. The leading question for this discussion will be, "How professional development could be measured effectively?" Usually different TPD programs, for instance, seminars, workshops and staff meetings have been subjected to serious criticism as these programs are not associated with any particular educational institution, or have any follow-up mechanism such programs usually reduce to a collection of irrelevant time passing activities which seem to bear no effect on teachers' professional competencies.

According to Kelleher (2003) a successful training session is not the one which is admired by the participants but the one which have some effect upon students' learning and can promote students' academic achievements. The evaluation of any TPD program is mostly limited to the description of the activities which are included in these programs without any analysis showing their effect on teaching-learning process or students' academic achievements (Guskey, 2000). The evaluations of these programs generally show participants' personal learning which is definitely not an indicator of students' enhanced learning (Goodall, 2005) evaluation takes place immediately after TPD event is completed without giving teachers a chance to implement their new knowledge and see its effect on students learning.

Instead of recording the CP's feelings, their likes and dislikes, the evaluation process of teachers' professional development must be based upon concrete standards of evaluation. Different evaluation models have been presented (Guskey, 2003, Stiggins 2001). A brief of assessment standards sketched out by Stiggins (2001) and Guskey (2003) is included in this literature review to strengthen the framework of this study:

Setting Assessment Standards;

S1. Quality Assessments are derivatives of well-defined objectives and expected results.

S2. The findings of a good assessment are supposed to be applied to build up advance knowledge or for new planning.

S3. Suitable evaluation techniques reveal the expected results and the type of proof needed

S4. Quality Assessments give a suitably diverse amount of proof to permit self-reliance in assessment and further preparation.

S5. Comprehensive evaluation is planned, constructed and implemented to remove partiality.

The model (Teacher Change) proposed by Thomas R Guskey (2002) indicate that almost all the program for teachers' professional development are designed to achieve the following three objectives;

1. alter the professional practices
2. modification of existing believes
3. improvement of student learning

All TPD programs are organized efforts to transform the existing practices of teachers adopted inside the classroom, modify and change the outlook and viewpoint of the teachers, and to increase students' learning outcomes and to improve their quality (Guskey,2002). For assessing these general aims and other specified objectives of a teachers' professional development program Thomas R Guskey (2003) studied assessment reports issued by some leading organizations–NSDC, regarding impact of TPD programs, he founded that there exist an inconsistency among the claims and evidence for example augmented subject matter information has been marked as a major gauge of an effective PD program but this assumption could not be generalized as lack of evidence for certain subject areas weakens the claim (Guskey, 2003).

Another study exposed alike topic and discovered that there is little evidence of correlation between individual benefits and benefits to learners (Goodall, 2005).

Both the researches (Guskey, 2003; Goodall, 2005) present certain suggestion intended at rationality and more erudition in assessment. Guskey (2000) has sketched out a scale comprising of five main levels for the evaluation of any PD program. The scale designed by Guskey analyzes the results of any PD program at 5 different levels each focusing on a specific area of interest for example, level one being the lowest focuses CP's responses, other areas include CP's learning, support extended by the organization and changed climate or procedures of organization, implementation of information and skills acquired as a result of PD program to the last level focusing SLO's (Kathryn Broad,2006). It has been recommended that PD programs need to be comprehensive and based upon result- focused model which lines up the anticipated results with professional development activities and types of evaluation (Lieberman & Wilkins, 2006)

2.8.5 Teachers' Professional Development in Khyber Pakhtunkhwa

The frame work of this study demand to explore the current status of TPD in Khyber Pakhtunkhwa to determine; where we stand now and what steps could be taken further.

TPD program in Khyber Pakhtunkhwa cannot be study outside the context of general education. The system of general education and teacher education are closely related to each other the quality of general education affects the quality of higher education. The quality and the standard at certain level (primary, secondary or tertiary) of education highly depend upon the standard and quality of the preceding level (Katharina Michaelowa, 2007). The critical analysis of Pakistani educational system show that due to non-availability and insufficient number of trained teachers, lack of laboratory and library facilities, low enrolment rate, meager budgetary

allocations and lowest priority, the quality of education is low (Memon, G.R. 2007), the declining trend is even more prominent in different tiers within the system, primary being the worst (UPE, still a dream). Secondary education promotes college education, but less than 43% get admitted in the colleges out of these 43% only 30% have the opportunity of university education which is ranked 124 out of 144 countries (The Nation, Oct. 25.2013). With this standard of education only those graduates opt for education who have no other choice, generally the top scorer prefer medical and engineering, second and third options are agriculture and business administration. Law, biotechnology and B-pharmacy are included in next lower category of choice. Education and teaching remains the lowest choice priority (exceptions exist) as a profession, only those candidates get enrolled who have no other option left. Research data shows that those candidates who join teaching profession and could not choose a profession of their choice for any reason, do not prove to be committed teachers; they are always trying to leave the profession and could not perform at the highest level (Sinclair, Dowson et al.2006). In this situation it is quite obvious that graduate with low academic achievements and abilities join education and teaching which adversely affect the students achievements Research studies support that teachers perform better and prove to be more effective to enhance pupil achievement if they possess strong scholastic abilities (Ferguson and Ladd, 1996). Wayne and Younger (2003) came up with similar findings in their study about the effectiveness of teachers. Darling-Hammond (2000) suggested in her study that teachers can be more effective if they had been high achievers during their studies and possessed higher scholastic abilities.

As mentioned by Memon,G.R.(2007) field of education in Pakistan is a neglected one and it has never been given the due priority and is placed as a subsector of social sector, with inadequate monetary input, weak educational policies (still struggling with the issue of medium of instruction), the quality of educational management at provincial, district, and school level is poor. No proper system of monitoring and supervision exist in its true sense, rather a blame game exist instead of

professional development and improvement. The quality of teaching at all the three levels–primary, secondary and higher secondary is reduced to preparation for examination–the score race. Consequently, Pakistan with the literacy rate of 56% stands at 113 out of 120 countries of the world (Dawn. 11 June 2014). With this background candidates with least academic achievements (generally) seek admission in pre-service teacher education programs. The different levels of pre-service teacher education programs are offered which are;

i. Primary Teacher Certificate (PTC)
ii. Certificate of Teaching (CT)
iii. Diploma in Education(DIE)
iv. Associate Degree in Education (ADE)
v. Bachelor Program (B.Ed)
vi. Master program (M.Ed)
vii. M.Phil Education
viii. Ph.D Education

The candidates after being awarded these degrees or certificates they do not get any other opportunity for their further development. Thus their journey of professional development starts and ends with the pre-service teacher education.

Now we discuss the pre-service and in-service programs for teachers' professional development (TPD) generally in Pakistan and specifically in KPK.

An effort to improve the quality of education in Pakistan, a US funded program Pakistan Teacher Education and Professional Development Program (PTEPDP) was launched. In one of their assessment reports this has been pointed out that the quality of pre-service as well as in-service teacher training is found not to be at satisfactory level (USAID,2004)

Pre-Service Teacher Education Programs;

These include, Primary Teacher Certificate (PTC), Certificate of Teaching (CT), and Diploma in Education (DIE) and Associate Degree in Education (ADE) courses. All these courses are designed to teach at primary and lower secondary

classes. The degree courses include B.Ed (12+3) or (14+1½) and M.Ed(15+1½) which are designed to teach at secondary and higher secondary levels.

The minimum required qualification and duration for each of the above mentioned courses are given below;

- For PTC minimum required qualification is SSC. and the duration of course is one year.

- For CT minimum required qualification is FA/F.Sc, and the duration of course is one year.

- For DIE minimum required qualification is FA/F.Sc, and the duration of course is one year.

- For ADE minimum required qualification is FA/F.Sc, and the duration of course is three year.

- For B.Ed minimum required qualification is BA/B.Sc, and the duration of course is one year.

- For B.Ed (Hon) minimum required qualification is FA/F.Sc and the duration of course is three years.

- For B.Sc.Ed minimum required qualification is F.Sc and the duration is three years.
- For Master program (M.Ed/M.A Edu) minimum required qualification B.Ed and the duration is one year for M.Ed and two years in case of M.A Edu.

- For M.Phil Education the minimum required qualification is M.A Edu. Or M.Ed and the duration two years

- For Ph.D Education the minimum required qualification is M.Ed/M.A Edu or M.Phil degree. The duration is four years after M.Ed/M.A Edu and two years after M.Phil

The teacher education in Khyber Pakhtunkhwa is in a situation of instability. Unlike Singapore (NIE, Singapore's one and only institute for teacher education) different institutions are responsible for different levels of teacher education and trainings these are, the IER of Peshawar university, the IER of Hazara university and the IER of Gomal University, These institutions offer B.Ed (graduate) and M.Ed (postgraduate) levels of courses. Whereas PTC,CT and DIE (certificate level courses) are offered by Regional Institutes of Teacher Education (RITES). Directorate of Curriculum and Teacher Education (DCTE) is responsible for the management of these institutions. There are all together twenty RITES in Khyber Pakhtunkhwa.

Curriculum and Syllabuses for these Courses;

The PTC, CT and DIE courses preparing teachers for primary and middle school teaching include different subjects related to the teaching methodology and child psychology; theses also include teaching practice as a major component. The curriculum for these courses is designed by the Curriculum Wing, MoE in association with curriculum bureaus at provincial level.

The B.Ed. and M.Ed. courses are also framed under the guidance of the Curriculum Wing ministry of education (MoE) with the support of Universities and the Higher Education Commission (HEC). The academic councils of Universities make the decision for implementation and modification of syllabizes of these courses.

Textbooks writing and development for all these courses is the responsibility of textbook board, this task of textbook writing is done by the textbook boards independently or through hired private publishers. The private publishers further hire authors to write textbooks for different courses. Apparently the involvement of private sector in textbook writing was meant to improve the quality of textbook but actually it created many problems, like delay in the production and marketing of the books, due

to the long chain of agencies; textbook board, private publishers and hired authors - "only a few books were produced by the different Boards" (PTEPDP, 2007). Private publishers and hired authors struggle for their book to be selected, in this struggle they ignore the quality of the written material, and instead they use unfair practices. Usually the books which are directly published by the textbook boards are considered as "textbooks" and those which are produced by publishers or other writers independent of textbook boards are known as "reference books"

As mentioned that availability of textbooks of PTC, CT, DIE and even for degree courses like B.Ed and M.Ed is scanty instead guidebooks are available in the open market in large number for almost all the subjects for these courses. Use of these guidebooks is a common practice among the students and teacher educators, class notes are also popular among students and teachers. Innovative and active learning approaches are discouraged (Norton, 2005) instead passive approach of disseminating and recording information is favored (Jaffer, K & Khan, A.M. 2012). Teachers, on one hand, give more importance to their lectures and class notes than studying books, while students, on the other hand, prefer readymade notes (photocopies) (ibid). The process of learning is further reduces to the rote memorization of a few selected questions intelligently picked up from the question papers of past five or six years.

Classroom Teaching

The classroom teaching approach at PTC, CT, DIE or B.Ed level is the conventional chalk and talk method (Elaine, 2005) modern teaching approaches such as collaborative learning, problem solving and discussion method are seldom used thus the novice teachers are indirectly encouraged to use the conventional methods in their classroom in future when they will be actually teaching. It is important to note that teacher educators in these institutions teach innovative teaching approaches through conventional lecture method and expect the trainee teachers to act the other way round, which is very strange.

As mentioned earlier the students joining education as profession bear low academic achievement; they are usually refused admission in discipline of their own choice (PTEPDP, 2007); have a perception that teaching and learning is a relaxed job which did not need any higher order mental activity, students automatically learn just by listening and receiving information in a passive way instead of active involvement of the learners (Norton, 2005). This attitude along with the poor quality of classroom instruction makes the quality of pre-service teacher education even low.

Duration of Training

Mostly the duration of any teacher education program (CT, B.Ed) is about one year, 38 instead of 52 weeks. Further if vacations and holidays are excluded the total number of working days in one academic year is about 180 days. These 180 working days also include one month teaching practice, during this period students do their practical work in schools, thus for theory there are 150 days and 30 days for practical work. One working day is about five hours excluding breaks therefore a trainee teacher receives theoretical input for 750 hours. At CT and B.E level there are nine different subjects therefore the theoretical input per subject drops to 80 to 85 hours. In Private sector this input is still less 48 hours per subject (3 hours per week for 16 weeks)

The standard of long teaching practice is also very low, the poor quality of teaching practice is evident for the following three reasons;

1. Poor lesson plans prepared by the trainee teachers. One of the lesson plan for a science topic contained the following sentence in it's methodology section," lecture method will be used to explain the topic" (PTEPDP, 2007).
2. Poor teaching skills of the trainee teachers. Weak communicational skills and poorly selected vocabulary by the trainee teachers.
3. Inadequate or no feedback from supervisor or senior teachers. Usually, after the delivery of a lesson under the supervision of a senior teacher or the

supervisor the feedback comes in the form of an “initial” at the last page of the lesson plan prepared by the trainee teacher.

4. Teaching practice is once a life time activity, trainee teachers hardly know their strengths and weaknesses due to improper assessment mechanism.

A study was conducted to analyze the teaching practice in a public sector university (Ashraf, D. 2012) it was found that ;

- Teaching practicum lacks a consensus on its rational and value in the B.Ed. program. Low value associated with teaching practicum has reduced it to a mechanical, routine, and mundane activity, rather than a learning experience (p. 142).
- Dichotomy exists between the real classroom situation and the teaching strategies taught at the university.

Teaching practicum is considered important only from examination point of view. Students are more concerned about their scores and grades rather than learning skills and improving their teaching style.

Another small scale study (PTEPDP, 2007) showed that the trainee teachers had difficulties regarding;

- Writing specific instructional objectives.
- Content knowledge.
- Questioning techniques.
- Involving students in learning process
- Developing of higher cognitive abilities

The predominant dialogue about teacher training in Pakistan evidently reveals a limited approach towards teacher education and inclines to over accentuate the issues regarding educational structure and its organization, whereas the philosophical

aspect of education, the conceptual framework of the cognitive development or the instructive aspect of teaching has been mostly ignored, the situation show that the component of teaching practice is not comprehensive and is perceived in a limited fashion by the trainee teachers, faculty and the education department(Ali,T. 2011). This attitude make these teacher education programs theoretical instead of practical. The quality of pre-service teacher education in Pakistan generally, and in Khyber Pakhtunkhwa specially, is not satisfactory, therefore the teachers qualifying these programs are deficit in content knowledge as well as in pedagogical skills.

In-service Training of Teachers

The in-service teacher education in Pakistan is not a sustained activity. Mostly the in-service teacher education programs are funded by donor agencies. The regular budgets of Bureau of Curriculum (BoCs) and Provincial Institute of Teacher Education (PITEs) have no provision for in-service teacher training activities. The in-service teacher education programs are designed and launched through donor financial assistance, as each donor agency have its own mandate and priorities, therefore in-service teacher training activities are not coordinated and usually arranged in isolation as a result repetition and overlapping of activities occur. These training activities are dominated by the specific area of interest of the sponsoring agency or the project objectives. The teachers' needs are not given any importance, instead the sponsoring agency or the project directors determine the area, content and the duration of the training this does not develop ownership on behalf of department or the teachers.

Different institutions responsible for in-service teacher training programs, in Pakistan, are BoCs, PITEs, and DSD, but these institutions nether have financial resources, nor they have any independent plan of their own, for this reason the funding agency implement their own agenda. As these programs are not tailored according to the needs of the local teachers therefore these programs have no or little effect upon students learning or teachers professional development.

All most all the in-service trainings are financially supported by the donor agencies and not from the public fund therefore at the end of such courses usually a satisfactory report is issued the cosmetic effect in such reports could not be ignored.

A large US funded project Pakistan Teacher Education and Professional Development Program (PTEPDP) was developed to train a group of teacher educators who would improve the quality of teacher education but like many other programs this program also ended leading no were. Usually any change introduced through such programs is of temporary nature; these changes or their effects could be observed until the funds are available but as soon as the funds are consumed these changes also disappear (Ali,T. 2011)

Quantitative analysis of current situation of teacher education shows a satisfactory picture with more or less than 300 institutions working in public and private sectors, conducting different programs from certificate level to the degree level for pre-service and in-service teachers (USAID & UNESCO, 2009). On the other hand, the qualitative analysis show different picture which is rather discouraging the quality of pre-service as well as in-service teacher training is found not to be at satisfactory level (USAID, 2004). Studies show that the quality of teacher education is poor and there is an increasing sluggishness in the system. The system has been gradually worsening with the passage of time. A deeper investigation reveals that teacher education has largely underwent the loss of “quality” and “applicability” (Ali, T. 2011). The study of literature shows that there is a correlation between the low quality of teacher education and poor students' achievements documented for the last few decades in Pakistan. Generally it is perceived that teacher education whether it is pre-service or in-service is inferior in nature, the classroom teaching approach in these trainings is the conventional chalk and talk method (Elaine, 2005)

The reason behind joining a pre-service or an in-service course is mostly to have a higher certificate or a degree for the purpose of promotion or additional increments in the salary. Sometimes the objectives are even more inferior in nature,

teachers join these courses for the purpose of earning a few days TA/DA whereas the organizers and sponsoring agencies are more interested in numbers of trainings and the number of participants trained. Specially, the in-service Teacher education programs do not give emphasis to the development of those competencies and skills which are the characteristics of a professionally effective teacher.

2.9 RELATED RESEARCHES

For the last few decade, action research gained popularity among different professionals, like teachers, managers and social workers as an effective method of professional growth and development (Fischer, J. 2001) and also convinced by my personal experience (Jaffer, K and Khan, A.M. 2012) that AR is a strong tool for professional growth. The current study was designed to further explore the phenomena of teachers' professional development through action research. As the name of this study, "Impact of Conducting Action Research by Secondary School Teachers on their Professional Development" show that action research will be used by secondary school teachers for their own professional enhancement, I will, at this point refer to some researches which used Action Research for professional development. A brief account of these related researches is as follows;

Related research study #1

This method was used in a research to test its effectiveness as a professional development model (Bussey, L.2007). The objectives of the study included;

- Provision of appropriate chances to teachers to conduct action research
- Study and appraise the professional achievements of the teachers as a result of action research

These objectives had a high level of relevancy with my study therefore it is included in this literature review. The findings of the study conducted by Bussey (2007) revealed that;

Teachers who participated in the study gained professionally from this experience and learnt to be reflective practitioners by taking actions to improve their teaching style to facilitate students' learning. Research experience of these teachers was reported to have a positive effect on student's achievements and performance in their examinations. This study indicated improved; attendance, students' involvement by setting goals and assignment completion, use of relevant teaching material and student-teacher interaction.

The study had a positive impact upon teachers' attitude also as they took time to reflect upon their teaching and then struggled to improve it. These efforts contributed in the professional development of teachers in the real. As evidence two research papers were submitted for presentation.

The findings of the study also contributed to the improvement of the teacher education program as a whole, by providing evidence-based information.

The study also highlighted some challenges, like researchers spend extra time to record and collect data which added to their work-load, due to this additional responsibility sometimes teachers missed important sessions of collaborative learning (Bussey, L. 2007).

Related research study #2

Another relevant study "Professional Teacher Development in Performing Action Research" investigated the effectiveness of action research in development of an educational activity (Margarita Tereseviciene, 2008).

The objectives of this study were;

- To find the fundamentals of action research and its objectivity, emphasizing its particularities and prospects in the development of educational activity.
- To disclose the significance of action research in the perspective of incessant change for the development of an educational activity.

- To investigate teachers' believes regarding the significance of action research and its applicability in quest of improvement of an educational activity.

Findings of this study showed that;

- The concept of "reflection" was not clear to the majority of the teachers. Study showed that 72% of the respondents were totally unaware of this concept, whereas 13% related it to the field of science (reflection of light) only six percent of the respondents were able to relate the concept correctly to the improvement of educational activities by critically analyzing the current practice and redesigning it to make it more effective and efficient.

- Teachers did not have any idea why it was important for them and what role it could play in their professional development. It was inferred that teachers did not come across the concept of "teachers as reflective practitioners" in their academic career nor in their practical life.

- Teachers however considered important to reflect upon their classroom practices to develop an understanding of their strengths and weaknesses. The study also showed that teachers do practically think about their classroom practices but their approach is neither systematic nor scientific. It was also pointed out that some teachers reflect only when they face problems or if some strategy fails.

- This study also showed that majority of the teachers attempted to solve problems related to educational activities independently, they do not tackle these problems applying action research principles which they think is intricate and beyond their professional competency.

According to Margarita (2008) action research cannot be conducted in un-natural and isolated conditions, it is implemented in a natural setting; as a result we discover ideal solutions to our problems which we face in our daily routine. But majority of the respondents (51%) did not apply action research in their routine duty.

They thought that doing research was the job of a researcher a teacher's job is to teach not to do research.

However knowledge which is attained while carrying out action research is trustworthy. Therefore we as teachers develop better understanding and grow professionally. This reliable and additional knowledge give teachers confidence, develop and increase professional insight.

Action research provides an excellent opportunity to incorporate theory and practice which guarantee the consistency of theory and practice. Beside this the evidence based knowledge and experience gained as a result of action research can be used to conduct further research, investigations and improvements. As a matter of fact teachers do solve or attempt to solve the real life problems which are distinctive in their nature and not defined in theory or any books hence for their possible solutions we can trust action research, which help us to solve these complex issues and change our practice positively for professional growth. Further it was said that although teachers who participated had teaching experience (5to6 years on average) did not gain enough maturity during their teaching to become self-reflective intentionally and did not anticipate it (self-reflection) to their professional development. In the findings of study the authors pointed out that teachers did not apply action research in their routine because they consider it to be a different task, scientific in nature and apart from their duties. They suggested that all teacher education programs should include action research in their studies and provide opportunities for the trainee teachers to learn to perform action research during their professional career and consider a part of their regular duties (Margarita (2008).

Related research study #3

Considering the conditions of teachers' professional development in Khyber Pakhtunkhwa (KPK), the study "Action research as a tool of professional development of advisers and teachers in Croatia"conducted by Tim Caina and Sanja Milovicb (2010) was found quiet relative in the sense that application of action

research for educational and professional development was not common rather it was a new idea specially at school level here in KPK. Therefore the above mentioned study was included in this literature review for finding out the challenges which were faced by researchers and seeking further guidance form their experiences. The other major similarity between the two studies is that here in KPK volunteer teachers from selected schools were guided to apply action research, with the collaboration of the author of this study, in their classrooms to change the existing practices and their professional development. The same approach was found in the study conducted by Tim Caina and Sanja Milovicb(2010) in Croatia, where 18 senior advisers from the Education and Teacher Training Agency(ETTA) developed different action research plans in Croatian schools.

According to Tim Caina and Sanja Milovicb(2010) the findings of the study highlighted the following;

- Action research could lead to required transformation.
- Action research could be applied for continues professional development of teachers and educational managers.
- There was evidence that the research participants meticulously comprehend the concept of action research.
- There was evidence of effective communication and transfer of knowledge from educational advisors to the school principals and classroom teachers to plan and apply action research at their own level.
- Evidence show that the fundamental principles of AR were comprehended by the principals and teachers with help of educational advisers.
- The diversity of research plans with the involvement of teachers in different combinations; single, pair and more than two of the same or different schools; showed the creativity and adoptability of the research plans.

- AR fortified the researchers to try and find useful data which provided verifications of change.
- Researchers (school principals and teachers) avoided the use of rigorous research procedures like statistical tests and other research soft wares, hypothetical outlines of their small scale research studies were not expressed explicitly, and they also avoided the use of research literature in the strict sense.
- For every research plan the educational adviser as facilitator and the principals/teachers as the reflective practitioners developed a mutual acceptance of the problem.
- Throughout the research period the educational advisors played a transmissible role to communicate the fact that there was room for improvement, which sometimes created a bit discontentment therefore it was indispensable to build an environment of trust through empathy and extending concrete help to the principals/teachers.

It was found helpful to pair up two teachers as 'critical friends' to support each other during their research cycles(Caina,T. and Milovicb,S. 2010)

Related research study #4

In the context of KPK, in an educational system where there exist no research culture especially at school level it was a difficult task to convince teachers to participate in a research study. Also teachers have a general perception regarding research as a very complex and tedious job which require extensive study; although it is true but action research is a little different from conventional type of researches and can adopt any contextually applicable research methodology (Greenwood and Levin, 2007). To make things easier Sagor (1992) and Glanz (1998) favor minimum required reading as they do not take in literature review as a step of action research. Chad West (2011) proposed some suggestions for action research to be used as a form of

professional development in the study "Action Research as a Professional Development Activity".

It is argued that teachers usually give up the idea of conducting research if they are burdened with library searches and extensive reading therefore to motivate them to follow a systematic inquiry (action research) to improve their classroom instructions they may avoid the rigid structure and strict research formats (West, C. 2011) As a matter of fact that what is important about action research is teacher's own understanding of the topic and transformation of current practice. This relaxation in certain steps of action research sprouts from the very philosophy of action research to diminish the existing influence and supremacy of the customary dispenser of knowledge (ibid).

As a result, there is no wonder if teachers following action researchers would evade the kingpins that support the accepted traditional patterns (Sagor, 1992 as cited in Chad West, 2011). According to Greenwood and Levin (2007) action research can adopt any contextually applicable research methodology; in fact AR is coordinating collaboratively the process of social change. To start a research culture for professional development a poor quality research is better than no research therefore it was suggested that instead of involving teachers in to the complexity and nitty-gritty of research procedure they should be encouraged to initiate research through easier techniques involving the simplest steps.

Related research study #5

To further deepen the knowledge about teachers' professional development and its impact upon students' learning a number of studies were examined but the following study conducted in Malaysia by T.Subahan Mohd Meerah (2011) is briefly discuss here. This study focused at the teachers' professional development to boost students learning in the remote area like Sarawak.

Convinced by the fact that only skilled, devoted and professionally proficient teachers can revolutionize and deliver quality education, the Educational Planning and

Research Division, Malaysia, initiated a program to introduce research culture at the gross root level which included educational managers and school teachers for their professional development and growth.

Initially a few selected school teachers and some educational managers were trained to study and conduct action research. Afterwards this group of trained teachers propagated their knowledge through workshops and seminars to other teachers gradually they facilitated other teachers to develop research plans and conduct action research at small scale in their own school. In this way a livening research culture was developed at school level for the professional development of teachers.

Following were the objectives of the study;

(i) Improvement of science teaching and learning at elementary level,

(ii) Development of innovative instructional scheme through shared action research.

The findings of this study revealed the classroom environment by sketching the picture as; low motivational level of students, tense atmosphere of classroom, unfriendly student-teacher relations, low student participation, passive student community which is highly dependent upon teacher, limited teacher awareness and lack of professionalism. In such type of environment one could not have high expectation about students' achievements. However the under discussion program was initiated and it was found that;

- Teachers learnt the proper use of audio visual aids for different teaching approaches.
- Participating teachers built up their confidence and actively participated in all the phases of this program.
- Teachers had the opportunity to practically test theoretical knowledge by cycles of action and reflection.

- Teachers learnt new teaching stratagems and developed teaching modules. They also learnt to present and disseminate information.
- Teachers were able to add the existing knowledge by generating new knowledge while concurrently building their own capacity and improve performance.
- The participating teachers were able to conduct action research collaboratively thus offering an example for other teachers to apply this technique to solve their problems independently and grow professionally.
- The program developed a culture of research based inquiry at school level thus empowering teachers to exercise their own authority to resolve their everyday problems instead of looking at authorities or external support.

It was suggested that teachers are too much occupied with their teaching responsibilities and hardly find time for studying research reports therefore collaborative efforts are needed to handle the situation. Also it was recommended to include action research in all teacher education programs to equip teachers with this technique to carry on continuous professional development throughout their professional career without any external support (T. Subahan Mohd. Meerah. 2011).

Related research study #6

To develop an understanding of what has already been done in Pakistan to introduce action research and encourage school teachers to become reflective practitioners, course outline of different institutes offering teacher education programs of different levels i-e from certificate to degree level were studied. It was found that with the exception of only one private sector university action research is not included as component of different courses offered. Study of literature show that the concept of action research has been introduced over the past two decades but the concept of action research is still new for many people. Neither it has been recognized as a type of research in some universities in Pakistan nor included in degree programs for

Teacher education offered by public-sector universities as a research component (Farooqi et al. 2009). Application of action research for the improvement of existing practices is not only new but also far apart from practice (Halai, N. 2011).

A comprehensive study "How teachers become action researchers in Pakistan: emerging patterns from a qualitative meta-synthesis" was conducted (Halai, N. 2011). This study reports upon how school teachers can become action researchers in Pakistani perspective in the light of efforts made by the Ministry of Education to encourage school teachers to become researchers as well.

This study has highlighted with evidence the options for teachers to become action researchers for their own professional development and growth, it has also pointed out the challenges faced by the teachers and teacher educators in this effort. At the end the author has come up with some useful suggestion to put action research to practice for the TPD programs.

The findings of this study are based upon the analysis of 20 actin research thesis submitted by the M.Ed students enrolled at AKU-IED Karachi, the findings show that teachers can learn to apply action research in their classrooms to improve their practices if they are initially extended full professional and technical support. As teachers have no exposure to research they find it "complex and messy". They also found difficult to take up double responsibilities of a teacher and a researcher side by side (Halai, N. 2011).

The evidences showing practical applicability of action research included a project completed by Dean (2009) in which she supported three local (Sindi) teachers in their struggles for improvement of their existing practice through action research. It was found with evidence that those teachers showed improvement in their knowledge, skills and tendency this improvement reinforced their efforts to improve their existing practices.

However Dean (2009) pointed out that teachers need high level of support conduct action research. She argued that the input in terms of time, skill and academic support required by the teachers to apply action research is quiet significant which, in her opinion, could pose problems of sustainability. The same concern has been shown by other authors (Mohammad and Kumari, 2009) they were of the opinion that it consumed more time to assist teachers to conduct AR independently as compared to conducting collaborative action research (AR). But this issue is not particular to Pakistan only in fact these issues were faced in regions where AR has been in practice for over the years (Ponte, 2004). Many other issues such as time consumption, learning new skills, observing and reflecting one's own practice and reporting were pointed out even in those systems where teachers have theoretical knowledge and practical skill of conducting action research as well (Goldston, 2000. Ponte, 2002 and Beijard, 2004). Thus it is no wonder that our teachers who have neither any research experience in their initial pre-service teacher education nor they have any opportunity of conducting research during their professional career would need greater input to conduct action research to improve their classroom practices.

The findings of this study revealed that;

- Generally all the participating teachers (20 teachers) found action research beneficial and productive regarding their professional development.
- The experience of conducting action research was rewarding in the sense that teachers become cognizant of studying and changing their own practice.
- Teachers developed insight of action research they learnt that each cycle consisting of four steps; plan, act, observe and reflect was not necessarily linear in nature but there existed small cycles with in each step(Hasnain, 2007). spirals within a spiral(Imomnazarovna, 2005)
- It was learnt that action research is different from other types of researches for its collaborative aspect (Anderson, 2005).The teachers learnt to manage this

cooperative characteristic of AR in a variety of ingenious ways because the atmosphere in which research was conducted kept on changing.

- Teachers learnt to use a number of methods for keeping track of activities and their effect for example; taking notes, audio recording, use of checklists and getting feedback from critical friend.
- Teachers learnt to contextualize their researches and make adaptation to accommodate the needs and demands of learners and school administration.

Related research study #7

Under the Pak-Norway Institutional Cooperation Project a research study was designed and conducted. The title of the study was "Using Innovative Teaching Approaches through Action Research for B.Ed Program in IER, University of Peshawar". The experienced gained during this study as principal researcher motivated and gave me the confidence to undertake my doctoral research study in the area of action research and expanding the application of AR to a group of fifty school teachers to investigate its impact upon their professional growth and development. Personally convinced that the above mentioned study played important role in my own professional development as this study caused attitudinal changes in myself and provided me with a new vision of seeing things, now instead of complaining (a common weakness) I try my best to solve and struggle to make my way through and to overcome the problems.

I found this approach not only useful for the professional development of teachers, self-correction and improvement of teaching strategies but it has also a motivational aspect of creating a desire to improve. As a result one enjoys intrinsic satisfaction while performing better.

Action research helped me to explore the fundamentals of teaching-learning process, before commencing the mentioned study my disposition regarding teaching-learning was that students learn automatically if they are introduced to certain

concept, however the intervening stages of teaching-learning process were comprehend after conducting AR.

Although we studied the use of innovative teaching approaches but these innovations were introduced through action research, the experiences lead me to conclude that AR could be used to bring about any desirable change. As I was examining my own teaching strategies and also teaching B.Ed calss at the same time this dual responsibility; difficult manage, contributed to my professional development and enriched my knowledge and skills. Through this process I personally experienced the gaps which existed between the theoretical knowledge and practical application and planned to fill these gaps. The research process was completed with two different classes and two different subjects but the approaches were same i-e discussion method and activity based learning, due to this combination in each cycle we faced unique problems but used the same four steps of planning, execution, observation and reflection on action and then re-planning. This reality turned action research in to a specific tool which could be generalized and applied to a variety of situations.

CHAPTER 3
RESEARCH METHODOLOGY

Action Research was used to answer the research questions as it was best suited for individuals or groups of individual's studying their own practices. "Action Research" is a process focused on Practitioners studying their own practices in order to improve them "Action research has been defined as a deliberate, solution-oriented investigation that is group or personally owned and conducted. It is characterized by spiraling cycles of problem identification, systematic data collection, reflection, analysis, data-driven action taken, and, finally, problem redefinition. The linking of the terms "action" and "research" highlights the essential features of this method: trying out ideas in practice as a means of increasing knowledge about and/or improving curriculum, teaching, and learning (Kemmis & McTaggart, 1982).

3.1 ACTION RESEARCH

Action Research suggests both the inherent empowering quality of the process and the immediacy and concreteness of its outcomes (McKay, 1992; Miller & Pine, 1990). Generally, teacher research is driven by the practitioner's desire to improve his or her own practice with respect to a specific problem and a specific set of students. Thus, students reap immediate benefits from the teacher's learning (Shalaway, 1990; Williamson, 1992). McCutcheon and Jung (1990) identified the core components of action research as systematic inquiry, reflexivity, and focus on the practical. It seeks to answer questions and solve problems that arise from the daily life of the classroom and to put findings into immediate practice (McKay, 1992; Twine & Martinek, 1992). Corey suggested that expectations for the outcomes of action research were clearly focused on educational improvement. To him, it was a vehicle to increase the possibility that teachers and administration would change, and thereby improve their educational practices (Corey 1953). His commitment seemed to be the development

of a body of knowledge and skills that would assist practitioners in adjusting to cultural change, rather than participating in it.

Action research offers an alternative to teachers who have been encouraged to look to others, rather than to themselves and their students, for ways to improve their teaching; through the process of action research the participants examine their own educational practices systematically and carefully, using the techniques of research. It is now often seen as a tool for professional development, bringing a greater focus on the teacher than before (Noffke & Stevenson, 1995). Action research emphasizes the involvement of teachers in problems in their own classrooms and has as its primary goal the in-service training and development of the teacher rather than the acquisition of general knowledge in the field of education. (Borg, 1965, p. 313). Kemmis' model follows the cycle of: Plan, Act, Observe and Reflect. "Planning" involved the determination of the question that needed answering and the strategy to be used in answering it. During the "Acting" stage, the practitioner tried out the strategy. The "Observation" stage included recording data on the results of the strategy and also keeping a journal on the practitioner's thoughts and reactions to the entire experience. Finally, during the "Reflection" stage, conclusions were drawn and the original plan revised based upon the conclusions so that a new cycle could begin (Kemmis, 1982). A key ingredient to successful Action Research involved collaboration. All the participating teachers from selected schools were encouraged to share their problems and findings or any other quarries which they thought to be discussed among themselves.

Action research is inquiry or research in the context of focused efforts to improve the quality of an organization and its performance. It typically is designed and conducted by practitioners who analyze the data to improve their own practice. Action research could be done by individuals or by teams of colleagues. The team approach called the *collaborative inquiry* was introduced to the selected group of teachers. Hence providing the teachers with new opportunities to reflect on and assess

their teaching; to explore and test new ideas, methods, and materials; to assess how effective the new approaches were; to share feedback with fellow team members; and to make decisions about which new strategy to be included in their instruction, and assessment plans. Teacher researchers were free to work alone or collaboratively with other teachers. McKay (1992) described action research as a six-step cyclical process: (1) identifying an issue or problem to study; (2) gathering and reviewing related information; (3) developing a plan of action; (4) implementing the plan; (5) evaluating results; and (6) repeating the cycle with a revised problem or strategy derived from what was learned in the first cycle, until the question is answered. The same approach was adopted in this study and the teachers were guided how to use this approach however instead of McKay (1992) six-steps Kemmis four stage; Plan, Act, Observe and Reflect, model was used in this study.

Patterson and Shannon (1993) described action research as "inquiry in which practicing teachers try to understand the particular individuals, actions, policies, and events that make up their work environment in order to make professional decisions" (p. 8). Garner (1996) defined action research more specifically as a systematic, reflective, collaborative process that examines a situation for the purpose of planning, implementing, and evaluating change.

Action research provided teachers with the opportunity to gain knowledge and skill in research methods and applications and to become more aware of the options and possibilities for change. Teachers participating in action research became more critical and reflective about their own practice (Oja & Pine, 1989; Street, 1986). “Action research" is a term used to describe professionals studying their own practice in order to improve it. Applied to teaching, it involved gathering and interpreting "data" to better understand an aspect of one’s teaching that interests or concerns us.

McCutcheon and Jung (1990) identified the core components of action research as systematic inquiry, reflexivity, and focus on the practical. It seeks to answer questions and solve problems that arise from the daily life of the classroom

and to put findings into immediate practice (McKay, 1992; Twine & Martinek, 1992). Teacher researchers may work alone or collaboratively with other teachers, student teachers, or university researchers. Seeking guidance from these writers the volunteer teachers from selected schools and the researcher joined together to form a team which was further subdivided into small teams at the school base. Role and responsibilities were defined (Bussey, L. 2007) for smooth working and making each member of the team responsible.

3.2 POPULATION AND SAMPLE

According to the annual statistical report of government schools (2010) in district Peshawar there are 108 secondary schools (70 male and 38female) in public sector with a total population of 618 secondary school teachers (SSTs) male and female. These SSTs comprised the population for the results of this study to be generalized (Gay, 1990). This population was distributed over the entire district in two areas urban and rural. The 70 male schools are further divided into urban and rural schools there are 43 rural and 27 urban schools, whereas the rural and urban division of 38 girls schools is 17 rural and 21 urban. Population for this study was professionally trained i-e all the teachers, both male and female held at least bachelor degree (B.Ed) in education. Their academic qualification and other characteristics are shown in the following table.

Table 3.1

Characteristic of Population for Current Study

(Source: EMIS data 2010)

SST	Male	Female	Total	BPS	Qualification		Average Age In years	Marital Status (married) %	In-service training %	Average Experience In years
					Acad	Prof.				
General	281	194	475	16	B.A	B.Ed/ M.Ed	42 +	96%	53%	12 +
Science	96	47	143	16	B.Sc	B.Ed/ M.Ed	40 +	94%	47%	10+
Total	377	241	618	--	--	--	41 +	95%	50%	11+

The study of the target population shows that it is a mature, well qualified and experienced population. The reason to select SSTs among many other teachers being their role, other teachers working in high and higher secondary schools being CT, TT, PET etc. have different roles to play and these teachers do not possess a degree in education, while SSTs, in the first place possessed professionally and academically at least a bachelor degree in education (B.Ed) and also have a bachelor or a master degree (B.A/B.Sc or M.A). They taught subjects which needed higher cognitive abilities thus their job was more demanding and they needed deeper professional insight. Thus the population bore a sound professional and academic background as the process of professional development starts with the initial professional education or pre- service training which in our case was B.Ed degree.

The age group to which our population falls was above forty and the average age was 41 years, psychologist (Erik Erikson) regards it as middle age (40-65) which is characterized by stability, maturity, and focus. As evident from the table 95% (on average) of our population was married indicating emotional and social stability. Professional and academic qualifications indicated the completion of a distinct level

of higher education (with special reference to Pakistani context). In Pakistani setup government servants have unified basic pay scales for all departments in the public sector, BPS-16 being the first grade of officer status, providing socio- economic stability. All these factors turned SSTs into the most stable group who had sufficient academic and professional knowledge with enough professional experience (11 years on average) and a considerable period of service to serve the department.

Out of 618 SSTs a limited number of 50 were selected for this study. Segregating the population on rural urban and male female basis we had these four natural groups within our population. Details of this division are given in the following table;

Table 3.2

Sub Division of Target Population According to Location and Gender

School locality	No. of Schools(108)			No. of Teachers(618)		
	Male	Female	Total	Male	Female	total
Urban	27	21	48	142	125	267
Rural	43	17	60	235	116	351
Total	70	38	108	377	241	618

The data indicated that the population is skewed towards rural side having more schools situated in rural area with more teachers appointed in these schools. Similarly gender wise skewedness could be seen on male side. There are more boys' schools with more male staff appointed in these schools. Thus in order to draw a real representative sample cluster sampling technique was used to select ten schools, five male and five female,

The procedure of sample selection included the following steps;

- Step-1:- Consent forms (see annexure 1) were sent to all the principals and head masters of H/Secondary/High schools by mail or in person. These forms were collected and sorted according to the urban/rural and male/female division. 57 schools showed their willingness to participate in the research study.

- Step-2:- From these 57 schools, 10 schools (5 male and 5 female) were selected such that there were three rural and two urban schools. The criterion for selection of schools was the accessibility, convenience of the researcher and availability of appropriate number of teachers. Accessibility and convenience of the researcher was important to maintain close contact with the teachers participating in the study for co-planning and working collaboratively during the course of research study. The participating schools (see annexure 2) were assigned individual codes to secure the anonymity of the participating teachers.

- Step-3:- The teachers of the selected schools were informed about the research and its purpose and they were asked for their consent, only those teachers of the selected schools who fulfilled the criteria and submitted their written consent (see annexure 3) were selected as research participants. Initially total 43 teachers were selected as the sample of our study there were 24 male and 19 female teachers in our sample.

3.3 CODING OF SCHOOLS AND FORMATION OF WORKING GROUPS/PAIRS

Male and female schools were assigned individual codes and the participating teachers of each school were grouped together as a working group. The working groups were so arranged that there should be at least two group members to conduct their research projects and extend support to each other. PS-M (Participating School-Male) and PS-F (Participating School-Female) were used as codes to indicate male

and female schools respectively. The details of coding and working groups are given in the following table;

Table 3.3

School Codes and Number of Working Groups in each School

Male schools				Female schools			
S.# of Participating School	School Code	Number of working groups	No. of Participating teachers	S.# of Participating School	School Code	Number of working groups	No. of Participating teachers
1	PS-M1	02	05	1	PS-F1	02	05
2	PS-M2	03	06	2	PS-F2	02	04
3	PS-M3	02	04	3	PS-F3	02	04
4	PS-M4	02	05	4	PS-F4	01	03
5	PS-M5	02	04	5	PS-F5	01	03
Total		11	24	Total		08	19

On male side we had 11 working groups and on female side there were 08 working groups. Each working group consisted of two to three teachers, preferably teaching the same grade and same subject. In the composition of working groups the element of mutual understanding among group members was given due consideration and weightage was given to the opinion of group members; however where necessary researcher's input was also included. The formation of working groups with mutual agreement was important and necessary provide professional, moral and social support to the group members. It was also helpful to introduce the idea of "critical friend" and providing feedback—one of the tools for data collection.

To keep a track of professional development and growth of every member of the working group each member of the group was also assigned a four character alpha

numeric research ID where alpha character being "M" or "F" denoting male and female participant respectively and three numeric characters showing school, working group and teacher's personal number, for example ID,

M	1	2	3

Shows 3rd male teacher of working group two from participating school # 1, similarly ID

F	2	1	1

Shows first female teacher of working group one from participating school # 2.

3.4 RECONNAISSANCE

This study is concerned to improve the existing classroom practices of teachers by applying action research. Therefore it was necessary to explore the common prevailing classroom practices and determine the level of teachers' knowledge and understanding of the concept of action research. Generally teachers used chalk and talk method (Elaine, 2005), they seldom use any teaching material. Teachers talked most of the time in class and students were expected to listen carefully and copy important notes from the black board. The most common picture a classroom showed; teacher and students reading from the text books with some oral explanation (meanings of difficult words and concepts) by the teacher, followed by writing of word meanings, important formula, diagrams and solution of numerical questions. Students copy from the board and complete their note books and they are expected to memorize the content. They rarely raise question, if at all they ask a question it is of lower order question, for example meaning of a world or some explanation, students seldom ask analytical or synthetically type questions. This same picture could be seen in almost all the classrooms which were considered "effective and satisfactory". One working day was the same as the other with almost no change in the classroom practices; day by day in each period (8 to 9 per day) the same routine is repeated. Students remained passive recipients of factual information and teachers the narrator of text books (researcher's observation). Teachers in non-formal setting

were inquired about cognitive aspect of human personality, only 7% had some idea (heard about the term) whereas only 3% were able to mention different levels of cognitive domain (not in sequence). When they were asked if they considered these levels while teaching in their classrooms they admitted that it seldom happened. It was observed that teachers make no efforts to develop higher cognitive abilities of the students while teaching. Teachers' concern seemed limited to the completion of the courses, they seemed to have no awareness how students learnt (Holt, J. 1967/1983). In the response to the question regarding teacher's role in students achievement teachers said that they do their best but it mostly depended upon students they also mentioned the parental responsibility in this regard. Teachers believed that usually those students are high achievers who have parental support at home. They also mentioned that in public sector students belong to poor families with low socio-economic background therefore their scores are not high.

Another important point which caught researcher's attention was quiet interesting to be mentioned here;

> … during my visit to a higher secondary school I noticed that trainee teachers form different colleges were undergoing their long teaching practice they were required to teach different classes and it was compulsory for them to prepare lesson plans for every class they taught and bring required and relevant teaching material with them. Their supervisors were very strict in this regard but to my astonishment none of the regular teachers had lesson plans with them.

The situation was discussed with the principal of that school and to my further astonishment the principal, who was the external examiner also, commented;

> … these are all formalities it is not possible in reality could you expect that teachers will prepare lesson plans? And more over what good these lesson plans can do to the children…

These ideas reflected that the knowledge and skills acquired during teacher trainings are limited up to these trainings and assessments only. This knowledge and skills have little application in the real life situation. Teachers usually do not use lesson plans, the reasons which were given; included heavy work load and personal experience, teachers argue that they have taught the assigned subject and the class for so many years that they need not any preparation.

From a researchers view point these observations were very useful but only having information were not enough. For me it was more important to explore the reasons behind, why all that was happening? It happened most of the times that without exploring the actual causes the efforts made to resolve a problem failed.

The analysis showed that there were multiple factors responsible for the existing situation and the combined effect of these factors had become so enormous that schools and teachers alone could not handle the situation. These factors included;

1. Lack of awareness: - when we have more than one model or we have different methods to be adopted than we select and apply the best. In our case teachers were unfamiliar of any modern approach of teaching.

2. Lack of modern libraries: - There was no source to update their knowledge. School libraries (if one existed) lacked updated material and fresh literature about educational developments taking place all over the world. The libraries contained books and materials which were old and out-dated and had little relevancy with the academic and professional needs of students and teachers respectively.

3. Teachers' attitude: - Teachers did not take initiatives to improve themselves. Teachers' perceived knowledge as something to be discovered which rested out there and it could not be generated or shaped, especially by school teachers (Halai, N. 2010). Teachers attitude was that of technician rather than of intellectuals (Fandino,YJ. 2010). Teachers acted and behaved like technicians

just like carpenters or other workers who are skilled enough in their field (Cresswell, K. and Holley, A. 2009) but without understanding their own practices and conditions (Jack Whitehead, 1989).

4. Low priority:- Education have been at the lowest priority (USAID, 2004) hence lack of interest has been prominent at every level, at national level this lack of interest has been shown in terms of budgetary allocations made for education sector, at departmental level the supervisory role has been limited to the fulfillment of official routine procedures and implementation of orders. Vision of school management is limited up to the completion of courses and engaging the students and teachers in less fruitful activities. It seemed that there were no clear long term objectives all the activities were undertaken on daily bases to keep things going on smoothly. On one was seemed to be ready to take the pains to try something innovative, the situation spoke for itself that educational system in Pakistan is suffering from sluggishness (Memon, 2007).

5. Poor quality of pre-service teacher education: - One major reason for the prevailing situation was low standard of pre-service teacher education. The best performing education systems throughout the world have high standards of teacher education, in contrast to which teacher education in Pakistan have poor quality in terms of content knowledge and professional skills. During initial teacher training too much importance is given to the technical side of the teaching focusing on different theoretical subject and some rigid mechanical steps of conducting classroom lessons with little flexibility (Ali, T. 2011) teachers with such type of perceptions would perform what they have learnt.

All these factors have a combined adverse effect on the existing educational system turning it into a poor performing system in terms of students' achievements, passive educational methodology and poor standards of assessment (Ali, T. 2011).

As a result the products of educational system are the students with limited factual, segmented and bookish knowledge with no actual learning. It is not something unexpected because rote memory is encouraged with the mechanical reproduction of information memorized; the children were poor in the competencies which involved some creativity. Studies show that the competency level in letter writing was only18.1% as it required students own ideas and words instead of rote learning. Reading comprehension 26.8% this also indicated that students depend on mechanical rote memorization and they were weak in comprehending the text (National Institute of Psychology Quad-i-Azam University 1995).

The subjects offered at secondary level promote college education only and do not promote any skills therefore students develop no economic worth; same is the case of higher secondary education. Exit from education at any distinct stage leave no other option for the students but to seek admission in the next higher stage. In other words the system is producing literate un-employed youth. After the completion of F.A or B.A the product of this system take over the responsibilities as teachers and the same cycle is repeated even with lower quality and poor standards. In this way gradually the standards are falling continuously, although quantitative expansion has been recorded (UNESCO, 2009) but the ever falling standards have been reported in many studies at national and international level (USAID, 2004).

In the light of this reconnaissance following procedure was followed to conduct this research study.

3.5 PROCEDURES

The purpose of this research study, as the main research question suggested, was to engage the teachers of selected schools in improving their classroom practices using Action Research. This required researcher to work with the selected group of teachers in order to provide necessary information about the research study and the fundamentals of action research. The research participants were 43 (24+19) practicing school teachers from public sector who participated in this study and conducted action

research for the improvement of their classroom practice using Kimmes (1982) four stage; plan, act, observe, and reflect model. For smooth functioning of working groups, good working relationship among group members was established.

3.6 RAPPORT BUILDING

In our schools there is no culture of professional discussion [in schools during working hours teachers rarely discuss matters of professional concern]]; teachers discuss almost all the local, national, and international issues, they talk about politics, and matters of personal interest but they hesitate to involve in any professional discussion (researcher's observation). Therefore for initiating a culture of professional discussion and rapport building non formal meetings were arranged at school level. To make these meetings effective and time saving, these meetings were arranged during the tea break. The purpose of these meetings was to establish close bonds among the group members and to bring them closer in the sense that they could share their problems and talk about them openly. These meetings had a positive effect and group members were able to work in close collaboration with each other in their respective working groups in trustworthy environment. An early development of mutual understanding and trust was necessary to avoid the unpleasant feelings which are usually associated with realization of fact that there is still room for improvement in our performance or to be very straight if we come to know by ourselves or through our colleagues that our performance needs improvement, we usually have unpleasant feelings (Caina, T. and Milovicb, S. 2010) associated with this fact. Therefore special attention was given to create an atmosphere of mutual trust and learning in the initial stages of the study to help teacher in their professional development.

The basic procedural steps of this study included three stages; first the pre-intervention stage, second the intervention stage and the third was post-intervention stage. Details of how the teachers and the researcher worked through these stages are given as follows.

3.7 PRE-INTERVENTION STAGE

In this stage of the study, the selected sample of the teachers was interviewed to know how teachers perceived teaching and learning. Selected teachers from every school were individually interviewed to inform this research about the individual perceptions of the participating teachers to determine the base line for the comparative analysis of any perceptional change recorded as a result of this study. The interviews were recorded for future comparison. The participating teachers were observed in their respective classrooms and data was collected regarding their current practices of teaching. Teachers were asked to act in the same manner as they did in their usual routine. The teachers were taken into confidence that their anonymity would be confirmed and no information would be shared with school administration except the findings of this study. Teachers were ensured that the purpose of these observational sessions was to collect base line information for the current research study. The observations were recorded, using observational check list (see annexure 4). The major areas of observation included in pre-intervention stage were;

- Lesson planning skills

  It was observed that whether teachers have prepared lesson plans? How did they formulate their objectives and what type of learning activities they had planned? What material they used during their lessons and to what extent they followed the plan. How did they plan to develop all the three domains of human personality and what strategies they adopted to achieve their objectives? This area was observed at four levels first the availability of written lesson plan second how effective the lesson plan was, third the element of efficiency along with affectivity was observed and lastly the lesson plan was observed for its innovative elements and exemplary status. For quantifying our observations scoring key with scores 0 to 3 was used. Zero "0" score indicated no written lesson plan available, score "1" indicated the availability of written lesson plan, score "2" showed availability of an effective lesson plan and score "3" indicated an exemplary lesson plan.

- The level of student's involvement in teaching learning process.

  The area of student involvement was observed at two levels i-e how much teacher encouraged the students to participate in learning activities and what techniques the teacher applied to involve the students in the teaching-learning process. It was also observed that how did the respond when students became proactive and maintained the equilibrium. The level of autonomy that students had in the classroom was measured by recording the student-teacher and student-student interactions during the lesson. The teacher's approach to motivate students to take leading role and become self-responsible was also included in this area of observation.

- Questioning technique

  Keeping in mind the prevailing chalk and talk method and teachers attitude towards verbal communication questioning technique (closer to the common practice) was focused during classroom observations. It was observed and recorded that what type questions like open/ close ended, diagnostic or challenging questions were asked by the teacher. The placement of questions, wording, difficulty level and complexity of the questions asked were taken notice of. Relevancy of the question and distribution of question among the students were other aspects for observation and recording. Questions on the bases of Blooms' Taxonomy were ranked as higher or lower order questions and recorded accordingly.

- Activities performed during class

  Activities other than conventional text book reading and writing black board summary were recorded. The sequence and inter connectivity of the activities were observed and it was noted how the activities were structured and designed, were activities simple and meaningful and directed towards the accomplishment of lesson objectives, whether the activities performed, were easy to administer and comprehend. How much time it took to explain the activities and time for completion of the activities was recorded. It was also

noted that were activities appropriate for the age group of the students and their mental level, what other benefits such as social, emotional and democratic benefits were achieved through these activities. On the bases originality activities were classified as replicated or created in case of replicated activities there placement and integration was given more importance while in case of created activities their effectiveness and relevancy were considered important.

- Teaching method used

  The dominating teaching method and auxiliary methods were noted and recorded. Mastery of the teacher in the use of the teaching methodology was the focus of observation. To check the level of mastery of the teacher it was observed that how efficient teacher was, in accomplishing lesson objectives through the method applied. What modifications did the teacher make in the method to best suit the needs of the class and lesson delivered.

- Communicational skills

  In the pre-intervention phase the verbal and nonverbal communicational skills of the teachers were observed. The verbal communication included the choice of vocabulary, economy of words, coherence of ideas, and fluency of the teacher. The ability to effectively communicate ideas and concepts to the class through verbal communication was specially observed, it was also noted that which type of communication i-e one-way or two-way dominated in the class. As far as the nonverbal communication was concerned the body language of the teacher was noted, whether or not the teacher was physically and mentally available to the students. Did the teacher try to mix up with the class and moved around the class or otherwise. Teacher's facial expressions and eye contact with the class were observed and recorded.

- Distribution of allotted time

  Time management of different activities was observed. It was noted that how the teacher managed the time distribution whether or not teacher maintained a

balance among different activities of the class. How much time was allotted for classroom instruction and what percentage time was spared for group/pair/independent work? It was also observed that how far the teacher was successful in achieving lesson objectives in the allotted time and how did teacher manage students' questions (if raised) with in the given period. Another important element regarding time management, which was observed and recorded, was the ability of the teacher to distinguish between the instructional time and learning time.

- End of class notes or teacher's reflections about class

  The pre-intervention observations included to note that teachers took end of class notes and whether or not they reflected upon their lesson. Or they shared their experiences with other colleagues. The observations also included to note that whether or not teachers kept a reflective journal (diary) and maintained it either right after the lesson was completed or at leisure time later.

- Assessment

  During observation the assessment mechanism followed by the teacher was noted. Observation of assessment included its types i-e formative or summative and mode of assessment. Regarding the types of assessment it was taken into consideration that how teacher used them effectively and what is the mode of assessment i-e whether teacher adopted collective mode and asked few questions and generalized that the concepts were understood by all the class or individual mode of assessment was practiced. The mechanism of maintaining assessment record and its use, to keep a track of student's performance and progress, were also observed and recorded.

- Class room environment.

  The general classroom environment was observed and prominent features of classroom environment were observed and recorded. The status of two components of classroom environment i-e physical and emotional was taken in

to account. The physical environment included, size of the classroom, placement of teacher table and black board, light and ventilation facilities, cleanliness of class, seating arrangement of students, and wall decoration. The elements of emotional environment such as teacher students' relations, student- student relation, social interaction among the students, respect for each other, equality among students and positive thinking on behalf of teacher and students. The academic component of classroom environment included an atmosphere of healthy completion, learning and inquiring. Any sample of students' work displayed in the class was observed and recorded.

For the detailed pre-intervention observation a check list including all the areas discussed above was used. Check list was used to make observation objective and evidence based. Also other factors of interest for example number of students in the class, average age of the class and students' attitude towards learning were also noted.

3.8 INTERVENTION

Using the information obtained in the pre-intervention stage, as base line the intervention was made in five phases; phase one was comprised of orientation workshop to introduce the research participants with the purpose of the study and provide necessary skills and theoretical knowledge about action research. In phase two, researcher demonstrated two lessons to highlight the need to improve our existing teaching practices and to motivate the participating teachers to take initiative to change and improve existing classroom practices. Phase three provided an opportunity for the participating teachers to plan different activities to be carried out during research classes in guidance of researcher; co-teaching was also done to equip the participating teachers to keep a balance between their role as teacher and a researcher at the same time (Halai, N. 2010). Phase four and phase five were broken down in parts, a, b and c and carried out in the sequence that phase five (a) followed

the phase four (a) and phase four (b) was followed by phase five (b) same was the case of part (c) of the two phases.

3.8.1 Phase one- Orientation Workshop

A two day orientation workshop was held with the selected group of teachers at each school to introduce the concept of teachers' professional development and the process of action research. In totality ten workshops were conducted all together in the selected ten schools. The workshop was held at the selected schools and the researcher conduct this workshop. The orientation workshop was mandatory for all the selected teachers. The duration of the workshop was tentatively three hours and there were two sessions of 80 minutes each. The first session focused the concept of teachers' professional development and the second session was devoted to action research process. Here Kimmes (1982) four stage, plan, act, observe and reflect model was introduced and the participants were briefed how to implement this model. To further elaborate this model one complete cycle of action research was practically designed and executed during this workshop. The workshop was attended by 5 to 6 selected teachers from the same school. Both the sessions included input from the researcher followed by open discussion, group work and presentation. The content of the session was simplified and focused the basics of the concept of TPD and AR.

3.8.2 Phase two- Model Lessons

Two lessons were delivered by the researcher one conventional lesson and the other improved model lesson. The participants were asked to compare the two lessons and comment. The participating teachers were asked to point out what the found in the comparison and mention what were the weaknesses of first lesson, how those weaknesses were improved in the second lesson. Their views were discussed regarding the improvements made in the second lesson. They were asked to comment on the impact of model lesson on students learning.

Participants were encouraged to discuss their fears and concerns if any, in order to help the teachers learn how they could improve their lessons and deliver

activity-based lessons. The purpose of model lesson was to introduce participants with new approaches to teaching and convey a soft message that they could also plan good lessons if they tried. At the end of phase two future plans of selected teachers were discussed.

3.8.3 Phase three Co-Planning / Teaching:

In order to build the confidence of the teachers the researcher helped out in co-planning and co-teaching with the teachers. Co-planning was done with all the teachers it included planning of lessons and classroom teaching. During classroom teaching the teachers were facilitated to make observation, take notes and take care of any event important for reflecting on action. In this phase teachers needed maximum input and it was realized that almost all the teachers needed support which was provided to enable them for independent working in their respective groups. This phase was critical in the sense that after the completion of it teachers were expected to complete at least three research cycles and collect data independently. Therefore meticulous efforts were made to enable teachers to carry out research by themselves, although continuous periodic support from researcher was available. Teachers were supported and guided to write reflective journals or to keep a reflective diary. Apart from this, based on the pre-intervention observation a simple format of lesson plan was also developed to be followed by the teachers in their research class. Teachers were supported to write their lesson objectives meeting the criteria of "SMART" followed by activity designing.

It was planned that all the teachers would consider one class per week as "research class" for the purpose of data collection only; however the subject, the topic and the grade level would be the same as of their routine class. In the light of teachers' routine work and for the sack of concentration it was considered important to do so.

A work plan for the groups was framed in this phase, based on the findings of the pre-intervention observations it was decided with mutual agreement that all the

working groups will start the first cycle of action research with the development of lesson plan, called “zero plan” for the first research class on the topic appearing in their regular scheme of studies. Members of working groups extended support to each other in this task and implemented the “zero plan” in their respective classes with the mindset to observe and explore any impact of it upon their teaching and students’ learning.

3.8.4 Phase four (a)-Independent Teaching/Action Research Cycle One

The selected Teachers started their two cycle action research projects with first cycle implementing the “zero plan”, to study any significant change as a result of their lesson plan. Each cycle comprised of minimum three periods in the targeted class, one class per week. In this way the duration of each cycle was extended over a period of at least three weeks, thus the total duration for two cycles was six weeks; however duration for one cycle and for total project depended up on the performance of the participants in each cycle. The nature of this research study was such that on the one hand the research focused on improving the practices of selected teachers and on the other hand it aimed to test the applicability of action research as a tool of professional development for practicing teachers. Thus, it was decided to keep the sample size smaller so that the researcher could assist the selected teachers in improving their practices and at the same time to investigate the utility of action research as a tool for professional development for in-service teachers.

As shown in table 1.3 the teachers from selected schools carried out action research and completed its cycles in their respective working groups. This experience of collaboratively working with colleagues provided the participating teachers an opportunity to enhance the quality of their teaching and allowed the research participants to focus on a specific question (problem area) and a strategy that would help answering the question. One of the most important elements of the experience involved was keeping a journal i-e teachers recorded their inner feelings about their own teaching and wrote a narrative account of reason why they were satisfied or

otherwise, from their teaching and what possible alternatives they perceived to make improvements. Therefore the self-reflection that the journal writing provided was, sometimes, more valuable for the teachers carrying out research than the specific solution or answer arrived at, for a problematic situation under consideration. It also provided important contextualized information for sharing and drawing conclusions. On the bases of these information new cycle was started a fresh.

Teachers applied Kemmis four stage (plan, act, observe and reflect) cycle to their "zero plan" in their research class and implemented the plan-actual teaching, thus completing the "act" stage. As they were implementing the plan with a researcher's point of view hence made observations at the same time when teaching, it took teacher researchers to the third stage of the cycle, And after the completion of class reflecting upon practice completed the fourth stage. In this manner teachers collected important data and started their journey of professional development.

3.8.5 Phase five (a)-sharing of experience and future planning:

Based upon the observations and reflections of first class the working group met to share their experiences and planed for the next research class. The time and duration of experience sharing meet was left to the disposal of the working group. At this meeting they expressed openly their views about the action taken, implementation of plan and the strengths, weaknesses and other related issues. After discussing all the possibilities working group mutually decided thet step was appropriate to be taken in their own context and planned accordingly. The new plan called "Lesson Plan One" was developed for execution in the second research class. Technical and professional support by the researcher was extended to all the working groups in those meetings. Holding on to the main theme of "lesson planning" groups decided to include additional areas of their interests and "Lesson Plan One" was prepared. At this stage the scope of the study started expanding with the inclusion of new diversified areas for investigation the detail of "Lesson Plan One" along with additional areas is presented in the following table.

Table 3.4 a

Details of "Lesson Plan One" for Second Research Class (Male Schools)

School Code	Working group	# of teachers	Grade	Subject	Basic theme	Additional area	Strategy
PS-MI	WG-1	03	VII	Ur/Eng	Lesson Planning	Reading Comp.	Story time
	WG-2	02	VIII	Sci		Active learning	Observe & note
PS-M2	WG-1	02	VI	Eng		Vocabulary Dev.	Synonyms
	WG-2	02	VII	Math		Mental math.	Find the answer/Quiz
	WG-3	02	VIII	Sci		Active learning	Experimentation
PS-M3	WG-1	02	VII	Sci		Active learning	Students' participation
	WG-2	02	VIII	Eng		Vocabulary Dev.	Use of flash cards
PS-M4	WG-1	03	VI	Math		Mental math.	Math games
	WG-2	02	VIII	Ur/Eng		Reading Comp.	Key words
PS-M5	WG-1	02	VII	Eng		Reading Comp.	Reading buddies
	WG-2	02	VIII	Math		Sets	Use of AV aids
Total	11	24	--	--			

Female teachers also adopted the same procedure for sharing experiences with their colleagues and getting feedback from each other. The details of "Lesson Plan One" for female teachers are given in table below.

Table 3.4 b

Details of "Lesson Plan One" for Second Research Class (Female Schools)

School Code	Working group	# of teachers	Grade	Subject	Basic theme	Additional area	Strategy
PS-F1	WG-1	02	VI	Ur/Eng	Lesson Planning	Spoken Ur/ Eng	Introducing a friend
	WG-2	03	VIII	Ur/Eng		Reading Comp	Role play
PS-F2	WG-1	02	VI	Sci		Student's involvement	Group work
	WG-2	02	VII	Ur/Eng		Spoken Ur/ Eng	Oral discussion
PS-F3	WG-1	02	VII	Ur/Eng		Writing ability	Creative writing
	WG-2	02	VIII	Sci/Eng		Student's involvement	Use of low cost no cost material
PS-F4	WG-1	03	VI	Math		Mental math	Task of the day
PS-F5	WG-1	03	VI	Ur/Eng		Dictation	Using flash cards
Total	08	19	--	--			

In the first experience sharing meeting at each school the common concern which emerged was formulating a comprehensive lesson plan. Teachers shared their experiences and gave suggestions from researcher side theoretical and technical support in form of handout (see annexure 5) and explanation of the purpose and interconnectivity of the basic elements of lesson plan such as instructional objectives, learning activities, and material needed; was provided.

3.8.6 Phase four (b) - Independent Teaching/Action Research cycle:

Lesson plan one was implemented in the same manner as in phase four (a) but with slight adjustment to focus the particular problem identified by the working group and try out the new strategy adopted in "Lesson Plan One". All the stages were again covered by the researching teachers and fresh data was collected. The additional area included in each plan was studied following the particular strategy developed in "Lesson Plan One" along with the basic theme ─ lesson planning, for the first research cycle, which was further refined and studied more critically. The impact of planning lesson on the quality of teaching was studied by the participating teachers. In this way the phase four (b) was launched with a relatively expended scope. Studying two areas simultaneously this increased the complexity of study for the teachers. However the completion of phase four (b) led the working group to phase five (b).

3.8.7 Phase five (b)-sharing of experience and future planning:

On completion of phase four (b) the working groups arranged second experience sharing meeting and discussed what they observed and felt in the second research class. This time the focus of discussion was better planning and the particular issue identified in phase four (a). Deriving guidance and inspiration from their reflective journal "Lesson Plan Two" was discussed and prepared, focusing the same issue identified in "Lesson Plan One" or with a new issue identified by the teachers. However majority of the teachers were of the opinion to study the same issue in more detail. But few (more motivated) teachers decided to include another issue in the "Lesson Plan Two". As a result of phase five (b) "Lesson Plan Two" was developed and implemented in phase four (c) the details of which are presented in table 1.5 a and 1.5 b for male and female participants respectively.

Table 3.5 a

Details of "Lesson Plan Two" for Third Research Class (Male Schools)

School Code	Working group	Additional area-1	Strategy-1	Additional area-2	Strategy-2
PS-MI	WG-1	Reading Comp.	Story time	--	Picture discussion
	WG-2	Active learning	Observe & note	--	Use of worksheet
PS-M2	WG-1	Vocabulary Dev.	Use of flash cards	comprehension	Making sentences
	WG-2	Mental math.	Find the answer	--	Math games
	WG-3	Active learning	Experimentation	--	Use of worksheet
PS-M3	WG-1	Active learning	Experimentation	--	Recording observati0n.
	WG-2	Language Skills	Direct method	--	Students participation
PS-M4	WG-1	Mental math.	Math games	Computation	# combination for 10
	WG-2	Reading Comp.	Reading buddies	--	Circle time
PS-M5	WG-1	Reading Comp.	Key words	--	Making sentences
	WG-2	Sets	Use of AV aids	Set operation	Venn diagram
Total	11				

Table 3.5 b

Details of "Lesson Plan Two" for Third Research Class

(Female Schools)

School Code	Working group	Additional area-1	Strategy-1	Additional area-2	Strategy-1
PS-F1	WG-1	C. work completion	Use of black board	Maintaining note books	Copy marks
	WG-2	Reading Comp	Classroom discussion	--	Summary writing
PS-F2	WG-1	Student's involvement	Group work	--	Group presentation
	WG-2	Speaking ability	Oral discussion	--	Introducing a friend
PS-F3	WG-1	Writing ability	Creative writing	--	Letter to s friend
	WG-2	Demonstratio n method	Guided instructions	--	Experimentation
PS-F4	WG-1	Mental math	Task of the day	Computation	Math games
PS-F5	WG-1	Dictation	Using flash cards	--	Shape of words
Total	08				

On completion of phase four (c) once again the working groups met to conclude the first cycle. In phase five (c) data from "Zero Plan" to "Lesson Plan Two" was analyzed and conclusion was drawn, with this the first cycle completed.

Second Research Cycle:

The basic theme for second research cycle was "innovative teaching methods" all the working groups planned to adopt an innovative teaching methodology and teach accordingly. Hence each working group prepared their "Zero Plan" for the

second research cycle implemented it and then in experience sharing meetings they shared and discussed their experiences of first research class followed by preparation of “Lesson Plan One” and “Lesson Plan Two”. Following the same pattern, adopted in first cycle, second cycle was completed.

3.9 POST-INTERVENTION STAGE

Post-intervention observations were recorded, after the completion of phase five(c) for each cycle. The areas of observation were the same as mentioned in the previous section under the heading of pre-intervention observation. In post-intervention stage any change in the knowledge level of the teachers or in their skills was recorded. Post intervention stage also accommodated to record any change in students learning and their achievements. All changes which the participating teachers pointed out in their reflective journals were observed and the evidences were recorded.

Post-intervention observations were made for both the cycles’ separately for each working group and then the overall changes were recorded. For the purpose of handling data post-intervention stage was marked as post-intervention 1 dealing research cycle one and post-intervention 2 dealt with research cycle two. The same check list which was used in the pre-intervention stage was used to record observations at the post-intervention stage.

3.10 TOOLS OF DATA COLLECTION

For the current study two types of data was generated first type was “qualitative” in nature while the other type was quantitative” in nature. The tools for collecting qualitative data were; observations, interviews, reflective journals and artifact (Mertler, C.A. 2009; Phillips, D and Carr, K. 2010). Whereas the tools for collecting quantitative data included; questionnaire, check list, and test scores.

The process of data collection for the current study started with the pre-intervention observations. All the selected schools were visited before giving any kind

of professional and technical support to the teachers taking part in this research study. The researcher also derived his data from the reflective dairy kept by the participating teachers.

3.10.1 Qualitative Data Collection

In qualitative research paradigm, according to Patton (1990) data collection permitted a detailed description and analysis of what it was a person knew and accomplished as they interacted with each other in the occasions they themselves created and managed (p. 392). So as a researcher it meant that we had the opportunity to use material collected from different occasions of interaction, usually by means of field notes and interviews, or with the help of audio and videotaped recordings and transcripts.

In this study data was collected through classroom observations, interviews from teachers and students, document analysis, and reflective notes.

A brief account of each category of qualitative data collection is given here;

Observations;

Observation techniques are methods by which an individual gather first hand data on programs, processes or behaviors being studies (Mahoney, 1997). In order to understand the existing practices of teaching and students' participation in the classroom observation techniques were used. All the observations were recorded by using field notes. Keeping field notes provided a way to document observations as rich source of data for study. The classroom observations allowed understanding how teacher perceptions were translated into practices in the classroom.

- Data regarding; presentation skills of teachers, the dominating teaching methods in practice, issues faced by teachers while teaching, and the strategies they adopt to address those issues, was collected through pre-intervention observation in real classroom situation. Teachers were

observed; while teaching in their respective classes, the teaching methodology which they used and teaching related issues like taking on board the “left behind” students.

- Post-intervention observations were made to find evidence of any change in the knowledge, skill or attitude as a result of intervention. The primary objective of post-intervention observation was to determine the magnitude of change by comparing the pre/post-intervention observation. Post-intervention observations were made in the same areas observed during the pre-intervention stage.

Interviews

According to the American Heritage Dictionary, interview could be defined as "a formal face-to-face meeting or a dialogue between the interviewer and interviewee to draw facts and information from interviewee. It is the key practice for collecting information from someone who is expected to have the required information. Interview is a special kind of meeting arranged to collect precise and comprehensive information about an event, process or a concept.

- Pre-intervention interviews were arranged for the selected teachers to determine; their level of understanding regarding action research and the teaching-learning process, what rationale they have for their preferred practices, and why they do/think the way they do and think.
- Post-Workshop interviews/discussions with teachers focused; the new knowledge acquired during the workshop, their views about investigating their own practices and self-improvement and their level of motivation about carrying out AR in their classrooms.
- Post-Intervention interviews were conducted to find out teachers’ perceptions of the experience of conducting AR in their classrooms. And their feedback to apply action research as a tool of professional development.

- Pre-post-conferences were held throughout the research period, before and after each major step i.e., model lessons, co-planning and teaching, and individual teaching by teachers. Semi-structured interviews were also conducted after completion of each cycle and any progress in teachers, knowledge, skill and disposition was shared, in these interviews teachers also shared and discussed the challenges they faced while carrying out AR. they shared their planning for the next cycle and gave feedback to each other. Similarly, discussions and informal conversations with the teachers continued throughout the research process. Semi-structured interview were used to investigate the learning process through which the teachers and students passed. Semi-structured interview proved to be more flexible (Hitchcock and Hughes, 1997) and provided opportunity to deeply investigate the probability of applying AR at school level for the professional development of school teachers to promote students achievements.

Reflective Journal

Plenty of literature defined and explained the term "reflective journal" in the simplest words it could be explained as an account of one's own views and understandings of an event, process or a concept showing the insights developed regarding the happening of the event, execution of the process and during the learning process of the concept. Reflective journal facilitates; deeper thinking, critically analyzing the new knowledge, comparing the old and the new knowledge, challenging their validity hence synthesizing new concepts and generating new knowledge. Learning through reflection is relatively slow but persistent and it paybacks over a period of time and generates a chain of developmental changes accompanied with changes in viewpoint causing personal growth as a result of reflective writing (Chan C. 2009). Which is indication of reflective thinking that includes;

- Retrospection:

  Reviewing of earlier happenings or reconsideration of the past events is referred as retrospection. It is an important element of reflective writing.

- Exploration:

  For reflective writing the analysis of past events or ideas from all angles in the light of a particular principle is a necessary step.

- Intuition:

  Developing insight about the significance and importance of the event or an idea regarding one's self and continuous professional development creates awareness about our own practices and their improvement.

We are all engaged in reflective thinking but in a casual manner, when our thinking becomes formal and of sufficient depth then we are thinking reflectively if a formal way necessary for writing reflective journals (Hampton, M. 2008).

A quality reflective journal include a variety material, other than personal observations and experiences, to which ideas and events are referred to, they also include materials from which inspiration are derived (Moon, 2001). Reflective notes are an important part of the action research process. According to Cohen Manion (1994), action research "involves a personal journal in which we record our progress and our reflections are two parallel sets of learning: our learning about the practice we are studying. And our learning about process (the practices) of studying them" (p.227). Reflective notes help to record our understanding and personal insight regarding the use of discussion as an instructional strategy.

- As a distinctive feature of action research reflective journal was maintained by researcher and the participating teachers. These reflective journals were used as source of data. Although the entries of

researcher's journal differed from those of teachers' reflective journal in the sense that the prior focused the application of AR as a means and the former focused AR as an end in itself but actually those were strongly interlinked and served as a source of guidance for each other.

- Field notes also served as a rich source of data, the field notes provided brief but important record of the events, issues, challenges and successes which came in the way as the team moved forward to complete this study.

- **Audio Tape Recording and Audio Tape Transcription**

  Elliot (1991) suggested that in the context of action research, audiotapes could be used to record lessons in whole or part. He further suggested that a teacher would probably get more out of a recording if he or she listened to it and then transcribed interesting and relevant episodes. During this study it was proposed that researcher and the participating teachers will use this device to record all the discussions taking place during the classroom sessions but due to financial constraints the use of this device was limited to the interviews with the teachers only. Classroom discussions could not be recorded due to the non-availability of the tape recorders in required number.

- **Informal Discussions**

  In order to explore any change taking place in the teaching and learning processes informal talks with teachers and students were held. During these informal discussions valuable information was collected which will be shared and analyzed in next chapter.

  Another positive effect which was noticed that the teachers and the students were more open to share their feelings and experiences during informal talks, they felt relaxed and candid.

3.10.2 Quantitative Data Collection

The quantitative data was collected through questionnaires, checklists and students test scores.

Questionnaire:

Questionnaire is basically a data collection tool containing some questions designed to obtain information about a specific interest area (Oppenheim, A. N. 1992). Clear instructions were given to answer the given questions in their appropriate space provided in the questionnaire. The purpose and objectives of the study for which the questionnaire was used, was mentioned in the questionnaires. As the questionnaires were used in face-to-face situation therefore more comprehensive information was collected. The respondents of our questionnaires were the selected teachers who participated in this research therefore in through questionnaires three sets of data were collected;

- During the pre-intervention interviews "baseline" information regarding particular areas of interest mentioned earlier, were collected.
- Then in the post-workshops interviews second set of data was collected which revealed the "intermediate phase" of transformation and change.
- The third set of data was collected from post-workshops interviews which portrayed the "final picture"

Checklist:

Observation checklist were used in the "pre-observation stage" the checklist contained ten areas related to this research. In the pre-intervention stage information obtained through observation checklist informed this study about the existing situation in which the teaching-learning process was being conducted. The pre-intervention observation also facilitated this study to find out and record the teaching capabilities of participating teachers individually. Initially teachers' planning, presenting, and

promoting abilities were observed. The detailed observation of these abilities included;

- Planning abilities:

  To determine the level of teachers' planning abilities their planners were examined the lesson plans were studied in detail to determine their level of sophistication.

- Presenting abilities:

  The participating teachers were observed in their respective classrooms for their presentation skills. It was noted how the teacher started the lesson, the way concepts were introduced and covered different stages of lesson.

- Promoting abilities:

  The strategies adopted by the teachers' to promote students' cognitive abilities were observed and recorded.

This information served as the launching platform for the current study. After the recording of these information the intervention were being made and then in the post-intervention stage once again data was collected using checklist. The difference between these information showed the professional change occurred during the intervention phase.

The checklist used covered the following areas of interest regarding this study including, lesson planning skills of the teachers, students involvement in the learning process, teaching methodology used, time management, communicational skills and process of assessment. The checklist also covered the areas like, classroom environment, questioning techniques and reflection on action etc.

Test scores:

To measure the progress of students their scores at different tests were used as a source of data. Teacher made test were administered to find out students achievements. The test scores were supplemented by artifacts like students note

books, pieces of writings and students understanding expressed through drawings and creative art.

3.11 TECHNIQUES FOR DATA ANALYSIS

The nature of the data obtained in the current study demanded to use mixed method (Cresswell, 2010) for data analysis. Therefore a combination of three different qualitative methods i-e narrative analysis, conversation analysis and grounded theory was implemented to benefit from their unique characteristic of collecting and analyzing research data and to deepen our understanding of the process of teacher's professional development. As mentioned earlier our research data comprised of two sets of information qualitative and quantitative, therefore as per our need quantitative methods were also employed to inform this study more deeply about the various interrelated aspects of the TPD especially in our local (Pakistani) context. It was also needed to augment the soft data obtained during the study. For quantitative data analysis average scores, percentage and correlation coefficients were used.

As a matter of fact, separately, both the qualitative and quantitative methods have their own advantages and limitations regarding data analysis (Wilson, T. P. 1982). Qualitative data analysis techniques augment the worth of a research study by providing the in-depth understanding of a social phenomenon (professional development) by understanding human behavior in a given context (Flick, U. 2006). Qualitative research intends to understand and study demeanors, the settings in which a particular behavior is studied, and connections among different components of the setting (Mayring, Ph. 2002). Qualitative data determine the quality of research and the procedures adopted to collect and analyze the information. Whereas the quantitative research attempts to; find the cause and effect relationship of different variables understudy, ensure reliability and validity of research findings, warrant the accuracy of all measurements, and the generalization of research findings (Boutellier,R. 2013)

Although these two methodologies seem discordant and different in their approach but actually they are the two sides of one coin (ibid) and could be used

simultaneously to support each other. Need based and balanced application (Wilson, 1982) of both the approaches led this study to better understand and develop insight of the process of teachers' professional development in the context of Pakistani education system with especial reference to KPK for this reason "mixed method" was used for the current study to analyze the research data .

Mixed method allowed combining the strengths of quantitative and qualitative approaches of data analysis to better understand the complex process of teachers' professional development. One of the indicators for TPD was increased students achievement, all the data related to this indicator belonged to the quantitative aspect of this study, hence demanding a quantitative analysis whereas the data generated from the interviews and discussion with teachers, field notes and reflective journals belonged to the qualitative aspect of the study, which required qualitative analysis.

Techniques applied to analyze the qualitative data:

As the objective of a qualitative research is the development of insight of the social phenomenon under study (Mayring 2002). Therefore techniques appropriate to investigate data to obtain such insight were implemented. According to Creswell (1998) qualitative research could be seen as a process of investigating any social phenomenon through systematic research procedure to engender an intricate, all-inclusive interpretation of that phenomenon. This attempts to analyze and explain the perspective of research subjects in a normal setting.

The most important feature of a qualitative research is the capacity to generate new knowledge regarding unexplored phenomenon and intricate bonding of its different elements (Seipel & Rieker 2003). This feature of qualitative research makes it an appropriate method for developing theory, its explanation, and analysis, where theory has its own unique setting. Therefore appropriate techniques for qualitative data analysis include; ethnography, netnography, ethnomethodology, conversation analysis and grounded theory (Russell K. Schutt, 1996). Hoffmann (1980) gave two reasons and argues that these methods are time-consuming because all these methods

attempted to access data verbally and were contextualized in addition to their spiral procedure. Hence the following three techniques were used in this study;

1. Narrative analysis
2. Conversation analysis, and
3. Grounded theory.

3.11.1 Narrative Analysis

Narrative analysis has been interpreted as an intricate and multifaceted technique of data analysis and usually different identical terms like narrative; inquiry, research and analysis are synonymously used. According to Bamberg (2009) narratives are used in two ways i-e as "object" and as "means". In this study narratives were used as means to track the process of teachers' professional development during the course of study. With the help of narratives a previously occurred event could be explained why some thing happened the way it happened. This study was informed through two sets of narratives; the first set revealed the experiences of the teachers participating in this study and the second set of narratives explained the personal experience of the researcher, based upon the output of the first set of narratives.

Narratives of the participating teachers were collected in written form (see annexure 6) for analysis to infer and better realize teachers' experiences of applying action research in their classrooms to improve their practices. In the beginning, although it was difficult and much time consuming to motivate and guide the participating teachers to write reflections after each research class but gradually they started writing their stories of success and failure which served as source of data for this study, for instance one of the participating teachers wrote;

> …when I started the flash card game I realized that the activity was not moving in the direction which I thought… and I changed pair work into group work, instantly (F512).

This small piece of teacher's narrative served as "means" to interpret her experience of the activity which she developed and implemented in her class. The detailed analysis is deferred to the next section, however we can see that, the narrator herself was informed that something did not go straight as planned in a previously occurred event. The audience (researcher) was informed of the sensitivity of the teacher for the output of the activity designed. This narration also inform this study that the narrator (teacher) is mentally engaged in two processes i-e "teaching" and "reflecting". Both the processes were complex in the sense that each process included other processes taking place simultaneously with in the major process. For example "teaching" included the process of "implementation". Another step deeper we see that the "implementation" was at two levels, at level one the implementation referred to the "old" plan and at level two "changed" plan was implemented. This made the process complex; similarly the process of "reflection" was also complex because it included the processes of; evaluation, spontaneous thinking and adaptation.

According to Griffin (2000) narrative analysis emphasizes how individuals narrate and interpret this world and phenomenon attached to it. Narratives are regarded as products of social interactions which are generated in explicit context. All narratives are considered to have certain distinguishing elements like, "people" (characters) who are involved in some specific "actions". Which are mutually dependent and directly or indirectly linked with each other, these actions and characters together form a "plot" or a single story having a unique central message.

Narrative analysis is based on three components;

1. Structural analysis

It emphasis the philological-grammatical make-up of sentences and bring together the main clauses to form the basic framework of the narrative account (Labov, 1972). Any narrative account could be made unified by putting all the important events together and organizing the main characters according to their position and time connection.

2. Sociological analysis

Plummer,K (1996) considered narrative accounts(stories) as means to understand different social phenomena. Anthropologists use them to study culture, psychologists use them to study and understand individuals and personalities. The use of narrative accounts in the fields of philosophy and psychotherapy has also been pointed out. Hence the sociological analysis of a narrative account explores the social set up an event. Plummer explores the practically drawing conclusion from narratives during social and cultural analysis (Gray and McGuigan, 1997)

3. Functional analysis

According to Bruner (1990) functional analysis informs about the role of a particular narrative which it plays in the lives of individuals. Functions of narratives realized by Bruner are, resolving problems, reduction of strain and resolution of predicaments. He argued that Narratives analysis allows understand confused experiences and to give meanings to them.

3.11.2 Conversation Analysis

The current study is basically an investigation grounded in practitioner's inquiry drawing its information from "reflection-on-action" by the school teachers in KPK. Techniques used for data analysis, in this study, included conversation analysis which has the ability to assist in achieving the goals of practitioner's inquiry and reflection-on-action. This technique (conversational analysis) is primarily interested to document the "talk" held between two or more persons; at this point it seem relevant to mention that there is a difference between "ordinary talk" and "institutional talk" although the basic principles to analyze institutional talk are the same as for ordinary talk (Heritage,J. 2000); and analyzing the conversation to investigate the professional practice in any institutional setup (Housley, W. & Fitzgerald R., 2000). The important point here is that CA helps practitioners to examine and learn from their own practices. Conversation analysis can be implemented in educational setting (McHoul, 1990) to search level and degree of

collaboration among the members of an institution this yields in-depth information in large quantity about the professional practices.

Reflective practice is regarded as a self-motivated approach to upgrade and refine the current practices at personal as well as on organizational level. We find similarities and common interests among the fields of reflective practices and conversational analysis, both trying to learn from previous experiences and to explore new ways to improve the existing practices related to some particular context. According to Fuller and Petch (1995) reflective practice and practitioner's inquiry are intended to improve and develop professional skills. Whereas these professional skills are realized to generate more cognizant customs to, become responsible, uplift the professional status and application of more systematic and friendly ways of social and professional development. As the practitioners themselves; are considered most suitable to conduct inquiry to examine their own practices and who apply different qualitative data analysis techniques to investigate their current practice. These data analysis techniques basically follow the same procedural process of assigning codes to organized and unorganized data to transform the raw data into more understandable and quantitatively measureable form (ibid). This approach is quite similar to the mechanism of conversational analysis. Therefore, for the enhancement and development of professional skills and establishment of the profession itself on sound scientific and systematic foundations could be assisted by the implementation of conversation analysis to the study undertaken by the practitioners (Housley, W. & Fitzgerald R., 2000).

CA is a unique way of analyzing the fine details of qualitative data (conversation) and organizing them in chronological order. The main focus of this technique is upon the mechanism through which we reach the "reality" build our perception of the "reality" and associate meanings to it, instead of the "reality" itself and its nature. As Schegloff (1996) used the term the "sociological bedrock" for conversation and recognized conversation as a social "means" to deal with social

business in different social circles kike family, community and economics. Therefore comprehensive analysis of conversation is very important. Through conversation analysis any social interaction is investigated, this method basically analyze the oral communication (talk) but additionally it also take into account other nonverbal features of communication (Sacks, 1992). Conversation analysis may include either everyday chat going on among, friends, colleagues or family members or this may involve more formal conversations like business talks, professional discussions or formal interviews. According to Drew (2005) in daily life our dealing is based conversation. He argued that our all social relations are engendered, established, sustained, and accomplished by means of conversation. This may either be direct or indirect using electronic or other communicational means.

Principles that lead conversation analysis as proposed by Gubrium & Holstein (2000) are:

1. Principle of Chronological Organization

Communication is consecutively organized in sequence; the whole conversation is analyzed regarded it as a progression of communal dealings instead of drives or social ranking.

2. Principle of Contextual Orientation

All conversations have a particular context and embedded in that context if that particular context is separated or conversation is detached from its context, it will lose its meanings or may lead us incorrectly. Therefore conversations are contextually bounded i-e an interaction generates conversation and conversation crafts the social background of that dealing.

3. Principle of Additional Details

Conversational analysis include all verbal and nonverbal communications i-e the spoken words, gestures and body language therefore all minute details like intonation, pauses, utterances, facial expressions and nodding etc. are recorded leaving nothing un noted to better understand the social interaction.

A conversation taking place in a natural setting is transcribed using transcription codes (Jefferson, G. 2004) for interpretation of niceties which might be helpful to create a consolidated and lucid account of the talk under study it is necessary to keep a track of configurations of stress and inflection in conversation.

To analyze a "talk" all the lines are numbered and different conventional codes are used. These include pauses (silence time) represented by decimal number measuring the duration in tenths of a second for example (0.3) indicates a silence period of 0.3 seconds. If the pause is less than 0.2 seconds than a dot in brackets (.) is used instead. Square brackets "[" are used to indicate overlapping and concurrent talks. Some other notations like upward arrow "↑" show rising pitch and downward arrow "↓" show falling tone. Similarly underlining of letters indicates stress "yes" shows stress on the sound "y" and using colon signals stretching of a sound whereas using capital letters indicate loudness.

3.11.3 Grounded Theory (GT)

The current study primarily used grounded theory (Glaser & Strauss, 1967) as data analysis technique to explore the common patterns by coding, conceptualizing, categorization and theory development.

Referring to the basic research question of this study, which is stated as, "*How can we as teachers improve ourselves to enhance our professional competencies, using Action Research?"* suggest that this research is not attempting to try-out any pre-conceived hypothesis (Creswell, 2002) but it is intended to find out those common elements and strategies which are most suitable to our local-Khyber Pakhtoonkhawa (KPK) context and have the potential to lead this study to generate a theory which is effectively applicable in the local context. As the focus of this study is on the emerging strategies from the data and hence organization of the data into a coherent cohesive whole which could be recommended as a way to develop teachers professionally in the context of KPK.

Drawing from the work of Glaser & Strauss (1967) Creswell (2002) explained that GT is an orderly procedure which is applied to engender a theory, capable of explaining an event, action or a social collaboration, in qualitative terms regarding a practical phenomenon. When a set of varied and discrete realities are associated together in a beneficial and logical manner which is unified, easy to understand (Morse, 1994) and complete in the sense that no fresh proves surfaces from the ensuing data (Goulding, 1999). In the words of Strauss & Corbin (1998) a theory may be regarded as "a unified collection of finely honed classes for example themes and concepts which were scientifically unified together providing evidences of connections to develop a theoretical structure which has the potential to describe a particular and related socio-psychological or educational endeavor"(p.22).

GT facilitates to examine and identify the way some complex phenomenon take place. The aims which are intended to be achieved through grounded theory include, development of theory itself instead of testing or conformation of any pre-conceived theory. It makes available a diagnostic instrument for the investigators to deal with statistics in raw form and to organize these statistics into a unified, coherent and self-evident whole-theory (Strauss and Corbin, 1998). The major assumptions on which GT is based include field visits, where investigator is physically present to find out and observe the ground realities rather than depending on filled-up questionnaires. Social phenomenon involving the study of human subjects and human interactions are complex and diverse in their nature which are difficult to fully realize quantitatively. During social interactions human beings are actively involved in and respond to the challenging conditions spontaneously rather than in a planned way, thus understanding of actions and relationship of different condition become more meaningful (ibid). In the words of Star (1998) grounded theory is realized as an experimental method to collect and analyze data leading to the development of a theory by comparing and contrasting different incidents (Spiggle, 1994) and linking together the similar cases to form larger categories. This involves a methodical

process through which data based theory regarding a particular phenomenon is induced (Strauss & Corbin, 1990).

Glaser and Strauss (1967) being the chief contributors of grounded theory.

Even though their combined efforts made known the concept of grounded theory, but what followed next, as their individual efforts, demonstrated alterations in their attempt to investigate the basic principles and methodologies of grounded theory. Heath & Cowley (2004) have compared the work of Glaser & Strauss as follows;

Glaserian approach

Glaser holds a thorough positive viewpoint en route for qualitative investigation. Glaser's perspective is inclined towards the logical and mathematical proves for the realities and put more stress on believing in an externally existing unprejudiced truth, whereas neutrality of observer is ensured (Glaser, 1992).

Straussian approach

Strauss has a practical philosophy of knowledge believing in experiential investigation leading to grounded theory. The basic supposition Strauss's work is the impartiality of the investigator in gathering the data and following a fixed methodical process allowing the participants share their candid experiences to develop unique understanding regarding the phenomenon under study (Strauss & Corbin, 1990). This perspective, according to Charmaz (2000) reflect post positivism as it emphasizes the methodology to represents precisely the partakers and accept the views of the participants which may deviate from researchers' view point.

Irrespective to their theoretical viewpoints, they share a common viewpoint regarding the fundamental processes leading to the generation of the grounded theory. According to Moghaddam (2006) commonalities include;

1. Interpretation of data and coding
2. Identification and naming the concepts
3. Open coding
4. Sampling and constant comparison
5. Axial coding
6. Choosing and situating a core category
7. Selective coding

Interpretation of data and coding

The collected data is analyzed and construed to search for central issues following a specific procedure. In this procedure, those words or phrases used by the subject pointing out some significant issue pertaining to the phenomenon under study are identified, noted and then labeled ─ explained in a brief phrase. This procedure is termed as "coding" and watchword is the "code" (Allan, G. 2003). Coding is considered central to the GT (Babchuk, 1997) which could be defined in the words of Strauss and Corbin (1998) as, "a process of splitting data in to basic units of interest (concepts), conceptualizing the mutual relationships of these units and finally putting these units together to make a coherent and cohesive theory".

Allan (2003) suggested that "coding" should be done with an "open mind" approach to develop a genuine insight. He believed that if the data is approached with certain pre-conceived notions may turn the study into a validating process of those notions instead of development of a new theory. It is also considered normal that the same concept may appear repeatedly or multiple concepts may originate from a single interaction.

Identification and naming the concepts

Concepts which emerge as a result of data analysis serve as the basic unit to shape up the theory (Tananis and Crubs, 2002).Therefore Strauss and Corbin (1998) pointed out that carefully locating and identifying the related concepts one has to unfold the data and depict the gist of underlying thoughts, views and real meanings embedded within the data. Concepts are seen as a theoretical image of an incident,

entity, act or dealings which the researcher believes to have some significant importance, the related concepts are then grouped together to make categories.

Open coding;

Itemization of the data to segregate all independent, significant and eloquent units contained within the data is termed as open coding (Goulding, 1999) the intention of open coding is to comprehend and to tag up the basic units combined together on the bases of closer relationships to identified different concepts which are then combined together to form categories. These categories on the basis of common theme are further classified to form more logical categories (Troiano & Schneider, 2002).

Coding process initiates when the interviews are transcribed and analyzed to identify those parts of text which reflect the research question and is associated directly or indirectly to it (Spiggle, 1994). It is to be noted that in the process of coding a large number of codes of significant importance may be identified (Goulding, 1999). Creswell (2002) have directed our attention to another important source of data ─ memos, which are highly significant in the sense that they provide additional information about the data collected and these also help to inform the study about the context of an ideas or information collected. The related codes are put together to form conceptual categories which are further elaborated on the bases of joint features of the conceptions inclusive to a category and their dimensions (Strauss & Corbin, 1998; Goede & Villiers, 2003).

Sampling and constant comparison

Grounded theory as a technique of qualitative data analysis focus on cases and happenings instead of individuals or institutions therefore the sample of the study keeps on expanding until the categories founded need no more additional information to be added and findings of the study become self-evident, such type of sampling is termed as theoretical sampling (Goulding, 1999). Creswell (2002) explained that when investigator realizes that additional information will not contribute to enhance

awareness any further regarding the categories developed during the study, this situation is referred to as “saturation” which is reached if by any means fresh information could not be dig out from the categories developed during the process of coding and the categories are well connected and solid enough to justify any related disparity (Stevenson, 2002).

The emerged concepts need to be compared with each other to search for similarities and cluster together categories to form larger categories or when categories are sorted out on the bases of similar themes which lead to the emergence of new categories is realized as constant comparison (Creswell, 2002; Glaser & Strauss, 1967). Constant comparison of the existing categories lead the research study to collect supplementary data in order to strengthen the existing categories or to combine them to form new categories (Spiggle, 1994). Constant comparison also helps to minimize the number of codes to a manageable figure and combining the concepts into more significant categories.

Axial coding

According to Strauss and Corbin (1998) the aim of axial coding is to congregate all the concepts emerged from the data after its analysis and to develop a model which is comprehensive enough to include all the fine points and necessities mandatory for the manifestation of a phenomenon. At the stage of axial coding the major categories are incorporated into a principal category bonding all the fine threads together to expound the phenomenon being investigated (Goulding, 1999).

According to Troiano & Schneider (2000) In axial coding, four diagnostic procedures are taking place:

(a) Repeated comparison;
    The categories are compared over and over again and linked together into a single, but relatively broader category.
(b) Comparison of categories and the data;

The categories formed are matched with the information collected and the individual concepts dig out from the data.

(c) Solidification of the categories;

The categories are made more solid by describing their characteristics and dimensions.

(d) Finding eccentricities;

It refers to the discovering of deviations in the behavior under study.

Choosing and situating a core category

Strauss and Corbin (1998) mentioned that the core category may be selected on the basis of its relations of all the main categories of the data. The concept of the core category must be associated with every code laying in the data.

Selective coding;

Selective coding refers to the integration of categories and developing them into the theory. According to Babchuk (1997) it can be defined as the relating of the chief categories and the core category to serve as the foundation for GT. In the process of selective coding an investigative tool in the form of a matrix is developed to elaborate the results under the prevailing circumstances (Strauss & Corbin, 1998). It enables the researcher to produce a comprehensive narrative account which is structured in such a manner to facilitate the articulation of GT. This narrative account should relate the subordinate categories to the principal category. All the subordinate categories should be arranged in a sequential order to accommodate the large number of consequences identified in different circumstances, which makes the narrative account explicit.

Techniques applied to analyze the quantitative data:

In the field of social sciences quantitative research is considered noticeable method to explain a natural phenomenon using quantitative data and applying mathematical methods (Aliaga & Gunderson, 2002). Even non-quantitative data like beliefs, opinions and attitudes could also be converted into quantitative form by applying different mechanisms, for example Likert scales.

Quantitative analysis provides more genuine, unbiased and universally applicable findings. There is general consent among researchers for applying quantitative analysis in case of testing a hypothesis. Therefore quantitative analysis establishes new knowledge which could be proved on mathematical principles. The quantitative part of the analysis for this study included regression and correlation analysis. This was done to find out any connection among the dependent and independent variables. For the current study students' achievement was taken as dependent variable whereas teachers' professional development was taken as independent variable. During the process of TPD any improvement in this connection was recorded and measured applying rubrics and then the association between it and the related students' achievement was determined. The correlation coefficient was calculated to measures the amount of association among the two variables.

Students' academic improvement was regarded as an indicator of teachers' professional development. Therefore improvement in students' achievements was measured through the compression of group averages calculated from the pre-intervention test scores and post-intervention test scores for each cycle. To calculate any improvement in students' academic abilities teacher made tests were used and simple averages were calculated for the group.

CHAPTER 4
ANALYSIS AND INTERPRETATION OF DATA

The process of data collection for this study started from the pre-intervention stage and continued through the intervention stage to the post intervention stage. The analysis of the collected data started right from the beginning of the pre-intervention stage and continued till, post-intervention stage. The nature of the study did not favor analysis of the data at a later stage yet demanded simultaneous analysis to dig out the underpinning information and find out the linkages among major elements of the data. However, in this chapter, for the sack of ease and better understanding data will be analyzed and interpreted under three separate headings based upon the stages of data collection.

4.1 PROFESSIONALISM AND TEACHERS' PROFESSIONAL COMPETENCE LEVEL:

This chapter will highlight the professional competency of the teachers when the study started and proceed to the identification of the areas for improvements. After the areas for improvement have been identified, implementation of strategies for professional development through "Action Research" will be discussed. The data collected during this phase will be analyzed and compared with the data recorded during the pre-intervention stage. Any change in the different areas will be correlated with the professional development of the teachers as a result of Action Research.

Pre-intervention stage

The data at this stage was collected with the intention to explore; the conditions under which the participating teachers' were working, what their common practices were, and what could be done for their professional improvement through the application of action research. The analysis of the data collected in the per-intervention stage revealed that the conditions under which teachers worked were not conducive in the sense that they find less or no opportunities for their personal growth

and professional development. They spent most of their time in routine activities with no variety or innovation. They were mostly concerned with the completion of syllabus through the reading of the text books along with the completion of end of lesson exercises. These routine activities make teaching-learning process dull and boring for the teachers and the students. The detailed analysis of the working conditions, teachers' common practices and opportunities for their professional development is presented in the proceeding section.

4.1.1 Working Conditions:

The working conditions of 43 participating teachers (24 male & 19 female) in ten schools are presented in the following table;

Table 4.1

Working Conditions & Physical facilities (Male schools)

S.#	School Code	Physical facilities & their conditions				
		Staff room	Furniture	Lights/fans	Washrooms	Recreation
1	PS-M1	2	1	1	1	-1
2	PS-M2	1	1	1	0	-1
3	PS-M3	-1	1	0	-1	-1
4	PS-M4	1	0	0	0	-1
5	PS-M5	0	0	-1	0	-1
Total	05	3	3	1	0	-5
Average		0.6	0.6	0.2	0	-1

Non availability = -1, Unsatisfactory condition = 0, Satisfactory condition = 1,

Good condition = 2

The values from above table give a quantifiable measure of the conditions under which the teachers have to work. It is clear that the standard of the facilities provided to the teachers are below satisfactory level especially for facilities like staff room, furniture and lights/fans. Although the standard of these facilities varies from school to school but on average their score is below satisfactory level. Clean hygienic bathrooms and toilets for the staff members exclusively, were not available; teachers used common bathrooms in the school, which were also used by the student community. The hygienic conditions of these toilets and bathrooms were substandard. The recreational facilities like social area or indoor games were not available in any of the schools observed. These observations show that the teachers work under stressed conditions which could not be considered favorable or conducive. The overall situation could be calculated as;

Table 4.2

Physical facilities overall situation

(Male schools)

Male schools Physical facilities overall situation		
S.#	Facility	Average
1	Staffroom	0.6
2	Furniture	0.6
3	Lights/fans	0.2
4	Toilet & bathroom	0
5	Recreation	-1
G. Average		.08

The analysis of physical facilities observed in the female schools is presented in the following table;

Table 4.3

Working Conditions & Physical facilities (Female schools)

S.#	School Code	Physical facilities & their conditions				
		Staff room	Furniture	Lights/fans	Washrooms	Recreation
1	PS-F1	2	1	1	1	-1
2	PS-F2	1	1	0	1	-1
3	PS-F3	2	2	1	1	-1
4	PS-F4	1	1	-1	0	-1
5	PS-F5	1	1	-1	0	-1
Total	05	7	6	0	3	-5
Average		1.4	1.2	0	0.6	-1

Non availability = -1, Unsatisfactory condition = 0, Satisfactory condition = 1, Good condition = 2

Here the situation is not very much different from those of male schools. No recreational facilities were provided to female teachers in terms of social area or in-door games. The condition of electricity (lights/fans) on average is unsatisfactory, however a closer look show that female schools had worse conditions because two out of five (40 %) schools were deprived of this facility. Although the condition of bathrooms and toilets were not satisfactory but still on female side the hygienic conditions were much better than those in male schools. Also the condition of staffroom and furniture in female schools was more than satisfactory. Comparatively the situation in female schools was better than that of male schools; however their conditions were also below satisfactory. The overall picture is presented in the following table;

Table 4.4

Physical facilities overall situation (Female schools)

Female schools Physical facilities overall situation		
S.#	Facility	Average
1	Staffroom	1.4
2	Furniture	1.2
3	Lights/fans	0
4	Toilet & bathroom	0.6
5	Recreation	-1
G. Average		.44

Satisfactory level is assigned numeric value of "1" and in our case the overall picture for male schools was ".08" which lay between the unsatisfactory level having numeric value "0" and the satisfactory level with a numeric value of "1". The collective value of physical facilities for female schools also lay between unsatisfactory and satisfactory levels ($0 < 0.44 < 1$).

1. Teachers' workload

Observations regarding the monthly work load of the participating teachers show that teachers remain too much occupied and they find usually no time for activities of professional development to participate in or they could make efforts on their own in this direction (no opportunities or guidance was available for such activities from administration). A brief and comprehensive account of teachers monthly work load is presented here;

Table 4.5

Monthly work load of the participating teachers (Male)

	# of periods/week			# of classes /day	# of students attended/ week	# of subjects taught	working Hrs/week	Free time/ week	Free time/ day
	regular	vacant	total						
Total	774	55	829	75	56266	71			
Average	32.25	2.29	34.38	3.13	2344.42	2.96	22.92	4.69	0.78
Time (mins)								281.25	46.87

These figures show that participating teachers bear a work load of 34.38 periods per week this means that they remained engaged in class room teaching for more than six periods out of eight periods per day. The duration of one period was recorded to be 40 mins. The engaged time of the participating teachers extend to more than four hours per day. The teachers were left with only 60 to 70 mins. for activities other than classroom teaching, more over all the teachers were responsible for teaching at least three different subjects in three to four different grades levels. This situation added to the complexity of pre-planning for classroom teaching.

The overcrowded classes remained another issue which was faced by the participating teachers. On average one teacher was responsible for teaching, developing and managing twenty three hundred (2344) students per week or four hundred students per day (120% more than a doctor examining patients in OPD). Comparison of the engaged time of teachers with the number of students taught per day showed that one child could hardly get only 36 seconds of the teacher's time. This situation is quite alarming; one can imagine the quality of education received by the children in time mentioned above (36 sec/student). The analysis of the data from girls' school show nearly same picture;

Table 4.6

Monthly work load of the participating teachers (Female)

	# of periods/week			# of classes /day	# of students attended /week	# of subjects taught	working Hrs/week	Free time/ week (in hr)	Free time /day
	regular	vacant	total						
Total	560	25	585	54	37712	50			
Average	29.47	1.32	30.79	2.84	1984.84	2.63	20.53	7.19	1.31
Time (mins)								431.65	78.47

Female teachers remained engaged for 31 periods per week putting 21 hours per week in classroom teaching. Female teachers on average taught 2-3 subjects to 2-3 classes every day. The number of students taught per week is round about two thousand (1985) or more than three hundred students per day. Female teachers found one hour eighteen minutes spare time from classroom teaching. The combined analysis of the statistics from male and female schools shows the following results;

Table 4.7

Monthly work load of the participating teachers both male &female

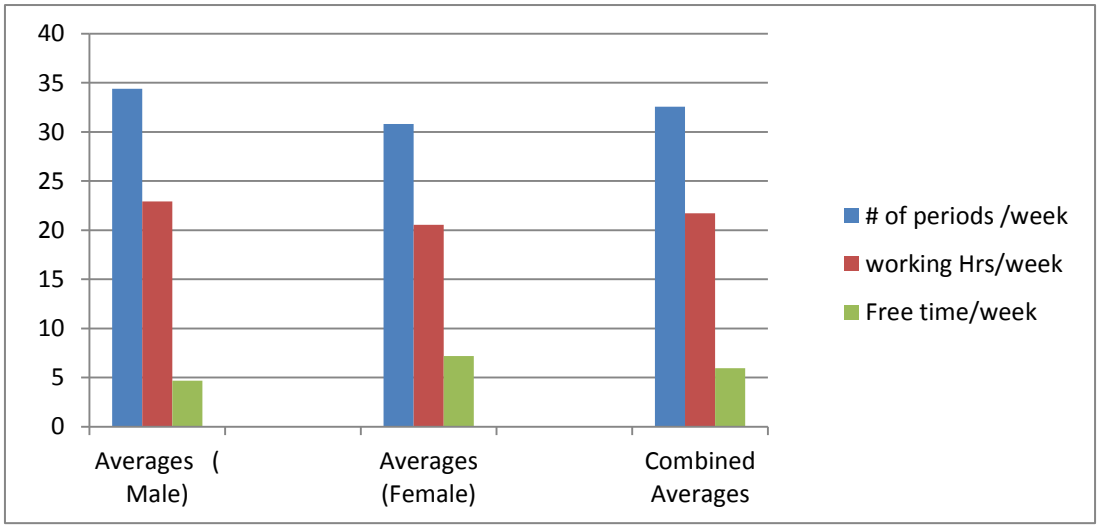
	# of periods/week			# of classes /day	# of students attended/ week	# of subjects taught	working Hr/week	Free time/ week	Free time/ day
	regular	vacant	total						
Average Male	32.25	2.29	34.38	3.13	2344.42	2.96	22.92	4.69	0.78
Average Female	29.47	1.32	30.79	2.84	1984.84	2.63	20.53	7.19	1.31
G. Total	61.72	3.61	65.17	5.97	4329.26	5.59	43.45	11.88	2.09
C. Average	30.86	1.80	32.58	2.98	2164.63	2.79	21.72	5.94	1.04

Generally, on average our teachers had 33 periods per week or six periods per day, approximately Putting 22 hours in class room teaching per week or four hours daily. In face to face communication with students, teachers deal with more than two thousand (2164.63) students per week or round about four hundred students (393.57) per day.

Teachers find only one hour (approximately) to prepare for the classes which they teach every day. On average every teacher has to prepare for six classes daily, hence preparation time for one class was calculated to be ten minutes.

Figure 4.7 (a)

Monthly work load of the participating teachers both male &female



The figure above shows male, female and combined averages of number of periods teachers were engaged in classroom teaching per week; total number of hours engaged in classroom teaching and number of hours spent in activities other than classroom teaching.

Other assignments of teachers included the maintenance of students' attendance registers, maintenance of fund register, maintenance of PTC record, conducting examinations.

Quantitative analysis of responsibilities other than academic is shown as under;

Table 4.8

Non-Academic Responsibilities of Teachers

Non-Academic Responsibilities	Male	Female	Total
Maintenance of students' attendance registers	21	13	34
Maintenance of fund register	13	08	21
Maintenance of PTC record	17	07	24
Conducting examinations	14	09	23
Co-curricular activities	11	06	17

The above data analysis show that the participating teachers were too much occupied with the academic and non-academic work that they hardly find time to discuss their professional problems or share their experiences with other teachers; professional discussion and sharing provide opportunities for professional development, as seen in the professions of doctors, engineers and lawyers (West,C. 2011). But in Pakistan, especially in Khyber Pakhtunkhwa, professionalism was not observed in schools, the school meetings and other gatherings did not promote professionalism rather their purpose was to disseminate orders and teachers were expected to obey them without any argument. This situation has created a culture of mechanically carrying out orders and acting accordingly. Teachers did not own the schools and they did not feel responsible for school programs.

4.1.2 Teachers' Attitude and Sense of Ownership:

On one hand the above mentioned situation add to the nonprofessional atmosphere of schools and on the other hand no efforts were seen from departmental side to promote professionalism by involving teachers in policy making or planning school programs. Teachers were bound to follow the scheme of studies and conduct exams as scheduled by the department at district level. Teachers lack ownership and

they assume the role of executing agents who have no role in the success or failure of school programs. In one of the conversation recorded among three teachers discussing school time table, one of the teacher commented;

… we have nothing to do with it, do not bother(حان مه کرو) it's his (principal's) decision.

The comment show that the advising teacher himself was fully convinced that principal was responsible for the consequences of the decision and he had a strong argument to dis own the decision because his consent was not included. The broader picture of the event showed that the advising teacher was respected as a good and obedient teacher, whereas the teacher who showed concern about the decision had an image as disobedient, disinterested and problematic person. In fact the teacher showing concern felt responsible at his level for the consequences of the decision, as a member of the team, he had an inner voice to criticize the decision but school administration was not ready to listen to his point of view. His attitude of challenging decision of the principal was considered as disobedience and was labeled as a problematic person. On the other hand the advising teacher had learned over the time how to seek favor of administration (principal) by apparently agreeing with the administrative decisions and parsing them, but in fact contributing to the failure of the decision by holding back genuine criticism and not pointing out the bottle necks of the plan.

It was observed that administration was not ready to accept any criticism, and to take initiative of any kind to bring change, even of a smaller size and nature. It was more concerned with the execution of the orders.

4.1.3 Professional Competence Level of Teachers:

In this scenario the study was focused upon the professional development of the participating teachers. To know the professional level of these teachers the following seven areas were included for observation in the pre-intervention stage;

1. Lesson planning skills
    - Lesson plans used
2. Teaching method used
    - Teaching methodology
    - Levels of teaching (rubrics)
    - Teaching material used
3. The level of student's involvement in teaching learning process.
4. Questioning technique
5. Communicational skills
6. Assessment
7. End of class notes or teacher's reflections about class

Lesson planning skills

All the teachers who participated in this research study possessed bachelor or master degree in the discipline of education and for the successful completion of B.Ed degree it is mandatory to undergo long teaching practice and short teaching practice. In these two teaching practices all the candidates prepare more than seventy lesson plans and teach according to those lesson plans. Despite the knowledge and skill of developing a lesson plan and teaching according to that lesson plan, none of the teachers was found to have a written lesson plan. They argued that they do have a "mental plan" to follow for the day but the fact remained that at least 2 to 3 incidences per school were recorded that teachers were reminded by the class monitor that he/she had a period of such and such subject with such and such class. This situation reveals how effective teachers' "mental plan" was. In the absence of any lesson plan the level of planning skills could not be determined. The teachers were introduced with the concept of "zero plan" to determine their planning skills, the detailed analysis of which is deferred to the next section of this chapter.

Teaching method used;

Class room observations informed this study about the teaching methodology used by the teachers in classrooms. It was found that all the teachers followed the conventional "chalk & talk" method (Elaine, 2005) with no innovations. Teachers

usually read out the text, explained the basic concepts and wrote down the key points or meanings of difficult words on the black board. They also used to dictate notes or wrote the full length answers on the board. Derivation of formulae and solution of question by teachers on black board was also observed. The common pattern observed in teacher's activities during the class was as;

1. Reading of text book (by the teacher or a student)
2. Explanation of the text or concept(by the teacher)
3. Written work on the black board (by the teacher)
4. Copying of black board summary (by the students)

Sometimes it was seen that point "1" and "2" replaced each other and some teachers preferred to give an oral explanation followed by text reading activity. Teachers play a dominating role whereas students remained passive listeners and they only played an active part while copying from board.

The teaching learning process was reduced to one way communication, where teachers focused on "telling" and "disseminating" fact. It was assumed that by mere telling students will learn automatically. And the teaching-learning process was changed in to disseminating and recording of information followed by rote memorization of facts at a later stage. Teachers were found engaged in activities like translating and explaining text or writing on black board. Translation of text followed reading activity which was commonly done by one or few specific students who could read the text correctly and loudly. The reading skill of rest of the students was found poor. On average only 8 to 13 percent students could read the text correctly and 6 to 10 percent students were able to read the text with comprehension. The following table shows the average number of teachers engaged in these activities and average time spent on these activities;

Table 4.9

Conventional Activities carried out in the class

Teachers' Engaged in Activities								
S.#		Local language translation	Replacement of words	Simplifying text	Explanation of concept	Solving exercises	Writing on board	Dictating notes
1	No. of teachers involved	41	37	40	36	43	43	33
2	Average Time (mins)	8	6	4	6	6	5	5

This table shows that most of the time of a period was utilized to overcome the language problem, although Urdu is the national language but not the first language of majority of the students therefore the conceptual understanding stands at the second number in the teaching learning process. On average 35% of the teaching time (14 min) was used up in reading and translating the text. In the remaining time teachers explained the concepts which took 25% of the teaching time (10 min). Teachers spent 27% of their time (11 min) in writing on the black board and used 12.5% of the class time in dictating notes. One other reason for reading the text book, which surfaced during observation and discussion with the teachers in pre-intervention stage, was teachers' level of preparation. It was observed that mostly teachers (81%, 35/43) asked the students from where they were going to start the lesson or which topic they were going to study for the current period. During informal discussion with teachers it was noted that none of the teachers prepared their lesson in advance and continuity of the classes in the school with no gap between two periods did not allow them to go through the lessons before the class therefore they need to read the text in order to recall and explain.

- Teaching methodology;

Teachers were inquired about their teaching methodology during an informal talk following responses were recorded;

Table 4.10

Applied Teaching Methods in Class

	Methods		
	GTM	LM	LDM
# of Teachers	21	13	9
%	48.84	30.23	20.93

About half of the teachers claimed to use grammar translation method (GTM); it was interesting to note that these included eight teachers (38%) who taught science to different grades. 30% of the teachers, including two mathematic teachers, mentioned that they used lecture method (LM) during their class. Similarly 21% of the teachers using lecture demonstration method (LDM) included two language teachers. These responses reflect teachers' understanding about the teaching methodology they claimed to use in their classes. In order to know what teaching method was actually used by the teachers in their classes, they were observed during their classes and it was found that majority (27/43) of the teachers in language classes read and translate the text in urdu and local language (Pashto) and students listen silently. Teachers also write down the difficult words on board with their meanings, which students copied in their note books. This was regarded as GTM by the teachers. Teachers remained limited only to the textual material and did not pay attention to the language structure or establishing linkage between the second language taught and the local language. Science (9/43) teachers read the text and used black board to draw or write key words and gave explanations, it was regarded as LDM. Most interesting explanation came from mathematics teachers (7/43) who regarded solving of exercise questions on board as problem solving method.

- Levels of teaching:

During the post observation discussion, when teachers were asked what they expected from their students after they have delivered a lesson, they expressed their views and expectations in terms of students' performance. Summarized in the following table;

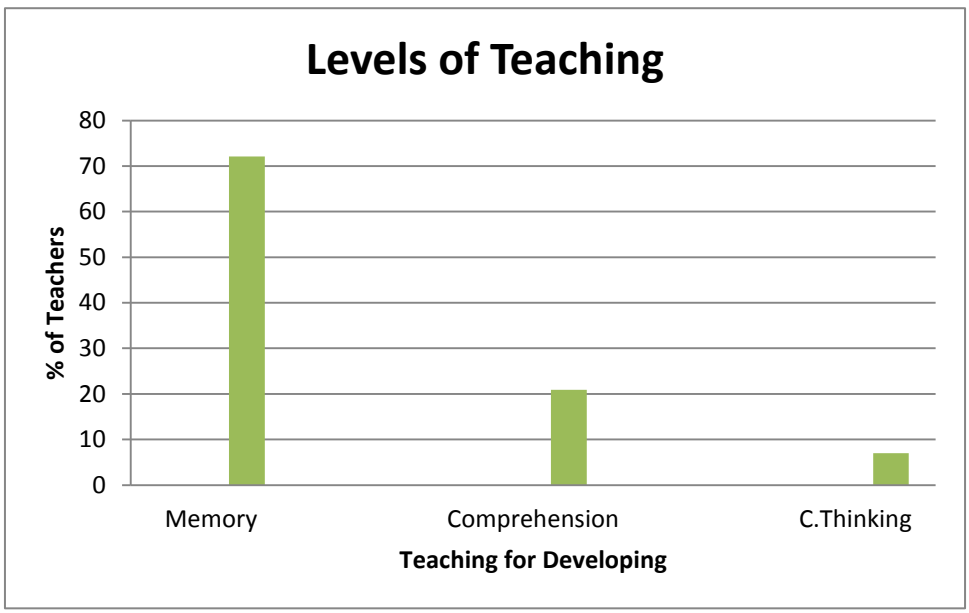
Table 4.11 Teaching Levels

Teaching Level	# of Teachers	% age of Teachers
Memory	31	72.09
Comprehension	9	20.93
C. Thinking	3	6.98

Mostly (72%) teachers expected their students to correctly repeat what they were taught. Some (21%) teachers wanted their students to develop conceptual understanding and their teaching was focused on cognition, although they were not clear about the level of cognition, they expected their students to achieve. However they all agreed that students must develop comprehension. The third level of teaching mentioned by teachers was development of critical thinking however the number of teachers teaching to attain this level was quite low (7%).

The following graphic presentation shows that majority of the teachers were teaching for developing memory but this was based upon the assumption that if students were told some piece of information they can memorize it through a number repetitions.

Figure 4.11(a) Teaching Levels



However the teaching strategy of these teachers did not included any specialized activity for memory development (Pressley, Borkowski, & O'sullivan, 1985) The teachers demanded students to learn the text by heart and repeat it the next day either orally or in the written form, failing so resulted in corporal punishment. In this exercise learning by heart was the responsibility of the students who managed to develop individualized mechanism to learn by heart. Discussion with students in this regard was interesting and informative.

A group of seven male students was interviewed and asked the following question;

"…what do you do to learn by heart the given material?"

In response to this question students said that they find it difficult to learn long answers by heart and consume a lot of time. Whenever they asked their teachers if they could help, they were told to read the text again and again and ultimately they will memorize. No matter how they manage to memorize the material, in doing so they basically depend upon extended repetitions. The following responses were recorded;

- Reading whole text many times and repeating
- Reading small segments with repetitions and sequentially joining the segments to memorize the complete text.
- Breaking text into meaningful parts then reading with repetitions and reuniting these parts together to learn by heart the whole text.

It's important to note that these mechanisms were adopted by students themselves governed by the principle of "apply what works" and not as the result of teachers' support.

21% of the teachers who claimed that they try to teach for developing comprehension in their students did not show any difference in their teaching which could have any supportive role for their claim. The only difference which was observed in their teaching was their inquiring open question "did you understand?"

and in response to this open question the whole class responded "yes↑ Sir" or "yes↑ Miss". Being satisfied with this response the teachers assumed that students comprehend the topic or the concept. Further the lesson did not include any formative or summative assessment in their lessons.

Those teachers (7%) who claimed that they wanted to develop critical thinking in their students did not differ in any respect in their teaching from other teachers.

4.1.4 Students' Achievement Level:

To further probe the situation 192 students (106 male and 86 female) were tested for their cognitive abilities. The especially designed tool (see annexure 7) consisting of six items was administered and the students were asked to complete all the items. The following results were obtained;

Boys' performance:-The following table shows performance of male students in the above mentioned test;

Table 4.12

Students performance pre-intervention stage (test Scores) Boys

Students performance pre-intervention stage (test Scores) Boys		
Level of Cognition	# of Students with Correct Responses	% age of Correct Responses
Information	87	82.08
Comprehension	63	59.43
Application	49	46.23
Analysis	28	26.42
Synthesis	17	16.04
Evaluation	9	8.49

A total of 106 male students participated in cognitive ability test which consisted of six test items focusing upon the six levels of cognitive domain (Blooms, 1986). The items were so designed that each item intended to measure only one level of cognition sequentially i-e the first item focused the first level of cognition─

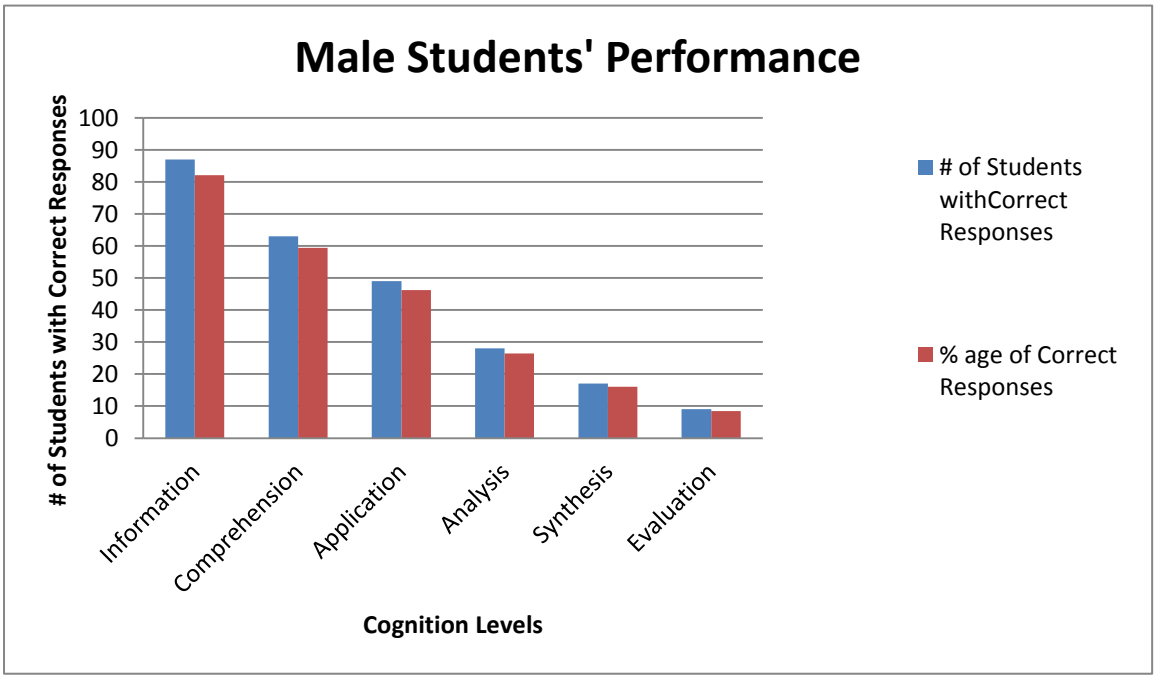
information (knowledge), the second item focusing the second level of cognition─ comprehension and the next item focusing the next level and so on.

87 out of 106 male students (82%) correctly responded the first test item only, 63 out of 106 students (59%) correctly responded to first two test items. 46% performed well for first three questions thus showing their cognitive abilities up to application level of bloom's taxonomy. For the next three levels the performance was poor, only 26% 0f the students were able to correctly respond to the test item meant to measure analytical ability, only 16% could do well and showed synthetic ability. Only nine students (8%) were able to successfully complete all the test items, reaching to the level of evaluation.

The following table shows the performance of male students in terms of number of students and % age of correct responses;

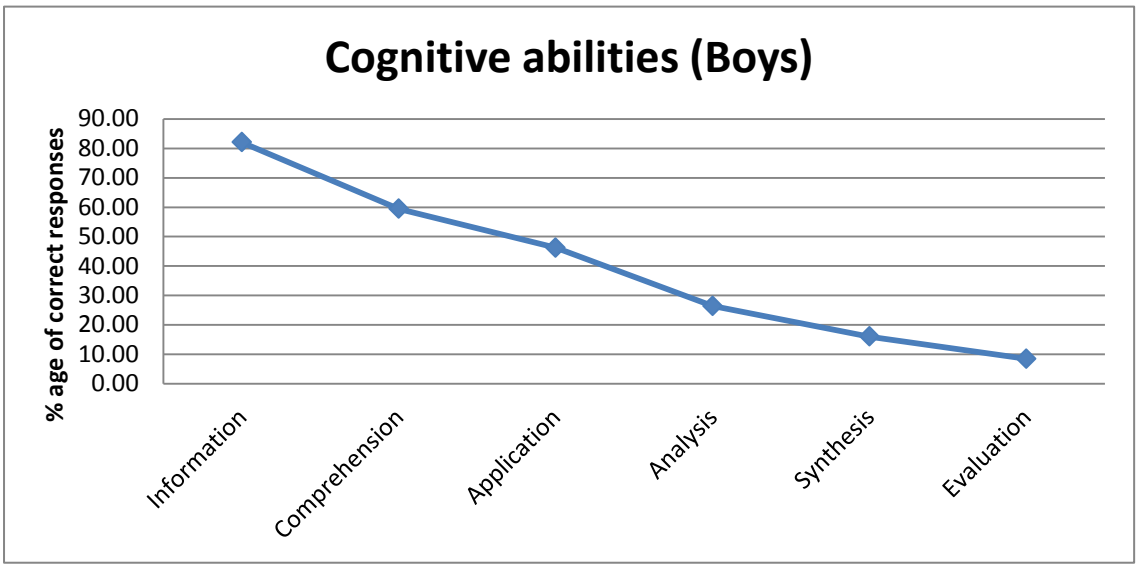
Figure 4.12(a)

Students performance pre-intervention stage (test Scores) Boys



On average the performance of male students remained low in each level of cognitive ability. The number of students performing at each level decreases as the test items moved from lower level of cognition to higher levels of cognition.

Figure 4.13 Level of Cognitive Abilities (Boys)



The above table highlights this declining trend, for the first two cognitive levels students' performance was high but there is considerable decline in correct responses for the two levels. Application which is included in the lower levels of thinking but at higher position then information and comprehension was successfully achieved by only 46% of the students. Student's performance for the upper levels of cognitive domain was below 30% for analytical abilities, below 20% for synthetic abilities and only 8.49% for the level of evaluation. Generally the students' performance showed weakness as we go up to the higher levels of cognition.

The same test was administered to a group of 86 female students and the following results were obtained. The following table shows the % age and number of students responding correctly to the test items for each level of cognitive domain;

Table 4.14

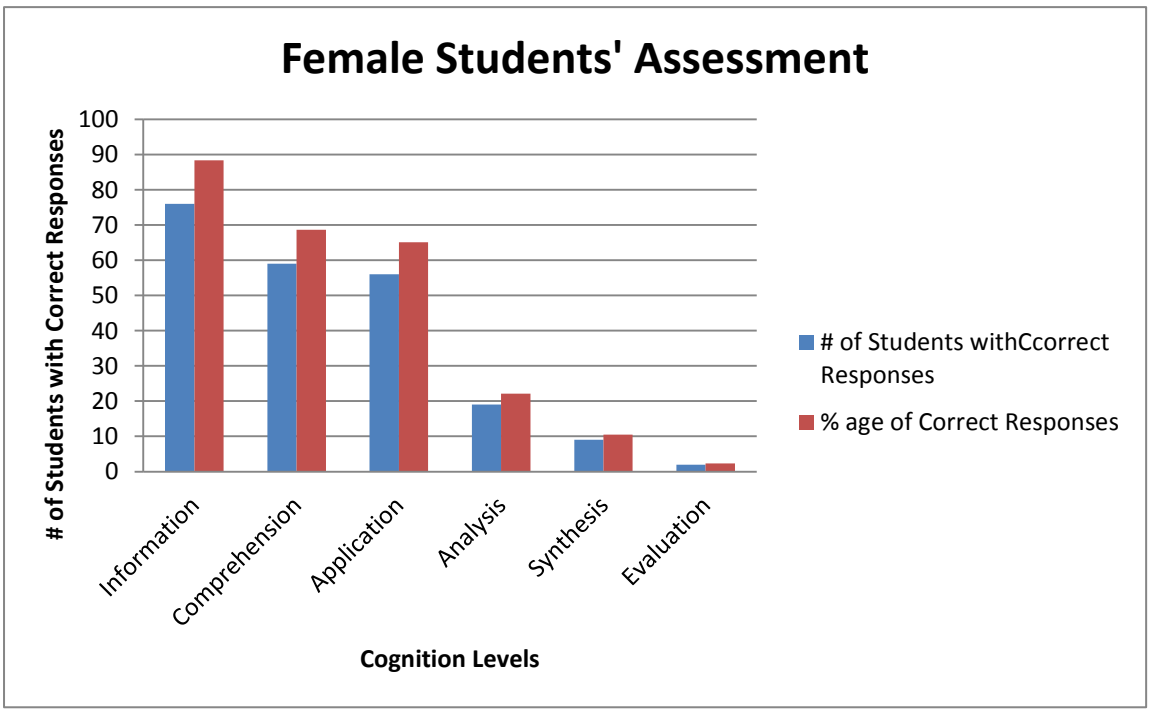
Students' performance pre-intervention stage (Test Scores) Girls

Students performance pre-intervention stage (test Scores) Girls		
Level of Cognition	# of Students with Correct Responses	% age of Correct Responses
Information	76	88.37
Comprehension	59	68.60
Application	56	65.12
Analysis	19	22.09
Synthesis	9	10.47
Evaluation	2	2.33

The performance of girls for the same test was not so much different from boys' performance however it differ in the % age performance and for upper and lower levels of cognition, as clear in the following table;

Figure 4.14(a)

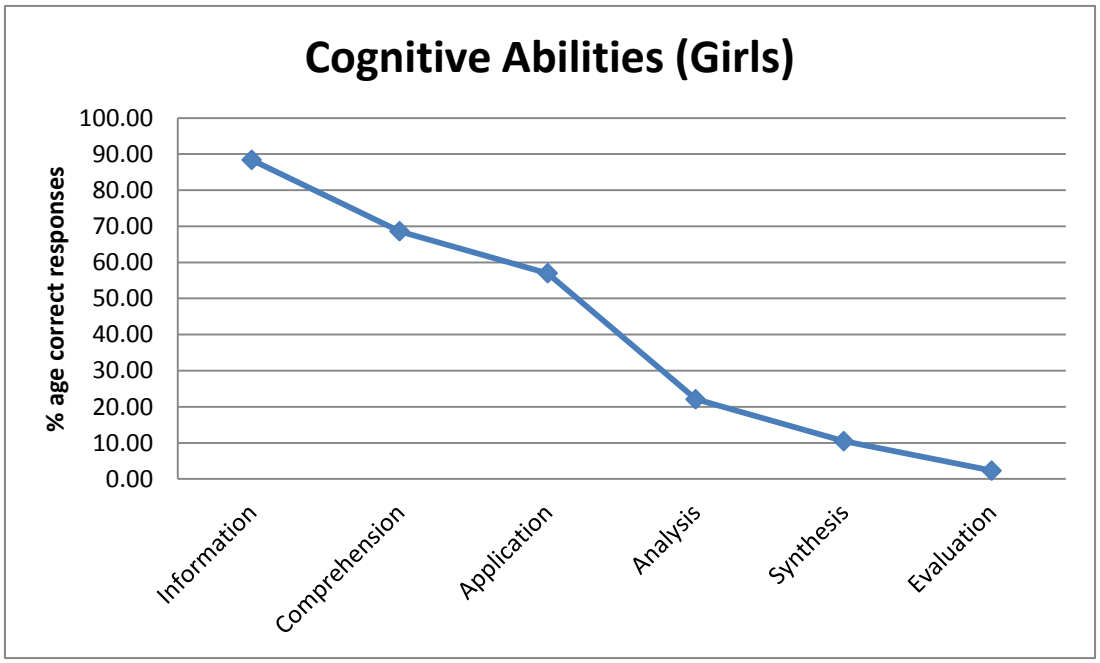
Students' performance pre-intervention stage (Test Scores) Girls



Although we observe a declining trend in the performance of female students, however their % age performance was better. The analysis showed less variation among the first three levels and the last three levels of cognitive domain separately. But there is a noticeable sudden decrease in performance for the lower and upper levels of cognition.

Figure 4.15

Level of Cognitive Abilities (Girls)



The above line graph shows a major variation of performance between lower and upper levels of cognition by female students.

The following table shows the comparative analysis of the scores of boy and girls for the same test;

Table 4.16

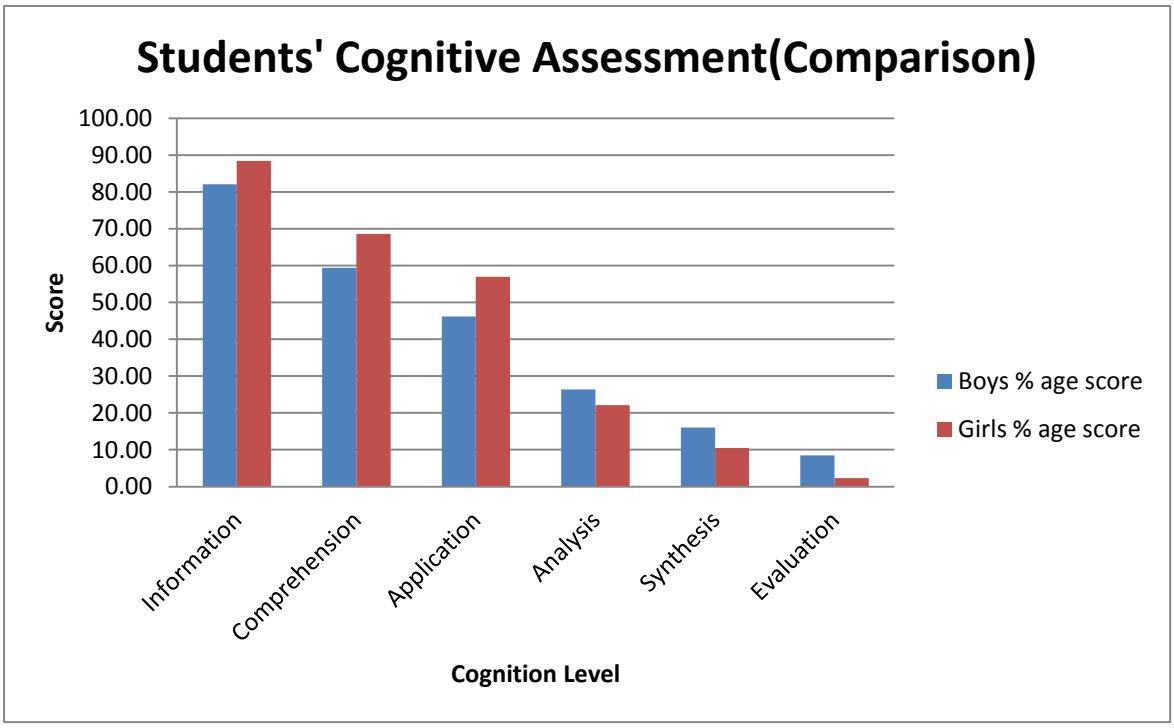
Comparative Analysis of the Scores (Boy and girls)

Students' Cognitive Assessment(Comparison)		
Cognition Level	Boys	Girls
	% age score	% age score
Information	82.08	88.37
Comprehension	59.43	68.60
Application	46.23	56.98
Analysis	26.42	22.09
Synthesis	16.04	10.47
Evaluation	8.49	2.33

It is very much clear from the graph (below) that girls did better than boys for the first three levels i-e information, comprehension and application levels but for the next three levels the performance of boys was better.

Figure 4.16a

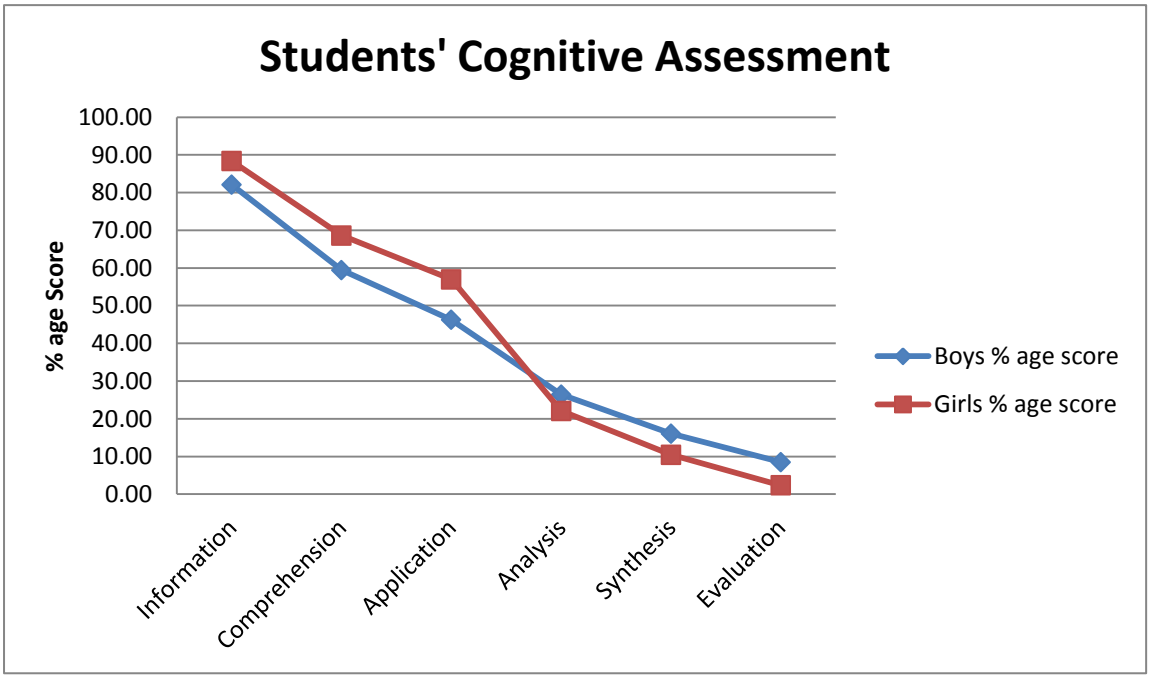
Comparative Analysis of the Scores (Boy and girls)



The line graph below is self-evident for the performance of boys and girls. The declining trend for boys is comparatively uniform thought out the six levels for boys but for girls the results show more variation between the lower and upper levels of cognitive abilities.

Figure 4.17

Comparison of Cognitive Abilities (Boys & Girls)



The results support the fact that students performed well at the level of cognition which had been the focus of the teaching. Class room observations also support this fact that the focus of teaching remains the first three levels of cognition i-e imparting knowledge (information), developing understanding (comprehension) and application of imparted knowledge. It was also observed that major focus remained on imparting information and rote memorization. Comprehension of the concepts varies from student to student, same was the case of application of imparted knowledge which depended upon the understanding developed by individual student and the nature of the subject taught.

- Teaching material used;

In the broader sense; the participating teachers taught three subjects, languages (Urdu and English), sciences (biology, physics, chemistry or general science) and mathematics. For the teaching of these subjects mostly teachers (86%) used black board only as audio visual aid. 7% teachers also used charts, 5% of teachers did use supplementary reading material in their class, which included story books (توبة النصوح) and newspaper cuttings. Only 2% of the teachers were observed using objects like wooden blocks and paper strips as teaching materials. It was observed that teaching materials other than black board were not used as the major audio visual aids for the core learning activity but only occasionally in minor activities supporting the core learning activity. Also these materials were used by the teachers themselves and not by the students. The duration of time for the use of teaching material other than black board was comparatively less than the time spent in the use of black board (in minutes this was in the ratio of 17:4). The detail of different teaching materials used is given in the following table;

Table 4.18

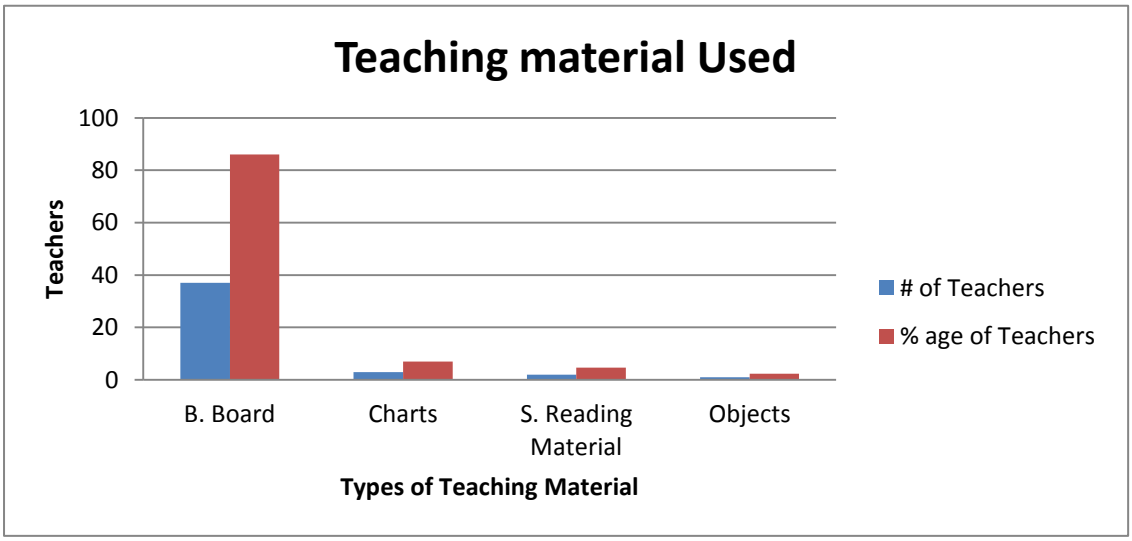
Teaching Learning Material Used

Teaching Material Used		
A.V aid used	# of Teachers	% age of Teachers
B. Board	37	86.05
Charts	3	6.98
S .Reading material	2	4.65
Objects	1	2.33

It is evedient that mostly (86%) of the teachers depended upon black board as the major adio visual support during their teaching and other supporting materials were used only by very few (below 10%) teachers. The following table presents a clear picture of the prevailed situation.

Figure 4.18(a)

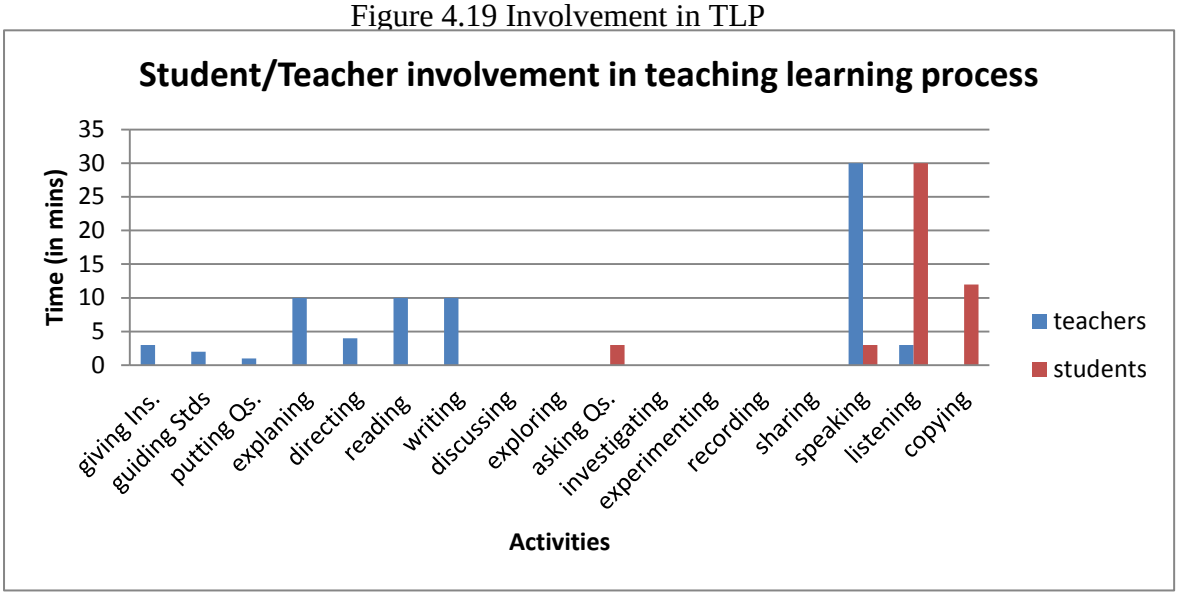
Teaching Learning Material Used



Students' involvement in the learning process;

Class room observation informed this study about the level of involvement of students in the teaching learning process. It was observed that teachers remained active and dominated the teaching learning process. Most of the time teachers were actively engaged in reading, writing and explaining the concepts under study and students were the listeners and took important notes. Classroom observations did not provide any sign of higher order mental thinking of the students. Teachers remained too much involved in activities requiring lower mental abilities on part of students. The following graph presents a picture of students' involvement in teaching learning process;

Figure 4.19 Involvement in TLP



The graph shows that the teachers were dominating the teaching learning process whereas students remained passive listeners or they copied from the black board, sometimes they asked question for clarity of mind (on average less than 3% students asked questions). Generally teachers talked for the whole period and their teaching methodology was based upon "telling" students listened for the whole period and copied the answers or the solved numerical questions from black board. Students hesitated to ask questions and they tried to avoid taking active part in teaching learning process. The routine classroom teaching did not encourage students to become active learners rather it promoted passiveness, teacher domination and rote memorization.

Questioning technique

During the pre-intervention stage it was observed that classroom teaching was mostly "unidirectional" where teachers stared their lesson with mind set to read and explain a certain portion of syllabus and did not ask any type of questions. The flow of teaching remained from teacher to students, which was maintained throughout the lesson and teachers did not encourage any change in this direction. Teachers seldom made formative assessment to ensure students learning. In the start of a class teachers did ask previous knowledge questions, for example they asked; do you remember…?

Can you recall…? And at the end they usually they asked did you understand (شئوي پؤهۀ) and students answered collectively "yes↑ sir/ miss" and it was assumed that they actually understood the concept.

Students tried to avoid asking questions but whenever they asked questions they belonged to very preliminary nature, for example the high frequency question asked during the class (by students) was;

…what does it… mean?

…what have you written here…?

…how can it… be pronounced?

The second major category of questions (asked by students) which was noticed in the classroom teaching was;

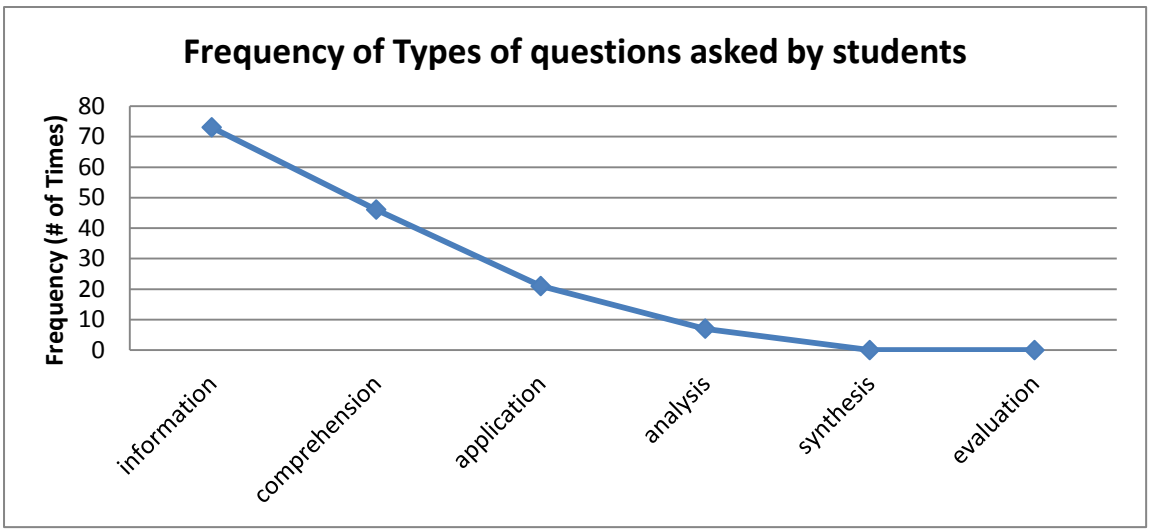
…where did it…come from?

…how could it…be solved?

…what is the reason…?

It is important to mention that although these questions were asked during classroom but the frequency and the number of students asking these questions remained quite low. The first type of questions were focused upon content clarification and belonged to second level of cognition (comprehension). The number of students asking these types of questions was higher than the number of students asking second type of questions. The second type of questions were procedural questions and usually asked by the students who were not clear or had any confusion regarding the solution of questions or could not established link among different components of the question. These questions belonged to third level of cognition (application).Classroom observation provided the following results summarized in table below;

Figure 4.20 Types of questions asked by Students

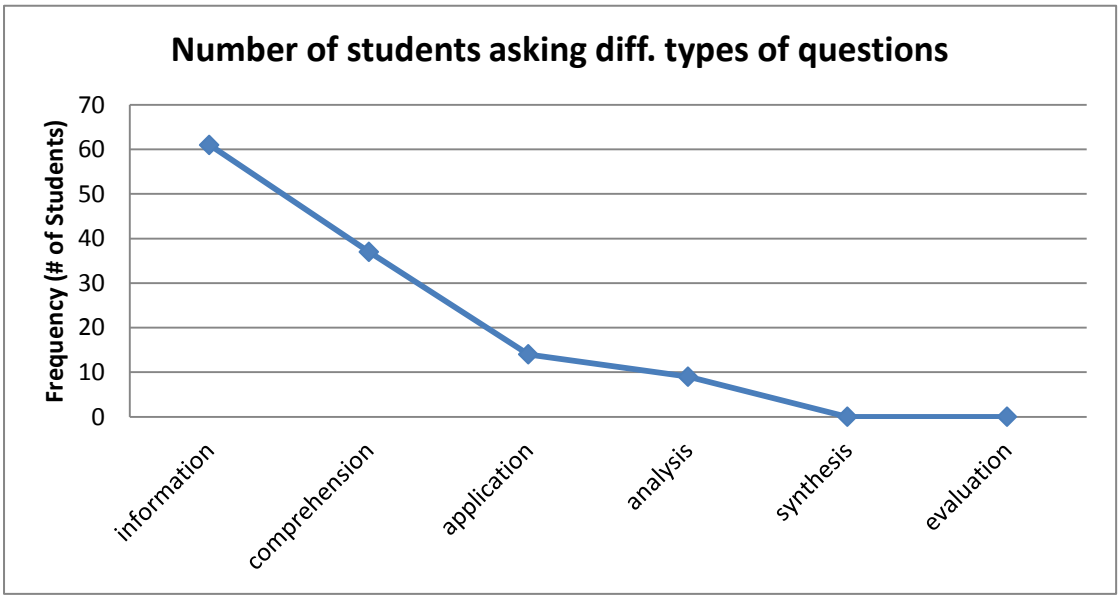


The table above shows that most frequently (73 times) asked questions fall into the category of information (knowledge). The next category to which questions belonged was comprehension (46 times) the decrease in the frequency is 37%. In the category of application questions were asked only 21 times and the decrease is 71%. The frequency of questions asked related to analytical level was (7) and the decrease is 90.5%. The results show that as we move up through the cognitive levels the frequency of questions asked by students' decreases. It is also clear that for the last two levels, i-e synthesis and evaluation no question was asked as the frequency is zero.

The following table shows the number of students asking questions related to the different levels of cognition. Majority of the students (61) asked questions of informative nature, 37 students asked question related to the development of understanding (comprehension), 14 students asked questions which belonged to the application of the principles studied and only 9 students asked questions which were of analytical nature.

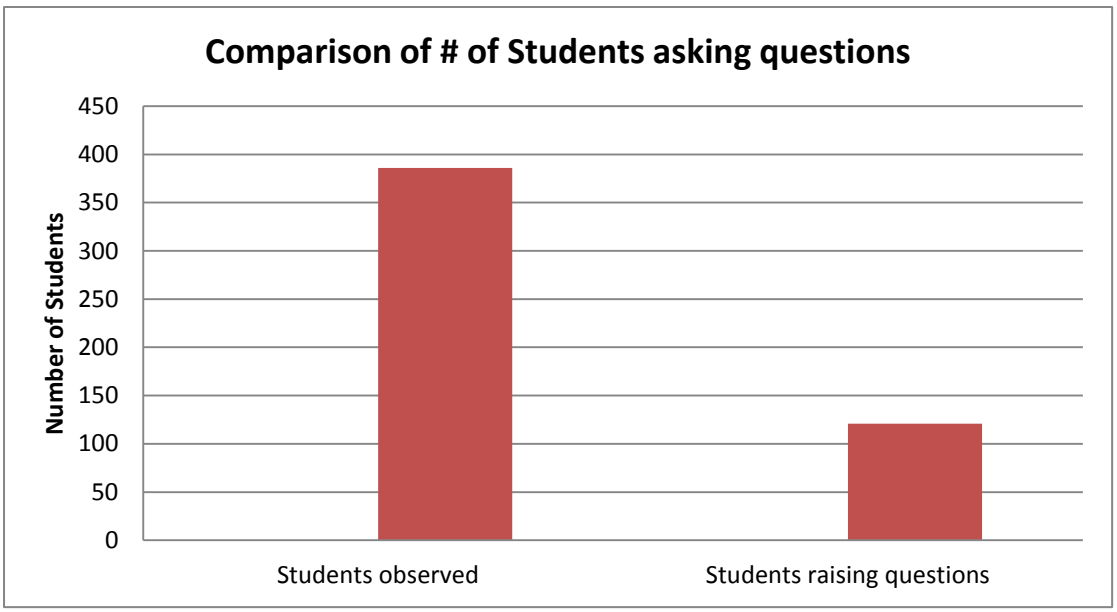
Figure 4.21

Number of students asking diff. types of questions



Both the tables represent a declining trend of mental activity, first table shows decreasing frequency of questions asked by the students through different levels of cognitive domain starting with the lowest level we find the highest frequency but gradually moving to the higher levels the frequency decreases until it becomes zero at the synthetic and evaluation levels. Similarly the number of students who actually asked questions also decreases with respect to higher order thinking levels. Mostly students asked simple questions reflecting initial levels of mental activity. It is also important to mention that the total number of students who were observed was nearly six times more than the students asking questions (including all levels). Three hundred eighty six students were observed and one hundred and twenty one students raised questions, see table below;

Figure 4.22 Comparison of # of Students asking questions



It is also evident that 265 students did not ask any questions. Students asking questions were 31.35% while 68.65% students had no questions. These figures led this study to further investigate the reasons for not asking any questions. Therefore the above mentioned 265 students were interviewed separately and it was found that they were unable to understand and were usually far behind from the teacher and could not keep up with their teacher. Therefore they silently trailed behind and did not raise question because they were afraid to disclose their weakness. This attitude had produced a large academic gap between the teacher and the students and which is widening with each passing hour. As a result those trailing students had made up their minds that it was not in their competency to understand hence they had given up to use their own brain and had limited their academic activities to mere listening and copying.

This study was informed about another reason for not asking questions was that, the real confusions or question rested in the more fundamental information (previous knowledge) which were assumed that students already knew. For example, in a language (English) class a comprehension question was administered, 50% of the students were not able to satisfactorily answer the questions because they faced

reading problems. Similarly in mathematics class 58% of the students were unable to correctly subtract two simple algebraic expressions because faced problems in the computation of negative numbers. For both of these cases it was assumed that the students; were able to read simple English paragraph (for the language test) and add negative numbers correctly (for the mathematics test) but it was observed that more than 50% of the students did not have the pre-requisite knowledge. This was the reason that students hesitated to ask questions.

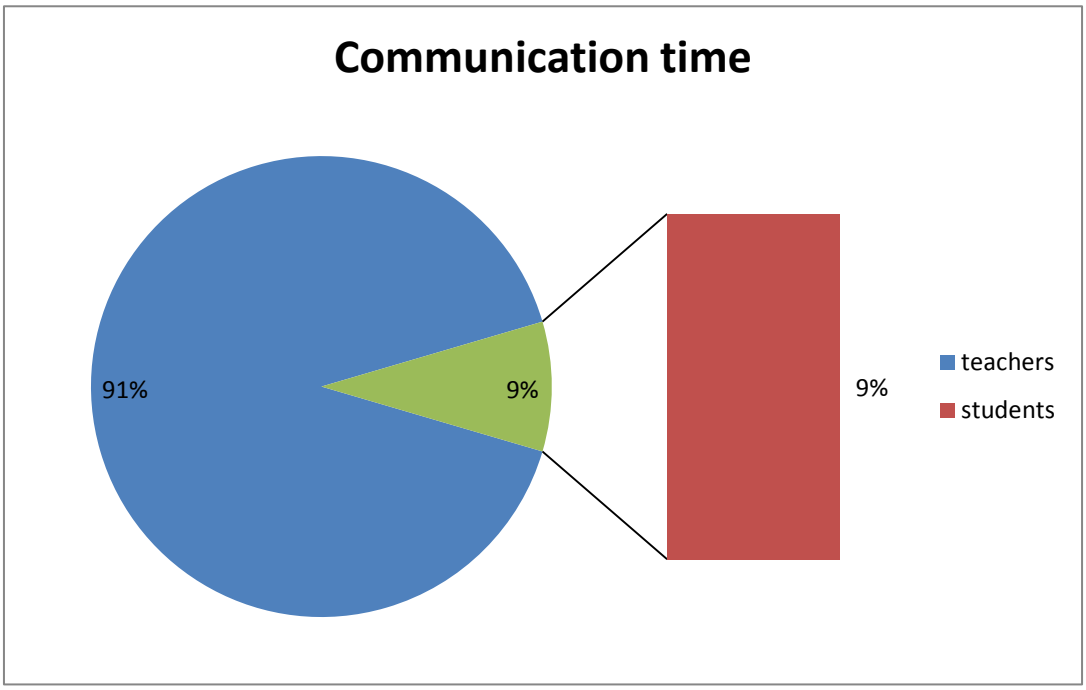
Communicational skills;

Class room observation showed that teaching process was "one way" communication and teachers dominated this process. Students were rarely allowed to give any sort of input or ask questions. Teachers' communicational skills were checked for vocabulary and economy of words. It was found that teachers possessed limited vocabulary and their economy of words was poor. On average teachers, used 40 to 50 words per minute and talked most of the time in the class. The classroom instructions possessed poor selection of vocabulary. On a simple test of vocabulary and economy of words teachers scored less than 38 and even used 14 conceptually wrong words creating confusion among students.

The average time distribution for active communication during classroom teaching is presented as follows;

Figure 4.23

Active Communication time



The graph clearly shows that students found fewer opportunities for communication. The active communication followed the simple "one to one" teacher ↔ student pattern. This pattern usually excluded majority of the other students and the academic discussion restricted between the teacher and the "engaged" student therefore learning benefits concentrated at single student depriving other classmates from these benefits. This communication time usually concentrated at the end of the lesson; when the period was almost ending; therefore students hardly get satisfied.

Assessment

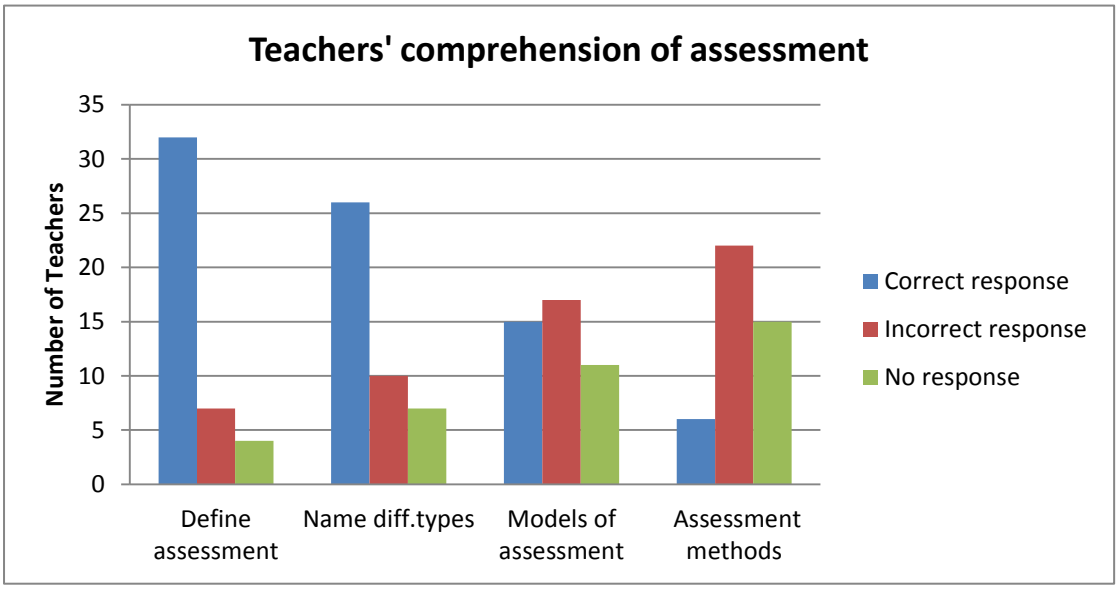
On average the participating teachers perceived "assessment" as the examinations conducted by the school during an academic year. They also used this term synonymous to; evaluation, measurement, and examination. Teachers did not practically made assessments to evaluate their own teaching methodology and style. Pre-intervention observations did not find any evidence of the assessment of lesson objectives (no lesson objectives in written form were available). Teachers considered it sufficient and enough to disseminate textual information and assumed that learning

objectives were automatically achieved. Test (see annexure 8) was used to find out teachers' understanding of the concept of assessment.

The results are shown in the following table;

Figure 4.24

Teachers' comprehension of assessment

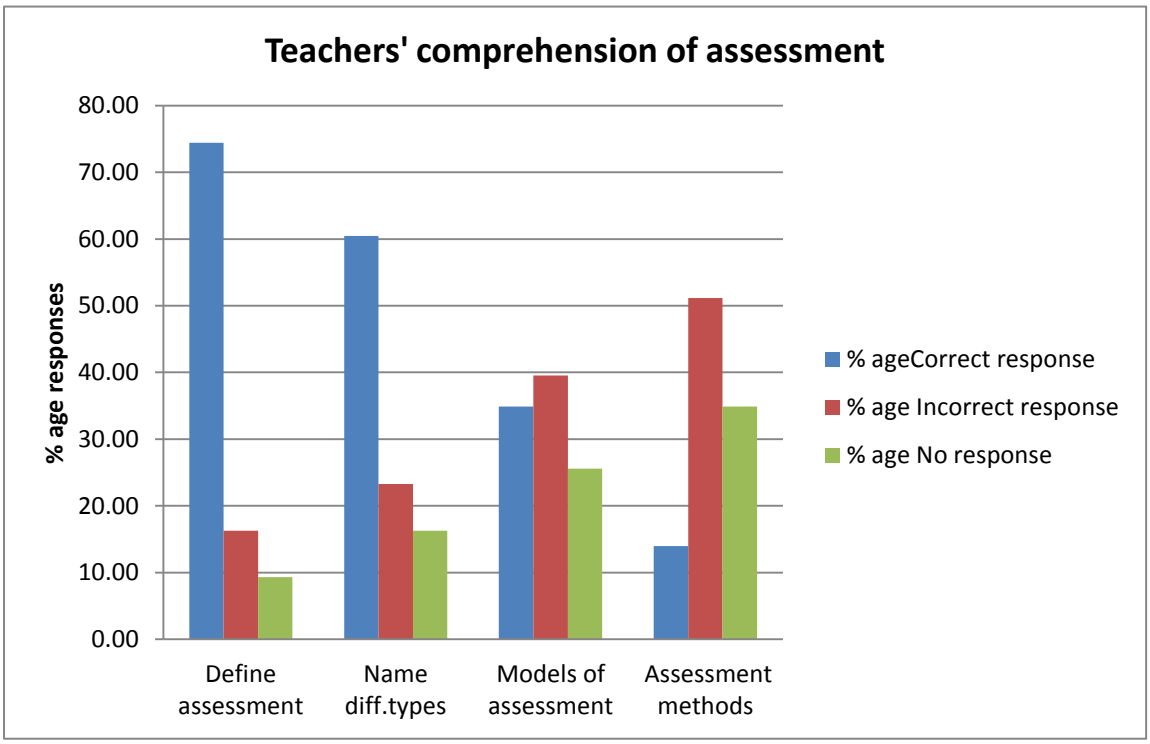


We see that more than 30 teachers were able to define the term "assessment" correctly; only eleven teachers could not answer the question correctly. But as we moved towards deeper understanding, the number of teachers having correct answers dropped below 10. The trend predicts limited knowledge of the concept of "assessment". Due to this reason teachers avoided making assessments, they also believed that their teaching methodology and style was good enough, and did not require any change. Other factors which teachers' mentioned, responsible for avoiding assessment was time constraint and large classes, therefore classroom assessments were not possible.

The above responses are calculated in percentages for more convenience and understanding in the following figure;

Figure 4.24(a)

Teachers' comprehension of assessment (in percentage)



It was observed that teachers did not consider assessment as a part of learning (Airasian, P. W. 2001) rather, to them assessment and learning were two separate phenomena; hence by no means they try to make assessment a part of their teaching. They also considered assessment to be concerned with students' performance and did not mention it in relation with their own performance.

End of class notes or teacher's reflections about class

During pre-intervention observations it was noted that teachers do not record their reflections about their lessons which they deliver. The participating teachers were also interviewed to inform this study about their reflections. No evidence of written reflection was recorded. Majority of the teachers were unaware of this term, some of the teachers commented;

…have never heard this term before

When asked, if they discuss their lessons after or before the commencement of lesson? The answer was “no”. Only 7% of teachers provided “teachers’ diary” which was a sort of an account of future planning showing intended course content to be completed on monthly bases. The entries of this diary only included the topic of the syllabus without any details. As this diary contained break down of the syllabus for future purpose and did not contained critical thinking to analyze teaching learning process therefore it was not considered as a data source.

The concept of “reflection” on teaching was new for teachers and they did not practice it in their daily routine activities.

4.1.5 The Emerging Issues and Setting Objectives for Next Stage:

The observation in the pre-intervention stage provided foundation for the current study, as the basic research question of this study (*How can we as teachers improve ourselves to enhance our professional competencies, using Action Research?)* suggest that this research study is not attempting to try-out any pre-conceived hypothesis (Creswell, 2002) but it is intended to find out those common elements and strategies which are most suitable to our local-Khyber Pakhtoonkhawa (KP) context and have the potential to lead this study to generate a theory which is effectively applicable in the local context. As the focus of this study is on the emerging strategies from the data and hence organization of the data into a coherent cohesive whole which could be recommended as a way to develop teachers professionally in the context of KP. As a result of the pre-intervention observation six major areas of interest were selected for further investigation and which were considered to be linked with the professional development of teachers and needed improvements. These areas included; lesson planning, teaching methodology and techniques, communicational skills, students’ involvement, assessment and reflection on action. The analysis of the findings of pre-intervention stage led this study to the following conclusion;

The journey of teachers’ professional development starts with the initial teacher training program and continue throughout their professional lives (Bates, T. 2014) but in our context (Khyber Pakhtunkhwa) it starts with the initial teacher

training program and extend to a very few further opportunities. The quality and the standard of majority of such initial training programs (with the exception of few) are not satisfactory. Also those teachers who pursue their education as private candidates develop lower academic excellence resulting in limited knowledge. In addition to this in the absence of further education they rarely get opportunities of developing and updating their knowledge, in fact, with every passing moment existing knowledge becomes older and outdated (Lyotard. 1984) therefore working teachers possess limited knowledge. This have developed a defensive attitude to conceal their lack of knowledge and made them narrow minded, optimistic to accept their weaknesses instead they think that they were doing very well. This understanding guided me to step into the next phase with three major issues to tackle;

1) Educational issue: teachers have limited bookish pedagogical knowledge.

2) Attitudinal issue: they are optimistic about their teaching abilities and,

3) Implementation issue: teachers are neither ready nor able to apply innovative teaching approaches (researchers' reflective journal).

At this point the objectives of the intervention stage emerged to be;

1. To improve pedagogical knowledge of the teachers.
2. To change the optimistic attitude with realistic attitude.
3. To enable the teachers to implement their new knowledge in their existing working conditions
4. To enable the teachers to apply "Action Research" for their professional development.

Thus for the professional development of teachers their pedagogical knowledge needs to be increased and updated. They should be informed of their weaknesses and guided to make appropriate changes in their teaching methodology continuously for their professional growth.

4.2 INTERVENTION:

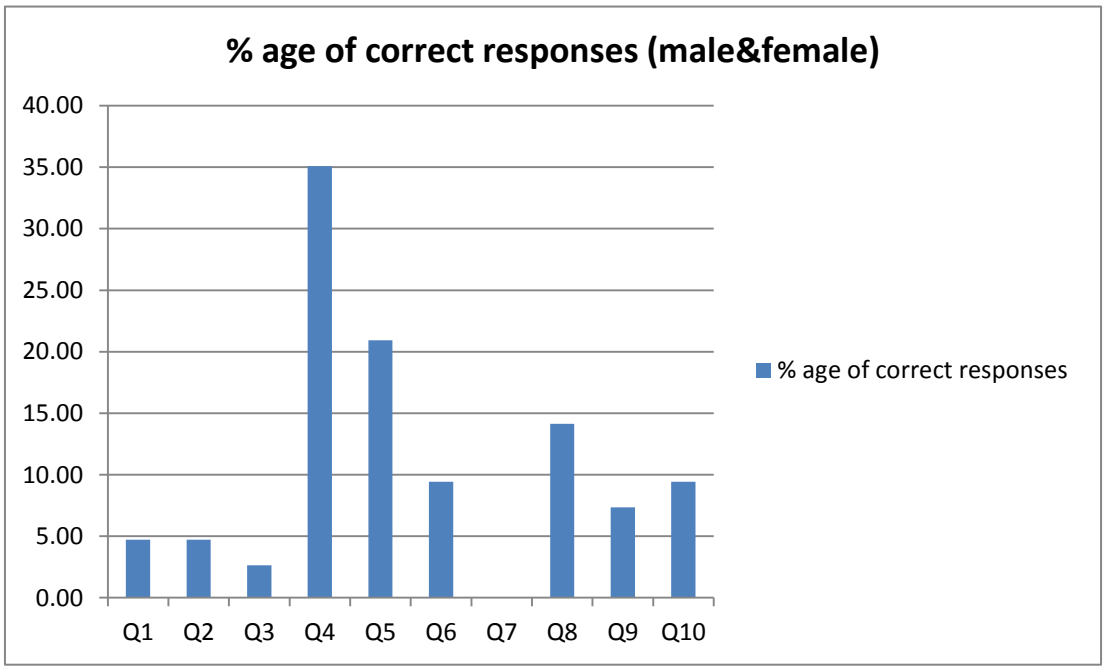
The findings of the pre-intervention stage served as the base for the second phase (intervention) of this study. Keeping the three main issues; identified in the previous section; and the objectives of this phase it was planned to introduce the concept of Action Research to the participating teachers. After developing sufficient expertise in conducting action research they were encouraged to pick one issue related to their classroom teaching which they considered important and wanted to be resolved. The teachers worked in their respective working groups in close collaboration with researcher in the first cycle of this phase, however it was intended that teachers will work independently in their respective working groups and generate data for the research study.

4.2.1 Pre-Test:

Before providing input a pre-test was conducted in order to find the present situation and the level of participants' knowledge regarding the main theme of this study. To measure any change in the knowledge of the participants, pre and post ─ tests were administered. The results of pre and post tests showed considerable positive changes in teachers' knowledge level for example the following table showing pre ─ test results, which reveals the level of teachers' understanding of; research especially action research, theoretical and practical aspects of lesson planning, assessment, reflective writing and questioning techniques. The difference between the pre-test and post-test results was considered as the impact of the intervention. During the intervention phase efforts were made to give effective input to enhance the existing level of knowledge of the teachers in the areas of educational planning, action research and assessment, but to provide a yard stick to measure the level of development a ten item pre-test was conducted in these areas which showed the following results;

Figure 4.25

Pre-Test Results (Male & Female)



Question 4 & 5 were based on the concept of educational planning and question 8 belonged to the concept of assessment. Question six was related to the classroom activities and question ten demanded information related to questioning techniques. First and second question inquired about professional development and research. Third question was based upon the concept of action research and seventh question needed information about reflective writing.

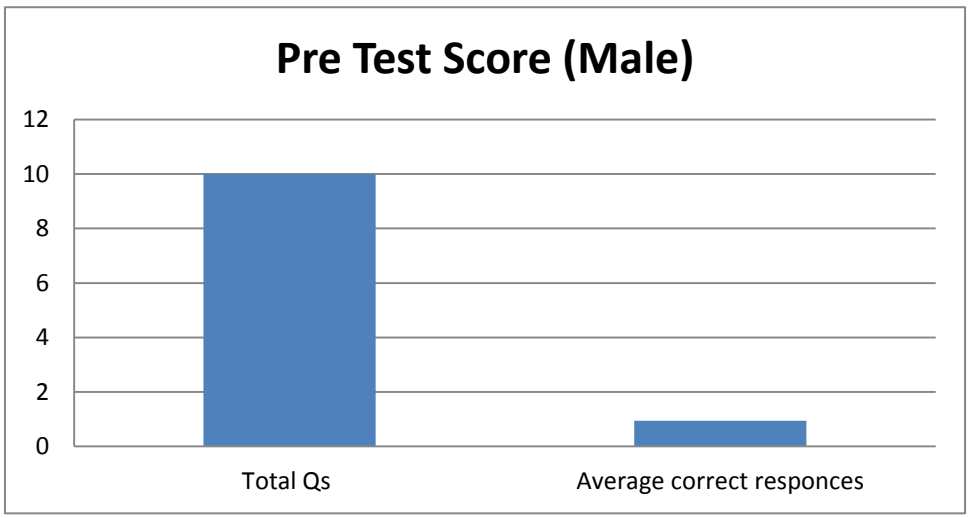
This is clear that teacher had some preliminary knowledge (35%) of lesson planning; however, their practical aspect of lesson planning was lower in ranking (21%). Their knowledge in the area of assessment was even lower than their knowledge in the area of lesson planning, their scores regarding assessment was 14%. Other areas like designing activities, questioning technique, teachers' professional development, research and writing reflections were ranked from nine percent to zero. These results reflected gender free scores, however as the educational system operates in masculine and feminine circles, therefore gender based detailed analysis of the pre-

test scores was made which depicted the level of understanding of male and female teachers separately.

Analysis of pre-test score for male teachers;

Pre-test results of male teachers showed that total 23 correct answers were given by 24 male teachers. The mean score of male teachers for pre-test was 0.95. This shows that on average teachers were unable to answer one out of ten questions correctly. Their pre-test score is presented in the following graph;

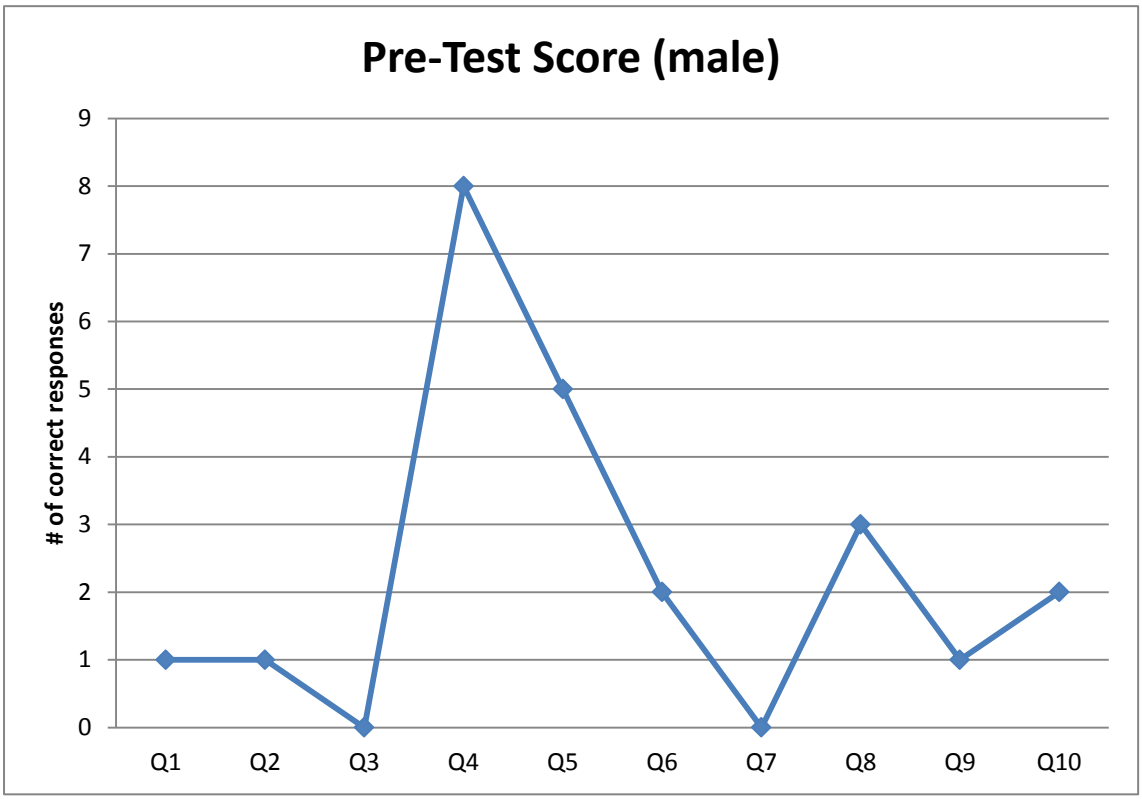
Figure 4.26 Pre-Test Results (Male)



Item analysis of pre-test for male teachers showed the following picture; performance of male teachers at individual item of the test varied from maximum score of 8 to the lowest score of zero as depicted in the following graph;

Figure 4.26(a)

Pre-Test Item wise Results (Male)

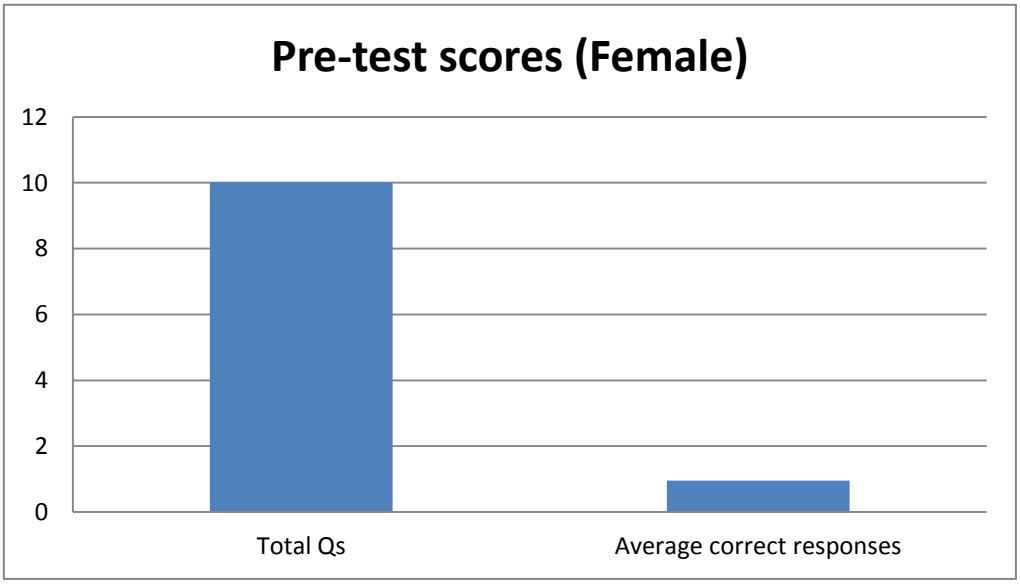


We see four categories, first included question four, five and eight with scores 8, 5 and 3 respectively. The second category included question six and ten with score of 2 each, question one and two falls in the third category with score one. While we see zero scores for question three and seven. Question 4 & 5 were based on the concept of educational planning and question 8 belonged to the concept of assessment. Question six was related to the classroom activities and question ten demanded information related to questioning techniques. First and second question inquired about professional development and research. Third question was based upon the concept of action research and seventh question needed information about reflective writing.

Analysis of pre-test score for female teachers;

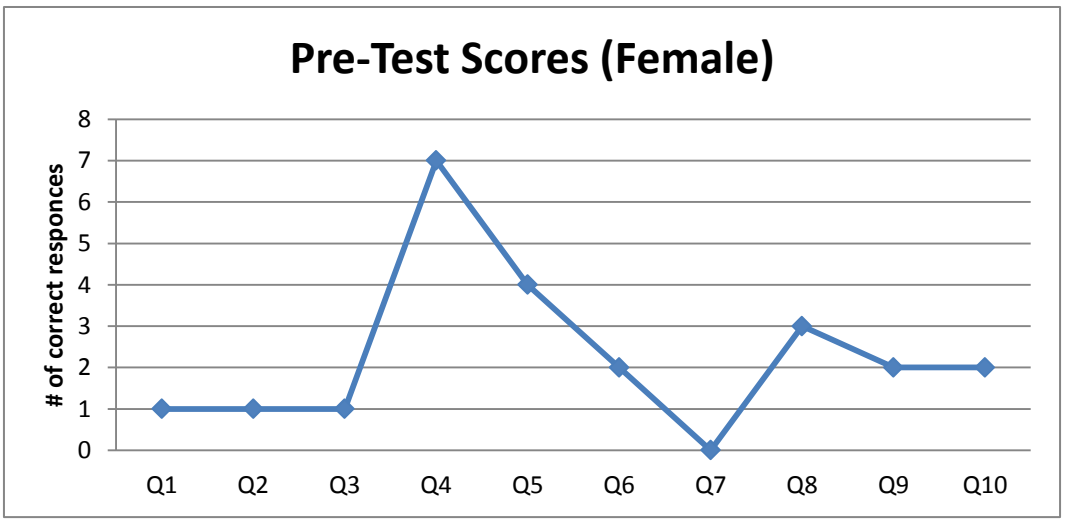
The same test was also administered to 19 female teachers their pre-test score is shown in the following table;

Figure 4.27 Pre-Test Results (Female)



Item wise analysis of pre-test score of female teachers showed approximately similar results as that of male teachers, however with only one zero score for question seven, the data is presented graphically in the following table;

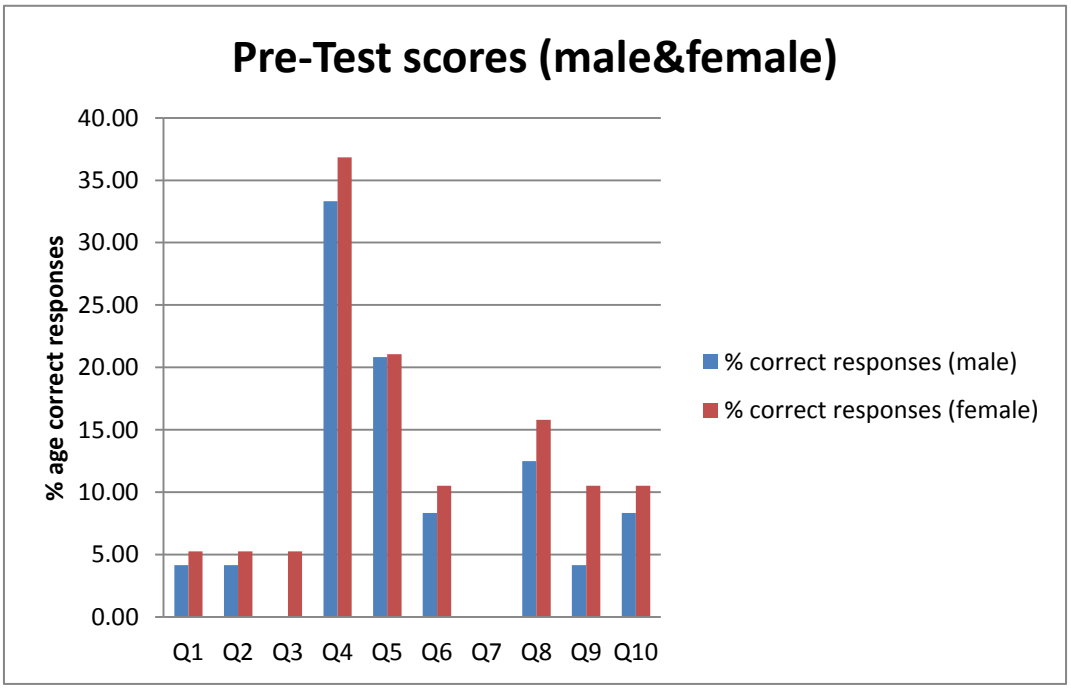
Figure 4.27(a) Pre-Test Item wise Results (Female)



Item wise comparative analysis of scores of male and female teachers showed similar trend but better average for female teachers, the following graph was developed from the data of male and female participating teachers;

Figure 4.28

Comparative results for Pre-Test (Male & Female)



4.2.2 Phases of Intervention:

Intervention was made in the following five phases;

1:- Phase one ─ Orientation and Input:

This phase comprised of orientation workshops to introduce the research participants with the purpose of the study and provide necessary skills and theoretical knowledge about action research. Total ten workshops were arranged in which 43 research participants (24 male and 19 female, school teachers) participated. The workshops were arranged in each participating school. The duration of workshop was 2 to 3 hours per day which continued for 2 to 3 days (as per convenience of the participants). In each workshop the following areas were introduced; purpose of research study; concept of Action Research, Lesson Planning, Assessment and Reflective writing (for agenda see annexure 9)

Participating teachers were provided theoretical input regarding Lesson Planning, Action Research and Assessment. Workshops were arranged in participating schools, two sessions of sixty to seventy-five minutes for each area mentioned above, were designed for the participating teachers. Keeping in mind the purpose of these sessions (user point of view) and teachers' level of competency (preliminary) in the respective areas, the content and terminologies used were made simple and easy, so that teachers could comprehend the basic principles easily and implement their knowledge in their daily classroom activities to improve their existing practice.

During our input sessions I tried to create an encouraging environment which facilitated active learning based upon principles of adult learning and bearing in mind the individuality of all the participants, mutual respect and recognition of their existing knowledge. The theoretical input was provided with the aim of; enabling the participants to be independent, empowering them professionally, to develop their own potentials and competencies.

Initially, through input sessions the research participants were acquainted with basic information about action research, data collection techniques and writing reflective journal. These concepts were introduced to them from user view point without going into philosophical discussion therefore detailed explanations of these concepts were deliberately avoided as for our research participants' first priority was the application of action research not its epistemology (McNiff, J. & Whitehead, J. 2006).

Total six sessions were conducted in each school, allocating two sessions for lesson planning, two for action research and two for assessment. The objectives of these sessions were formulated in terms of the participants' terminal behavior. Not only the participants were provided with necessary information but they also went through the practical activities and group work to prepare lesson plans (Zero Plan) for their research classes. Participants also practiced Kemmis (1982) four stage; plan, act,

observe and reflect model of action research. Participants were introduced with the concept of assessment as an "integral part of learning" (Godbout & Richard. 2000) which they practiced in their respective groups the process of; input → assessment → feedback → development. All input sessions were designed to accommodate participants' queries. Discussion method was adopted to introduce different concepts during input sessions and participants were encouraged to talk about the theme under study and to interact through with facilitator (researcher) and among themselves. All the comments passed; questions raised and explanations given by participants were recorded and analyzed to find any intellectual and attitudinal change occurred as the result of input session. Following is an abridged account of the discussion which took place during these sessions.

We can see three clear stages in the input sessions regarding teachers' participation; initially they passed comments showing their reluctance to participate then the intermediate stage of raising question and the last stage of providing explanations to the peers and gaining control of the discussion. The detailed account is presented here;

Comments:

The comments passed by the participants were recorded for latter analysis, these included the following;

> …planning is time consuming.
> (M122, M221, F111. Teachers' ID)

> …lesson planning and course completion cannot take place at the same time.
> (F221, M312, M412.)

> …innovative methods are beyond students' comprehension.
> (M121, M322, M413, F112)

> …we are not researchers.
> (F412, F312, F212, M512, M122, M411)

…research needs time and expertise.
(M321, M122, M212, M123, F513, F123)

…assessment and learning are two separate phenomena.
(M112, M122, M422, F211, F123, F112)

…methods other than those presently used cannot be applied in our schools.
(M221, M512, F411, F311)

…one task at a time is possible, teaching or research but not both.
(M111, M122, M123, M211, M231, F123, F211, F311, F321)

The above comments were important to note because these predicted the inner feelings of the participating teachers regarding the processes of "change" and revealed their state of mind weightier they were ready or not to undertake their responsibility and participate in this study. Although these comments show that initially the participants had concerns and were hesitant to undertake action research but it was not something unusual, because it was quite natural for our teachers to face anxiety that probably their efforts might not be successful and things may not change or improve (Stoll & Fink, 2000).

According to Bognar and Zovko (2008) it is difficult for us to accept that we have deficiencies and should try to make up these deficiencies and improve our selves. The participating teachers had similar feelings; they were hesitant to admit that they needed improvement in many areas and expressed their feelings through these comments. They were worried that if they admitted their shortcomings this might damage their service.

Questions asked:

During the input sessions questions asked by the participants were answered in detail and also recorded for analysis to develop the insight of participants' acquisition of the concepts discussed. The common questions asked included;

Q1. why is it important to have written lesson plans?

(M111, M232, M211, M312, M321, M422, M511, F121, F122, F221, F222, F311, F322, F413, F511, F512)

Q2. which format of lesson plan we should follow?

(M112, M121, M211, M221, M232, M312, M321, M411, M412, M421, M521, F112, F121, F112, F123, F211, F221, F311, F312, F322, F412, F511,F512)

Q3. what characteristics a good lesson plan have?

(M112, M121, M122, M211, M221, M232, M312, M321, M411, M412, M421, M521, F112, F121, F123, F211, F221, F311, F312, F322, F412, F511,F512)

Q4. can we use prepared lesson plans?

(M111, M222, M421, M521, F122, F222, F312, F411,F413,)

Q5. how can we collect data while teaching?

(M111, M232, M311, M321, M412, F123, F212, F322, F412,F511, F512)

Q6. where can we find more information about action research?

(M112, M232, M222, M321, M411, M421, M512, F112, F211, F312, F412, F511)

Q7. when to write reflections?

(M121, M221, M311, M321, M412, M421, M512, F122, F221, F311, F321, F413, F511)

Q8. who is a critical friend?

(M112, M212, M231, M322, M413, M521, F111, F121, F212, F311, F321, F412, F513)

Q9. what is the role of a critical friend in action research?

(M122, M232, M411, M512, F412, F123)

Q10. can the group members act as critical friend?

(M112, M123, M221, M311, M321, M322, M421, M422, M512, M522, F112, F212, F221, F312, F321, F413, F513)

Q11. how many cycles could be completed for any problem?

(M122, M221, M232, M321, M411, M511, F112, F123, F212, F311, F511)

Q12. which issue we can address in our research?

(M112, M121, M211, M221, M231, M312, M321, M413, M512, F121, F212, F222, F311, F322, F412, F512)

The number of questions asked during these sessions show that the participants were not passive and they took interest and asked questions of all types. Even though majority of the participants showed positive attitude but some of the participants did not participated actively. They avoided written work during input sessions. They were more vocal and talked more willingly about the ideas and discussed what could be done than undergoing written work (Bognar and Zovko. 2008).

It needed a lot of energy to convince the teachers that this study will be fruit full for them. I think some teachers thought it an extra work but hesitated to express their feelings openly. However most of the participating teachers started taking interest and raised questions for clarity of mind instead of passing negative comments. This switching over from passing negative comments to raising questions was a good sign which indicated that they had started to accept the idea of professional development through conducting action research. They also found it challenging and difficult to teach and do research at the same time. However it was important to make space for critical thinking and ingenuity on their part.

Explanation provided (by the participants):

The third step of improvement which I noticed was the attempt on part of the teachers to take control of the discussion by providing explanations in the response of

queries which appeared during discussion. These attempts were further encouraged by group discussion and presentations. As facilitator I added my input, highlighted the key elements of their explanation and related their understanding with the main theme of the discussion. In this way positive feedback encouraged the participants to overcome their shyness and fear, they felt more confident and empowered. Whenever situation demanded I made pliable the conflicting remarks.

At this stage I tried to encourage the teachers to develop the positive feelings of empowerment about their explorations. The significance of disclosing personal views and understandings to others could not be denied, but it is also significant to find out what others think about their ideas and views. Initially, when our teachers were learning to conduct action research, the focus was upon their involvement in the process of planning, taking action, reflection on action and re-planning. As the study was concerned with finding out the impact of action research on professional development of teachers, therefore it was considered more important to engage teachers in the process of action research as it is better understood only by doing. (Bognar. 2003)

As lesson planning, action research and reflective writing was the main focus of these input sessions the participants provided the following explanations and shared their understanding with their peers.

Explanations:- in response of the following questions, raised during sessions, participants furnished these explanations;

Q. Why we plan?

…to organize

…to assess teaching

…to compare and for improvement

(M232, M312, M321, M411, M512, M522, F123, F222, F311, F321, F412, F511)

Q. what are the Parts of a plan?

…Objectives, activities, evaluation

(M211, M212, M231, M232, M322, M411, M422, M522, F111, F121, F123, F221, F311, F321, F411, F512)

Q3. What is a good plan?

…focused on learning not teaching

…effective and efficient
(M112, M121, M122, M212, M221, M231, M232, M311, M321, M411, M413, M511, M512, F112, F121, F211, F212, F222, F321, F411, F412, F513)

Q. What is meant by effective and efficient?

…could achieve objectives and use minimum resources

(M122, M221, M232, M321, M512, F121, F123, F212, F311, F412)

Q. How can we increase students' involvement in learning process?

…through questioning, practical activities, group work

…by engaging them in classroom activities

(M121, M123, M222, M312, M413, M511, F121, F221, F321, F413, F511)

Q. how can we define Action Research?

…it is the improvement of something which is important in our lives.

(M231, M312, M412, M511, F211, F222, F312, F322, F411, F512)

Q. How can we improve what we intended?

…by making a plan and trying to achieve what was planned, that's how we can make improvements

(M231, M312, M412, F211, F222, F312, F411, F512)

Q. Can we find out about our improvement?

…umm, it could be checked through observation or … conducting an interview,

or…or with the help of our critical friend

(M221, M232, M321, M512, F212, F311, F321, F511).

Q. Who is a critical friend?

> …a person who points out what we haven't done very well or tells us what could be done even better, not just admiring us.
>
> …a person who informs us about our strengths, limitations and guide us what could be improved.
>
> (M121, M122, M212, M221, M231, M232, M321, M411, M413, M512, F112, F121, F211, F222, F321, F411, F513)

Q. What should be our next step after completion of a plan?

> …next step is another plan.
>
> …a new cycle, with new problems.
>
> (M211, M221, M311, M413, M512, F111, F222, F321, F412, F511, F513)

Q. How should we start a new plan?

> …in the same way using Kemmis' model; plan, act, observe and reflect.
>
> …A new plan and a new cycle…following old pattern.
>
> (M211, M311, M413, M512, F111, F222, F321, F412, F511)

Q. Shell it be related to what we have previously done or it should be something completely different?

> …new plan could be an extension of the previous plan or it might be fresh one
>
> (M121, M211, M512, F221, F321, F411, F511)

Q. Why do we reflect?

> …we reflect to become aware of our mistakes and successes and for recording discoveries
>
> …reflection helps us to recall our previous session
>
> …through reflections we can know what was good or bad in our lesson
>
> ….just like a mirror, showing us our image to make fine tuning
>
> (M112, M123, M221, M232, M321, M411, M512, F121, F123, F212, F321, F412, F511)

Q. What is Reflective Writing?

> …it's a way of thinking and exploring our performance

…a piece of writing or a dialog with our inner self showing critical analysis of what we have taught.

(M111, M122, M212, M232, M312, M322, M411, M512, F112, F121, F212, F222, F321, F412, F511)

Q. How should we write reflections?

…writing reflections include description, analysis, explanations and our expressions about our own performance

(M122, M211, M231, M311, M321, M412, M511, F111, F322, F411, F513)

Q. Is there any difference between writing reflection and a diary?

…reflection is not a descriptive diary

…both are different

(M232, M322, M411, F212, F221, F312, F411, F511)

Q. Can we sharing our reflections with others?

…we learn through sharing… at least it could be shared with our critical friend

(M121, M231, M321, M412, M511, F112, F212, F322, F411, F513)

Q. What is a good reflection?

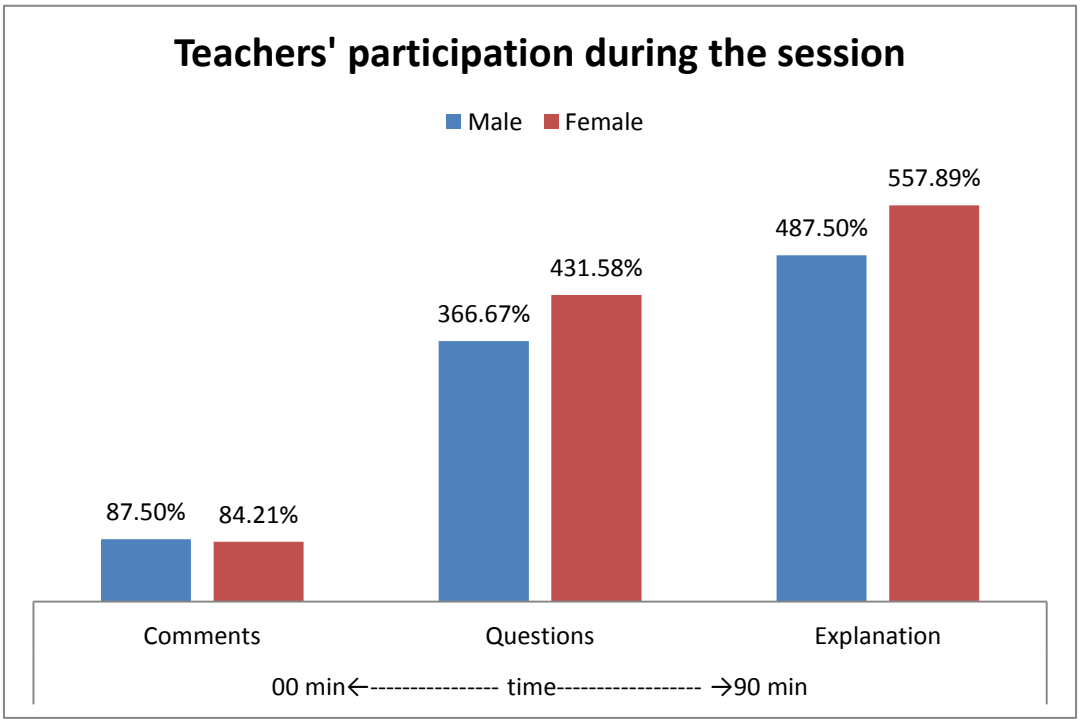
…good reflection includes expectations, the bests & worsts, applicability to real life and points for further improvements.

It is not just a description of what happened in class

(M123, M222, M322, M411, M422, M511, F121, F212, F311, F412, F512)

Figure 4.29

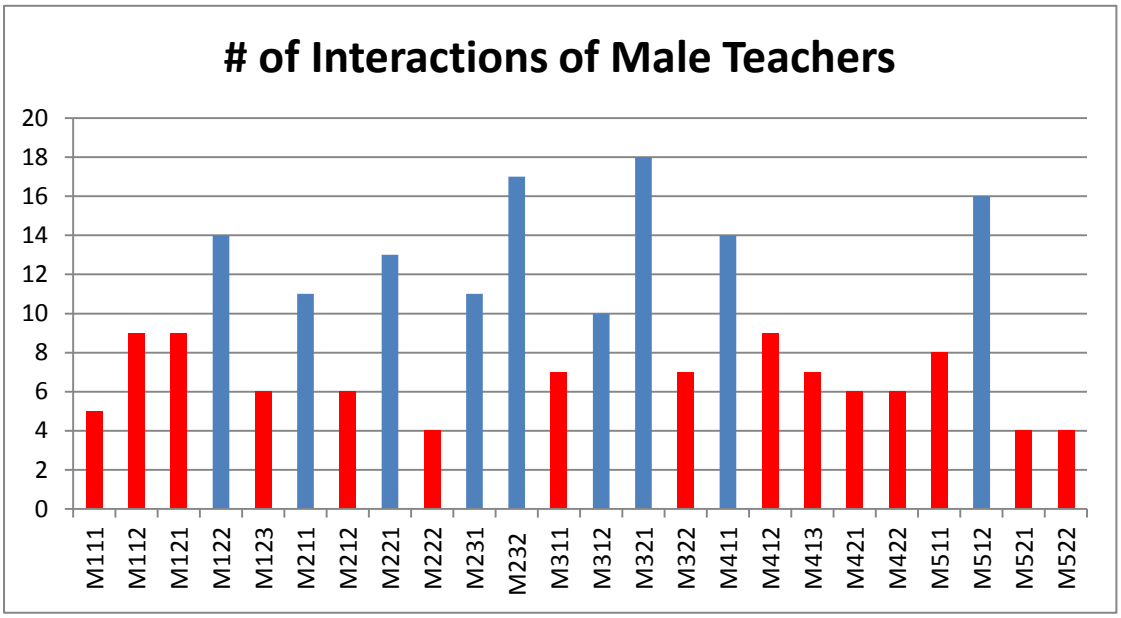
Teachers' Participation during the input sessions



The above figure shows that participants were initially passive and put resistance by attacking the idea of professional development and passed comments but as we proceeded they started taking interest, we see that they raised questions of all types this continued mostly during the middle of the session. The level of teachers' participation further rose when they started giving explanations. At this stage I felt as they were grasping the idea of action research and became motivated to start action research in their own classrooms for their own professional development. However I also noticed that there were some teachers (table below) who did not participated actively. These teachers were the real challenge for me.

Figure 4.30

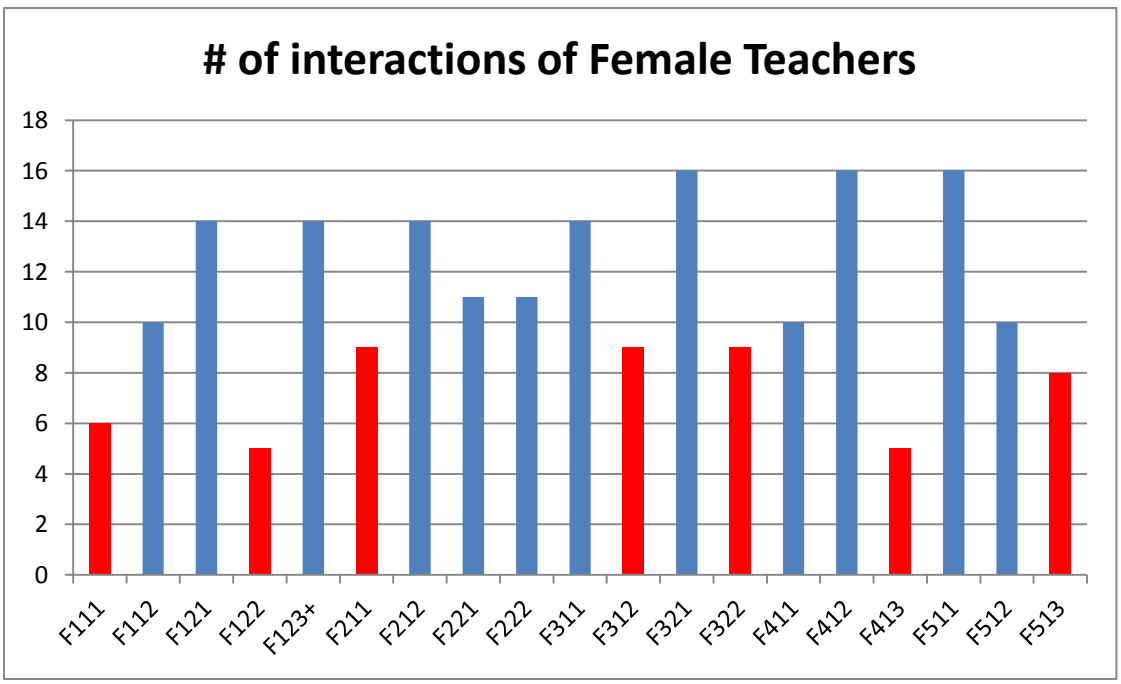
Frequency of interaction of teachers (male)



The red bars indicated those teachers' IDs who did not participated well during input sessions. The interaction of female teachers during input sessions is presented in the following table;

Figure 4.30a

Frequency of interaction of teachers (Female)

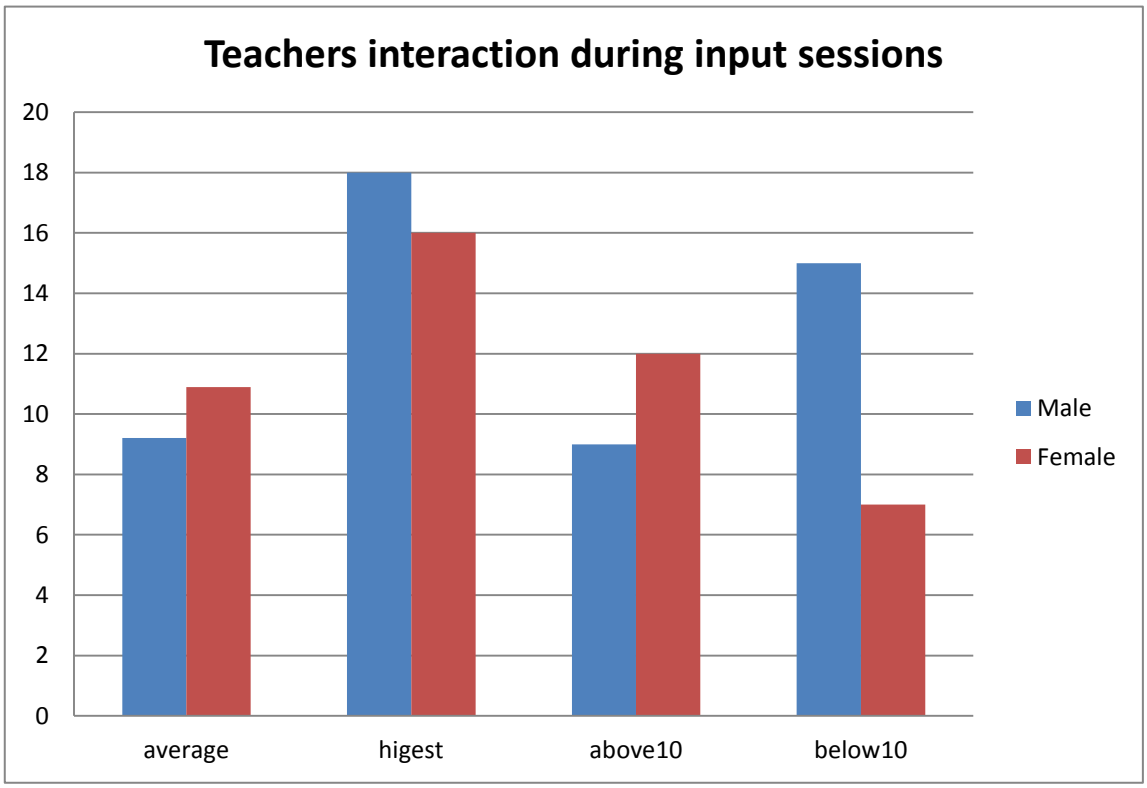


The results show that female teachers were more active during input session only seven teachers scored points less than ten. There were three teachers who scored ten points and four teachers scored fourteen points where as three teachers scored sixteen points.

The overall interactions (Table below) of the participating teachers showed that on average female participation was higher than male teachers although highest score of male teacher exceed the female highest score. Similarly we find fewer teachers (7 in number) who scored below 10 as compared with male teachers where the number of teachers scoring below 10 is 15, more than the double of female teachers scoring below 10. Better performance on behalf of female teachers is supported by the data.

Figure 4.31

Comparison of interactions during input sessions



The next step in the intervention stage was presentation of model lessons by the researcher the purpose of these model lessons was the practically demonstration of

major steps of lesson planning, writing lesson objectives, designing activities, systematic execution of the activities and assessing learning objectives.

2:- Phase two ─ Model lessons:

In phase two, researcher demonstrated two lessons to highlight the need for improving existing teaching practices and to motivate the participating teachers to take initiative to change and improve their existing classroom practices. For this purpose two lessons, one in the subject of mathematic and second in English language were selected and delivered in the real classroom situation at the participating schools. The participating teachers observed the lessons and recorded their observations and comments. At the end of the lesson they were invited for open discussion.

The model lessons were fruit full for the participating teachers in the sense that;

- Participants practically observed a different approach (Activity based method) which was focused on the development of higher levels of cognition rather than just delivering and receiving of information.
- The lessons were conducted in the regular classes of the participating teachers
- No especial teaching material was used during these lessons except chalk board and paper pencil.
- The topic currently in progress was selected for the model lessons to satisfy the teachers that any topic could be taught effectively active learning.
- All the conditions and environment in which the model lessons were delivered was the same as for the regular teachers.

The teachers were asked to fill in the given check list (annexure 10) their recorded observation showed that overall effectiveness of each lesson was excellent. The detailed observation and comments by the teachers showed that:

- *The main ideas of lesson were clarified and the classroom discussion was focused and specific. The central idea was supported with examples from student's daily life and required higher order thinking. Necessary information and definitions were provided while relating students' prior knowledge and during the lesson.*

- *The lesson was well organized with clear instructional objectives which led to distinct student learning out comes (SLO's). The introduction part of the lesson instantly took student's attention.*

- *The interest level of the student was raised and they were motivated to take active part in the learning process.*

- *The main learning activity was simple, self-explanatory and systematic. Students easily worked through all the steps and derived the conclusions, thus instead of mere telling the students were provided the opportunity to explore the concept and draw the results. In end the lesson was evaluated in an interesting manner.*

- *The lesson was interactive students were engaged all the time in the learning process through questions. Teacher raised questions at different stages of the lesson and sufficient wait time was given to answer the question. The intention was to encourage the students to become bold enough to participate in the learning process. Students' opinion was duly regarded and their responses were incorporated and enriched with teacher's feedback.*

- *The environment throughout the lesson was friendly and supportive; teacher and students enjoyed working through the lesson.*

- *Teacher's body language was effective and he maintained eye contact with the students throughout the lesson. The voice was clear and audible. Teacher occupied the central position in the class and moved around in the class showing his control and availability for the students. Although the teacher held the central position but never dominated the class or the learning process, instead facilitated and encouraged the students to play active role in the learning process by allowing them to come forward and share their ideas with the class.*

- *No especial material was used; the activities were so designed that locally available material could be used to facilitate learning. The use of simple low cost/now cost teaching materials was wonderful I (M321, F412) liked the effective use of paper strips for teaching the concept of fractions. Use of color combination to explain algebraic formula was also very appealing and interesting.*

The model lessons served as a benchmark for the teachers who made efforts to achieve this in the third phase of intervention. Working with teachers in third phase provided me with in depth experience of teachers' professional development.

3:- Phase three ─ Co-planning & Co-teaching:

Co-planning (at every school in group form) was the first step working together and I realized that although our teachers had enough theoretical knowledge but they had limited experience of practical skill in this field. To encourage and start with, I followed a simple technique which I called "zero plan" it provided the opportunity for teachers to organize their teaching strategies and include at least one area for improvement. Teachers were asked to think of an area of class room teaching which they valued and wanted to be improved. Majority of the teachers mentioned that they wanted their students to perform well in their studies particularly in the subject they taught. Here I draw their attention to the question; what as teachers we can do to help our students to perform better in their studies. In response to this question teachers come up with many suggestions like taking tests, students devoting more time for studies, and giving more practice exercises to develop mastery of the subject etc. I notice that teachers' focused more up on students to work even harder to perform better they were ignoring role of teachers in promoting learning. They did not mention any other way of imparting knowledge except lecturing and grammar translation method. At this point I directed the discussion towards other methods and techniques of teaching like; critical thinking, eliciting, and learning by doing (Dewey, 1930). Teachers discussed these concepts and they agreed that such techniques could

be helpful in promoting learning. Thus the main theme for our "zero plan" which emerged was "how can I help my students to perform well in the subject I teach" this theme for our zero plan was very much related with the idea "how do I improve what I am doing" (Whitehead, J. 2010). This question is viewed at the epicenter (ibid) of all efforts directed towards the improvement of ones' own practice and professional development. It enables us to concentrate on developing an understanding of the gap between teaching and learning, and as teachers and teachers' educators what we can do to minimize this gap and help our students to learn and perform better in the existing educational setup. In the process of improvement of ones' own practice we create, shape up and implement our own educational theories instead of applying or adopting someone else's thoughts and ideas. Hence the ability to; find the most appropriate way to achieve what we are struggling for, performing better and be in control of ones' own self makes us self-reliant and confident, thus we start relying on our own potentials rather than relying upon others for our problems.

In co- planning teachers played the leading role while researcher provided the technical support and guided them to; write instructional objectives in students' terminal behavior, design learning activities which required students to think at higher levels analyze the situation and find the solution themselves instead of noting down the readymade answers.

The next step of this phase was co-teaching, the purpose was to equip the participating teachers to keep a balance between their role as teacher and a researcher at the same time (Halai, N. 2010). Co-teaching was done with the participating teachers in their respective classes the purpose was to help out the teachers to maintain a balance between teaching and observing their own teaching as researchers. However it was initially very complicated but the teachers picked the idea how to collect data and note the important events, weaknesses and strengths. To help out our teachers in this situation three coloured cards; green, yellow and pink (gyp) were used to jot down any strength, weakness or an important event during the class. "Gyp"

helped the teachers to reflect upon their lessons latter on at a convenient time. For each lesson teachers filled a "gyp" and later on they separated the three cards and maintained a file of their strengths, weaknesses and all the important events which took place in their class.

> …the opportunity of co-teaching with teachers provided me the chance to observe the participating teachers closely while they were engaged in the teaching process in their regular classes. All the three teachers were experienced teachers but they certainly not have the opportunity to instigate research based teaching. One common element which I noticed was that teachers were trying to give maximum information to their students and they exerted a lot of energy themselves but could not manage to involve their students in the learning process. On the bases of recorded interactions between teachers and students in form of questions and answer the class conducted by teacher ID M321 was comparatively better than the other classes. The teacher asked open ended questions and also appreciated those students who had any question, near the end of the period the students were quite active their enthusiasm showed that they could have continued for another period (40 min).

Co-teaching with teachers from rest of the schools gave the opportunity to understand my research participants more deeply. Working experience with individual teacher was a unique experience in the sense that learning pattern of every teacher was quite different from the other teachers; the hurdles in the process of professional development were different for the different teachers and their own philosophies of professional development was quite different. However the similarities which I derived from this experience were;

1. All the teachers believed in the static view of professional development.
2. They did not realized the importance of teachers' professional development

3. Each teacher's own academic and professional past experience determined his/her teaching method and strategy.

4. The teacher's inner spark differentiated the individual performance.

Phase three had an encouraging ending in the sense that teachers' were motivated and aspired to start the next phase and complete the first cycle. Their non-formal talks at the end of phase three revealed mixed feelings I noticed that;

1. Teachers were enthusiastic to take the next step and explore more about their teaching practice

2. Teachers were apprehensive to take the leading role because they tried to avoid the agony of failure therefore they also forgo the pleasures of success. Such an attitude had turned the teachers into inert individuals who falsely put the blame upon elements other than themself like text books, curriculum, management, parents, students' abilities and deficiencies left in pervious grades. Introvert extrovert

3. No strategy to change this lethargic attitude by management, the daily routine activities were so schedule that there wasn't any room for professional development activities.

4. Especially teachers and the management at all levels was the victim of enigmatic fears therefore all possible efforts were made to be limited and stick to the short term objectives in a mechanical way to minimize the chance of running into any unforeseen situation.

This experience, however gave me the knowledge to effectively guide my research participants in the coming stages of this research study.

As mentioned in chapter 3 the next two phases i-e phase four and phase five were broken down in parts a, b, and c. these parts were carried out in the sequence that phase five (a) followed the phase four (a) and phase four (b) was followed by phase five (b) same was the case of part (c) of the two phases.

4:- Phase four part (a) Independent Teaching/Action Research Cycle One:

Start of phase four part (a) was actually the starting of research cycle one, hence the process of professional development and changing the existing classroom practice started with the execution of "zero plan" in the first research classes. The most prominent change which I observed was, teachers entering their classes with a written lesson plan for the first time and with intentions to analyze their teaching practice to bring positive changes. The day was very important and full of excitement for the teachers as well as for me;

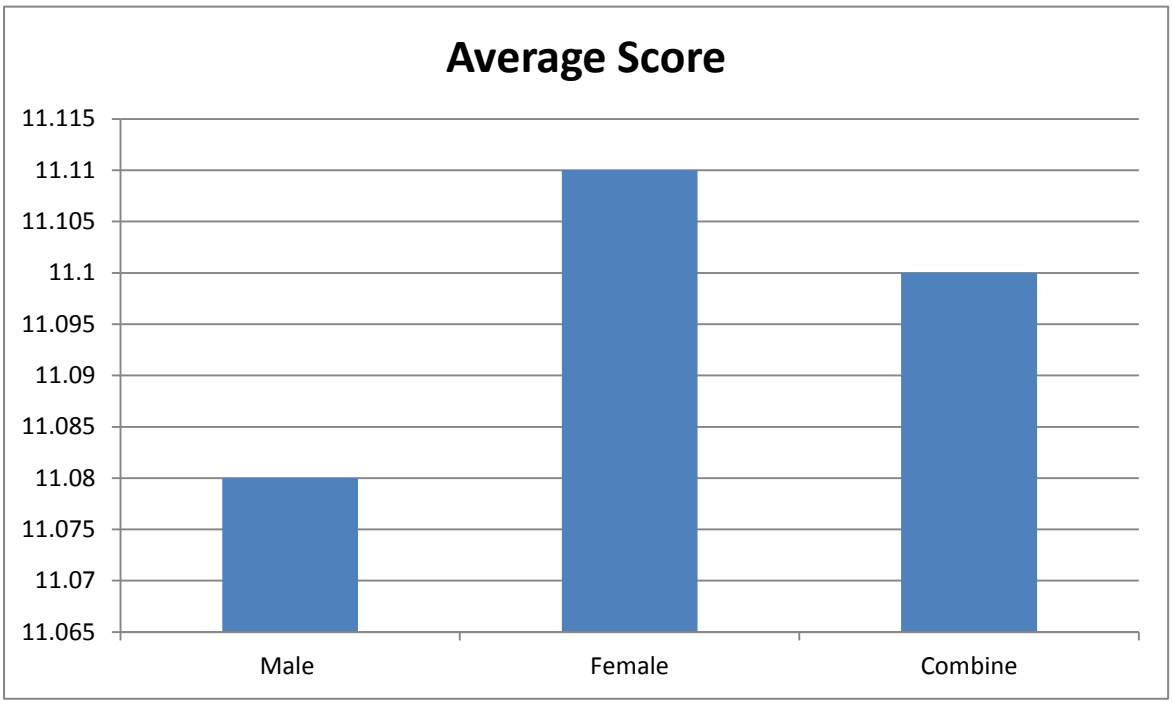
> …at last the moment came for which we all have been working hard, all the four teachers participating in this research were present with their lesson plans (Zero Plans). As I entered the school (PS-M3) they approached me and said that they were ready and excited. I felt that as they were going for some kind of examination but with a different mindset because they were the examiners and the examinee at the same time. My role in the first research class was of a critical friend. The plans were implemented and I observed that the teachers were more concerned about steps of plan to be followed instead of the learning and students' achievements. Although the teachers tried to involve the students but their style was mechanical and devoid of the vigor which was required by the activity…

Research cycle one brought in a huge flux of data, 43 "zero plans" of all types ranging from single page to three pages, practically provided the foundation stone for the professional development of our teachers. Before further analysis of these "zero plans" one thing was markedly clear that it was the first documented effort in the direction of professional development of our teachers. These "zero plans" were evaluated using analytical rubric (see annexure 11). Different categories with their maximum scores are shown in the following table;

Exemplary	Proficient	Satisfactory	Partially satisfactory	Unsatisfactory
50	38	16	11	9

The assessment of the "zero plans" on average showed score of less than 16 points and fell in the category of partially satisfactory. Collectively they ranged from satisfactory category (16 points) to unsatisfactory category (9 points). The average score for "zero plan" is shown in the following table;

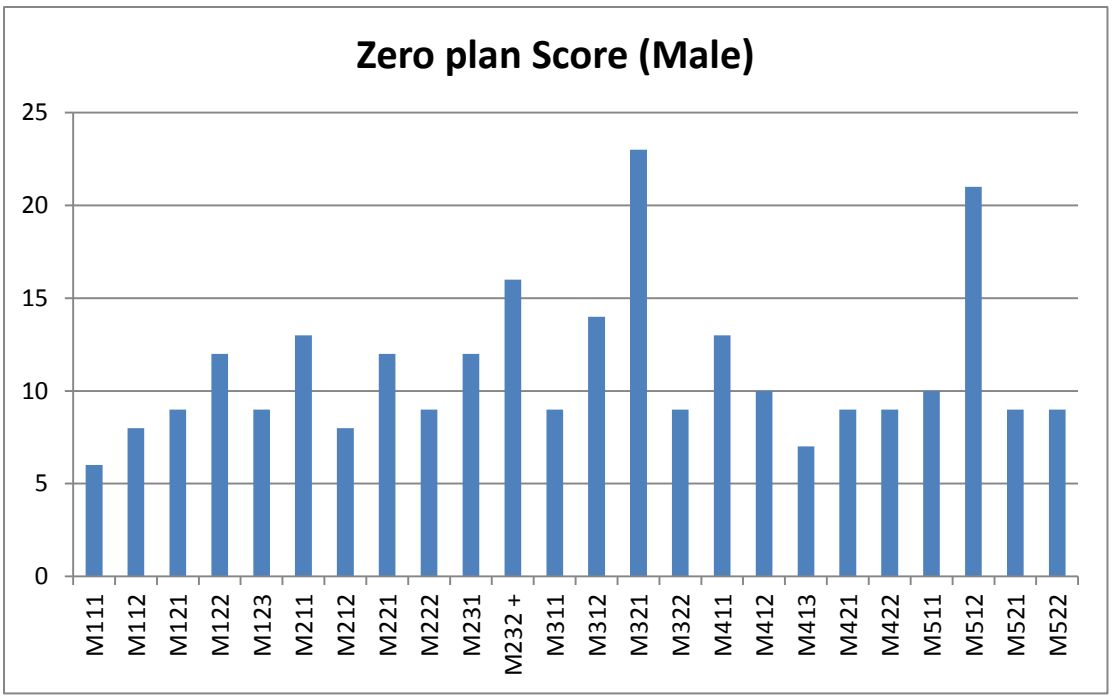
Figure 4.32 Evaluation of Zero Plans on Average Scores (Male & Female)



The teachers were given the opportunity to evaluate their own "zero plans" according to the mentioned rubric their evaluation is shown in the following tables:

The results for individual teachers (male) are presented below;

Figure 4.33 Evaluation of Zero Plans for individual teachers (Male)

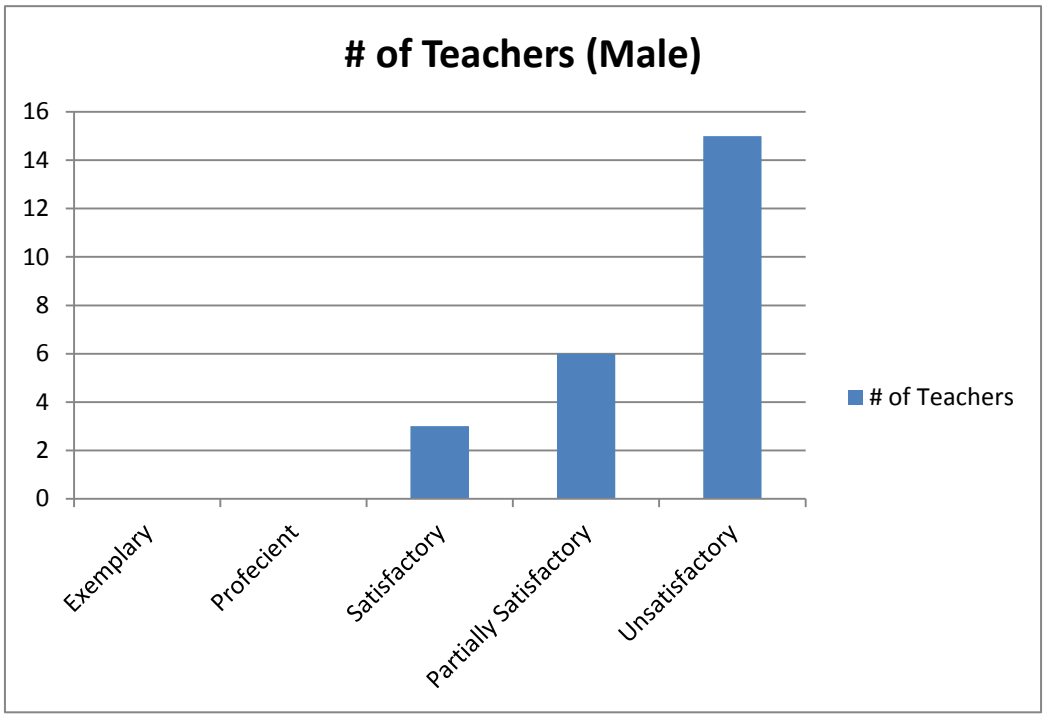


The above figure shows the evaluation of "zero plan" by the participating teachers; the maximum score is 23 whereas minimum score is 6. The results show that even the highest score did not fall in the upper categories like exemplary or proficient.

The overall picture is presented in the following table, which show that only three teachers (12.5%) scored 16 and above and qualified for the satisfactory level according to the evaluative rubric. Six teachers (25%) performed at partially satisfactory level by scoring 11 and more points, rest of the fifteen teachers (62.5%) fall in the category unsatisfactory.

Figure. 4.33(a)

Collective Evaluation of Zero Plans for male teachers



Although this picture was not encouraging it was promising in the sense that the teachers were seeing things in a positive and realistic way. Zero plans were realistically evaluated by the teachers themselves. Not only they pointed out their weaknesses but also had improved future plans. For example one of the teachers (ID-M312) mentioned;

> *...I (teacher) was initially of the opinion that writing many objectives, general and specific, as we have been taught in B.Ed, is a quality of the lesson plan but now I (teacher) see that we should set realistic and achievable objectives. I (teacher) have learned how to write "smart" objectives. What are "smart "objectives? This was totally strange to me. However writing "smart" objectives is very important for effective teaching. Now I (teacher) see that objectives should reflect the terminal behavior of the students, they should reflect the performance of the students so that we could measure any change in their performance. Writing objectives in this way need a lot of thinking which I (teacher) had never done before. Also it was a bit difficult for*

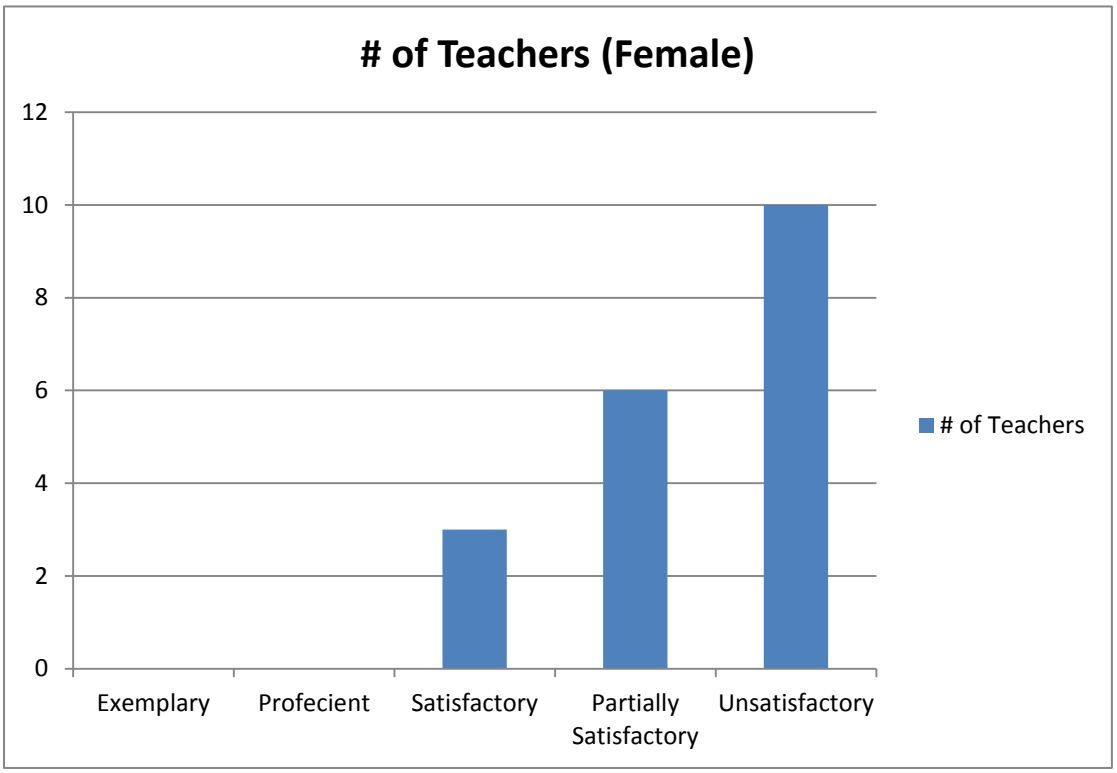
me, as I (teacher) was used to teach without a written plan it has triggered thinking in my (teacher's) mind that my (teacher's) teaching was directionless. I (teacher) can now plan lessons with "smart" objectives and will teach accordingly. (Teacher ID- M312 Reflective diary).

I also soften my comments and encouraged the teachers and told them that they have a lot of opportunities to make further improvements in the coming few days. Actually I was very much concerned to maintain the present sprit of the teachers to improve their teaching practice and enhance students' learning, throughout the research study and further strengthen it so that it become a routine in their future life.

Situation for the female teachers was more or less the same none of them was categorized as exemplary or proficient as evident from the following table;

Figure. 4.34(a)

Collective Evaluation of Zero Plans for female teachers

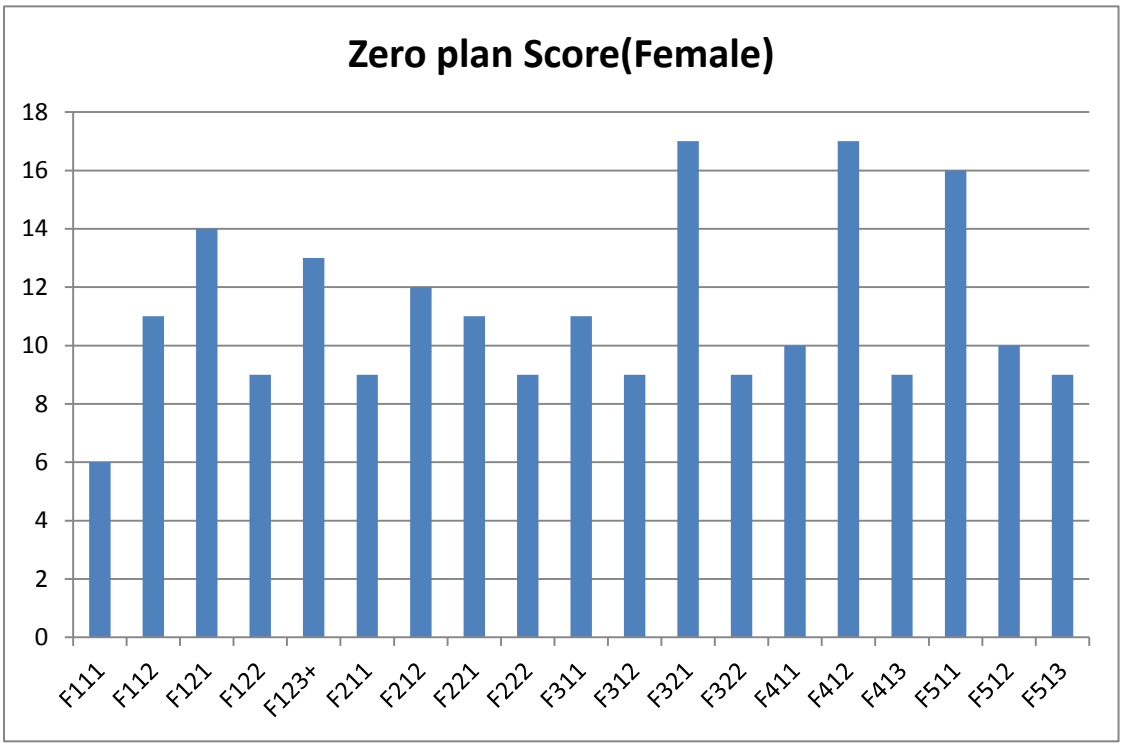


Their performance also ranged from satisfactory to unsatisfactory. Their combined performance with an average score of 11.11 was partially satisfactory. Only

three teachers (15.79%) scored enough to be labeled as satisfactory, the performance of six teachers (31.58%) was partially satisfactory while ten teachers (52.63%) did unsatisfactorily. The table below shows the evaluation of individual zero plans made by the female teachers themselves;

Figure. 4.34b

Evaluation of Zero Plans for individual teachers (Female)



Despite of the similar results as of male teachers, the participating teachers had strong sense of achievement in the sense that they had conducted a research based class for the first time. The teachers were more concerned about conducting research as compared to their own performance. I think that actually the tension which prevailed before their first research class was released and once they went through the experience they felt confident to perform even better in the next research classes. This was good and my encouragements further strengthen their confidence. During a non-formal talk after the first research class and implementation of "zero plan" following comments and conversations among the participating teachers (ID- F211, F212, F221,

F222) reflected their inner feelings, sense of achievement and their confidence to perform better;

F212 → …did you see that the class was so ACTIVE − − I couldn't believe it.

F211 → Yes I was ↑surprised ↓too, they were attentive and following the instructions quite ↑responsible=I think they liked today's lesson that's why they behaved ↑well…

F212 → … I also ↑enjoyed my lesson; you see I am thinking − − that I have been teaching for MORE than six years but it was for the first time that I was really concerned about students'↑ learning all the time.

(0.6)

F221 → …what's your point?

F212 → ºyou seeº… my point is that (0.2) I mean to say − − that I never thought whether learning has occurred or not… I taught and assumed that students ºlearnedº.

F221 → did you think your class ↑learned today?

F212 → Yes --- ºperhapsº… I am not sure↓ (0.4) but students were active and their involvement showed that they were gaining something…

F211 → what may be the reason was but they were behaving ↑very ↑well

(0.7)

F212 → I think they miss behaved because they ↑don't like the ↑way I have been teaching↓.

The above non-formal talk reveals the inner feeling and the insight of the fact developed by the teacher (ID-F212) that she enjoyed her lesson and realized that why students miss behaved. She also became aware that when students are actually

involved in the learning process and feel that they are gaining something they behave nicely. What I learned, was that there is a relation between students' miss behavior and teaching methodology. If teaching method is good and they are properly involved in the teaching learning process the incidences of miss behavior in the class room could be controlled or at least minimized. The mutual interaction of teacher and students to work through the lesson and reach their target is very important, both the parties have their own specialized role and both of them need to play their role effectively otherwise the achievement of the set targets not only become difficult but sometimes it may take the class in a different direction. Hence it is necessary for the teachers and the students to play their role properly, the teachers have an additional responsibility of the director also therefore it is the teacher who is responsible to direct his/her students to play their role in an effective way.

Conversational analysis of other such talks informed this study that;

- Teachers were thrilled to conduct research in their class rooms.
- They started noticing different aspects of class room teaching like students learning, their involvement in teaching learning process and issues related to classroom discipline.
- Change in teaching methodology had positive effect on student's learning.
- Teachers enjoyed challenging their own teaching practices.
- Lesson planning was demanding and required prior thinking.
- Teachers' needed technical and professional support to conduct action research at school level.
- Working in groups was supportive in planning, implementation, and getting feedback.
- There was a "buzz" among other teachers of the respective schools about the research classes; they tried to know what's going on?
- Students seemed happy and they liked the new approach of teaching and felt the difference in teachers' attitude during the class.

- Writing “smart” objectives need practice.
- Designing purposeful activities to achieve lesson objectives was difficult; teachers faced lack of ideas, need was felt by the teachers to study relevant and supportive material in order to come up with fresh ideas.
- Availability of such related material was a problem.
- Teachers faced difficulties to provide teaching aids and low cost no cost material for classroom activities.
- Teaching and doing research at the same time was difficult to manage.
- Use of “gyp” was helpful to write reflection.
- Teachers were anxious to improve their “zero plans”.
- Teachers were in a better position to control the learning process.
- Students’ participation increased and they raised questions.
- Lesson planning helped teachers’ to gain time during class and pay attention to other matters, like individualized needs of students, giving proper instructions and assessing their own teaching.

After completing the first research class of cycle one teachers arranged their first meeting to share their experiences. These meetings were so arranged that the male and female schools of the same locality had this meeting on the same day but at different times i-e one school had this meeting in the first half (before break) and the other in the second half (after the break).

5:- Phase five part (a) ─ sharing of experience and future planning:

Experience sharing meetings were arranged in all the participating schools. It was planned that daily two meetings would be conducted in the male and female schools of the same locality. Based upon the observations and reflections of first research class the working group met to share their experiences and planned for the next research class. The time and duration of experience sharing meeting was left to the disposal of the working group. At this meeting they expressed openly their views

about the action taken, implementation of plan and the strengths, weaknesses and other related issues.

The first experience sharing meeting at each school was personally attended by me. The procedure was such that one teacher was asked to volunteer and share his/her reflections and then a whole group discussed was generated and all the group members were invited to respond and comment. Any reflection was analyzed on the bases of the following questions;

1 What did the teacher intended to achieve from his/her lesson?

2 Did the teacher respond to thoughts and feelings regarding his/her teaching?

3 Did teacher examine the teaching learning process, how did it occur?

4 Did teacher notice any moment of discovery or realization during his/her teaching?

In these meetings I noticed a variety of responses about the research class and different feelings about the experience. For example, research class was interesting for some teachers but on the other hand the experience was boring for some teachers. Still there were teachers who considered it difficult and complex but at the same time they enjoyed conducting research. One thing was clear that majority of the teachers expressed themselves by saying that the experience was fruitful in the sense that it brought into their notice many aspects of classroom teaching which were never noticed by them before. For instance a teacher (M411) wrote in his reflective journal about the experience of conducting action research in his classroom;

> *...personally speaking the last week was really important and exceptional. Because what I learnt during this time and added something valuable to my knowledge which I have never experienced before. Astonishingly, I came to know that I have found the answer to the question why my students are poor performer? The answer was, because I never tried to address their problems and supposed that they*

learn automatically. Retrospectively I can say that I did not do much practically to improve my students' performance but one thing is certain that I have realized that I must change and improve my own teaching practice to change and improve my students' performance. I am convinced that by changing my teaching the students' performance will definitely improve. At the moment, I feel pity for my students and consider myself responsible for their poor performance. I have decided to try my level best to improve my own practice and help my students to perform better. I also found this study an opportunity because it draw my attention to the facts which I mentioned above and which remained hidden from my sight in the past. (Teacher's Reflective Journal─ID.M411)

The awareness which this teacher (M411) developed was really valuable because he acknowledged the fact that students will produced what they have been trained for. As I have mentioned earlier in this chapter that our students are only trained to reproduce what they have been taught, they are not trained to use their higher order mental abilities like critical thinking, analytical and synthetic abilities or being creative. A part from the existing situation or what our students are trained for, I am more interested in the fact that the teacher has realized that unless he doesn't change, students cannot be changed to deviate from the mechanized rote memorization of remotely related and scattered facts of science, history, mathematics or even the basic Islamic philosophy, which we claim to encompass the entire human life. As a result our educational system has failed to develop the potential of our human resource. Teachers as agent of change (Bargal.2006, Lewin. 1948) cannot bring any change unless they themselves change. The following extract from the reflective journal of another teacher reveals the initiation of change in her perception of classroom teaching;

The last few days, since we have been involved in this research, were stimulating and notable in my professional life because I felt that, although I am a teacher by chance not by choice, teaching needs my full attention. Classroom teaching was not something which I enjoyed and I always blamed students for not working hard or paying attention. But in our orientation session when our attention was drawn to the question that;

Considering your competency and level of skill in the field of education that you have, if replaced with your swimming competency and skill, would you jump in to the river water and will reach safely on the other bank of the river?

Or

Considering your competency and level of skill in the field of education that you have, if replaced with your surgical competency and skill, would you operate your own son or daughter?

Gave me a shock! To be honest my answer was "No" this was something which made me think, Am I doing justice with my job? Is my earning justified? Am I helping my students to develop their mental abilities? These were the questions which changed my thinking and perception about classroom teaching. I am convinced that teaching is much more than book reading or solving mathematical problems.

During this time I was not just thinking but also preparing for my first research class and did many things, the first thing which did was to write down the objectives of my lesson, which was not an easy job. I asked myself what I actually intended to achieve by teaching the lesson "Keeping Good Health" I couldn't had a clear answer, but still I wrote lesson objectives;
To impart information about the Good Health

To enable the students to read the lesson with correct pronunciation
To understand why is it necessary to take proper food
I also tried to think some interesting way to deliver the lesson effectively and prepared some coloured cards for difficult words. I also included assessment at the end of the lesson. For this I also searched some of my old lessons plans which I prepared during my B.Ed course to have a good lesson plan. To cut the story short I had a written lesson plan and some teaching material other than the usual black board. After the lesson the students were happy about the coloured cards and the story which I told them in the start of the lesson but I was not satisfied with my lesson. As I still want to know what I really intended to teach my students!(Teacher's Reflective journal─ID.F321).

The reflection clearly indicated that this teacher started to realize that her teaching needed improvement. She accepted that she did not like teaching and she was not a teacher by choice but still she admitted that teaching needed full attention. And mere reading or solving mathematical questions could not be considered teaching it may be a part of teaching but it is not the whole story. I praised her thinking and appreciated her work I also offered my help and guidance to improve her lesson plan.

Her reflection was very impressive and I was satisfied that she could help her other colleagues in this matter because there were teachers who had some written account which couldn't be considered a reflection at all. For example; (ID.F312)

My topic was "مالک کے خلق عظیم" I wrote all the difficult words and their meanings on the black board and asked the students to note these words meanings in their note books. After this activity I asked them to sit in groups and read the lesson with me. Then the students read the lesson in their groups. After this I gave them some cards with difficult words on them and their meanings on other cards and students find the meanings for difficult words on their cards and

showed them to their friends. In the end I wrote sentences for important words from the exercise and asked the students to read the lesson at their home for practice.(Teacher's Reflective Journal─ID.F312)

The above three reflections were selected among other such types of reflections to present the best and the worst types of reflection of this phase to determine the level of reflective ability of the participants and their first reflection served as reference point to measure further improvements. It also distinguished the teachers from each other so that their progress and professional development could be determined on individual bases.

In the second half of these meetings the working groups discussed their "zero plans" in detail and taking into consideration all the possibilities they mutually decided what step was appropriate to be taken for improvement and planned accordingly for the next research class. Technical and professional support by the researcher was extended to all the working groups in those meetings. The new plan called "Lesson Plan One" was developed for the second research class. The group members agreed that "Lesson plan one" should also include those areas which they think need attention and somehow linked with students' performance. Therefore holding on to the main theme of "lesson planning" groups decided to include additional areas of their interests in "Lesson Plan One" hence an improved plan was prepared. At this stage the scope of the study started to expand with the inclusion of new areas of class room observation, which the teachers had reflected in their journal. Thus on completion of phase five (a) some other sub themes were included for investigation in "Lesson Plan One". The detail of "Lesson plan one" for each working group along with additional areas is presented in table 3.4 (a)

We can see from the table that five additional areas were selected by the groups to be included in "plan one". The group members also agreed to investigate how improvement in the selected additional subtheme helped students' learning.

Although the group members worked upon the same area but they selected different strategies.

Despite the varying performance of the teachers in phase four (a) they had one thing in common as evident from their planning that they were determined to assess their teaching abilities and apply different strategies to improve those associated areas of learning which; they thought; were somehow effecting their teaching practice and slowing down students' learning. For example some teachers mentioned in experience sharing meeting that students' poor performance was due to poor reading comprehension therefore they decided to work on this area (reading comprehension) and study the effective. Similarly some teachers pointed out that they faced problems while teaching mathematics and in their opinion this was due to the fact that students were not good enough to do quick mental mathematics. Therefore they planned to focus this issue in "plan one" and record the outcomes. Still some teachers who were teaching science noticed that due to lack of performing experiments students faced problems in understanding simple science concepts, so their plan was to teach such science concepts through performing science experiments in their classrooms.

The teachers' intentions showed that they were proceeding in the proper direction with a scientific approach although the procedure was not based on strict rules of a scientific inquiry; however the process they took part in was highly valuable because they were practically involved in the process of examining their current teaching practice and finding ways for its improvement. Therefore it was very encouraging for me because with this kind of approach (action research) professional development could be measured; similarly it was also important for the study as it was related to measure the impact of action research on teachers' professional development.

Female teachers also adopted the same procedure for sharing experiences with their colleagues and getting feedback from each other. The details of "Lesson Plan One" for female teachers are given in table 3.4 (b).

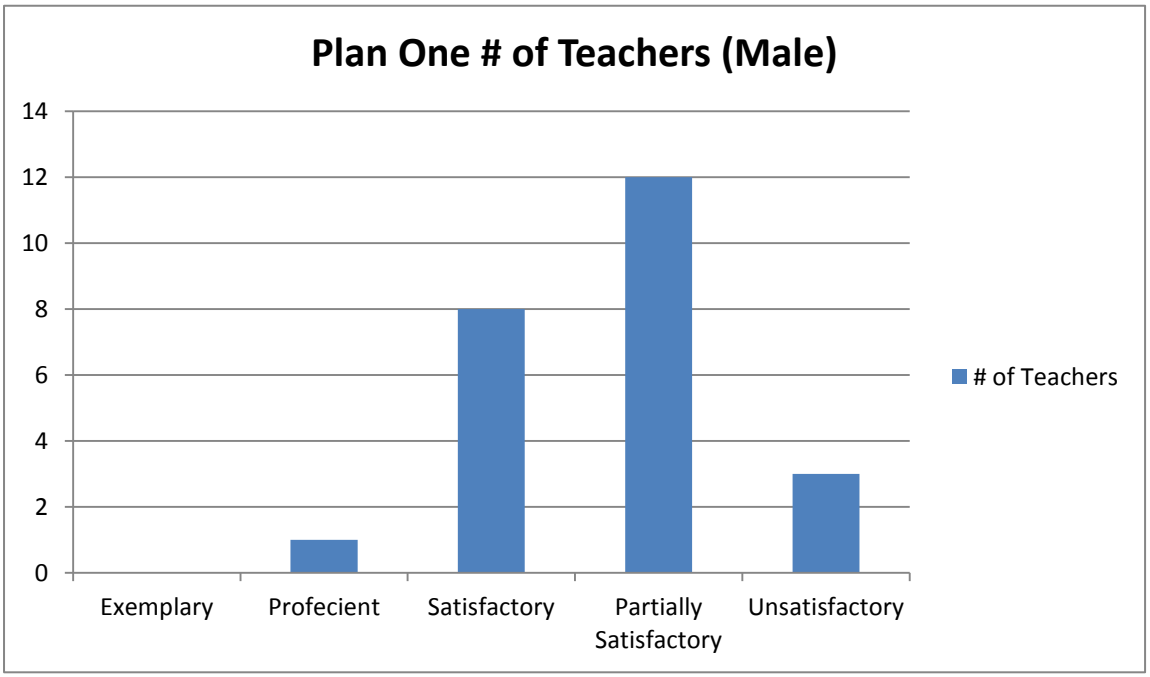
In the experience sharing meetings female teachers agreed to re-plan and improve their planning skills. They also decided to include new themes and test their strategies. The awareness which the teachers gained and realized their own limitations, was valuable because this knowledge was the beginning of their professional development. All the teachers participated in these meetings but only nine teachers had written reflections, although those teachers claimed that they had written reflections but I think they didn't as they were unable to produce any. I mentioned that having a written reflection was far more important because it helps to plan our next step.

Phase four part (b) Independent Teaching/Action Research Cycle One: -

Phase four part (b) was focused upon the improved "plan one" the main point was to implement "plan one" and to measure any change. Therefore "plan one" was evaluated according to the criteria set through the evaluative rubric mentioned earlier (see annexure 11). in this phase not only all "Plan One" were assessed but a comparison with the "zero plan" was also made on the individual bases. From this point a separate record of individual teacher was maintained which reflected the change observed in his/her professional competencies. The assessment of "Plan One" showed that the overall performance of male teachers improved. The number of teachers falling in each category is shown in the table below;

Figure. 4.36

Collective Evaluation of Lesson Plan One for male teachers



In this phase only three teachers prepared lesson plans which belonged to the unsatisfactory category. Twelve teachers prepared lesson plans which were assessed as partially satisfactory. Eight plans were of satisfactory nature whereas one plan was scored 38 and hence it reached to the proficient level. The detail is shown in the following table;

Table 4.37

Comparison of Zero Plan & Lesson Plan One (Male)

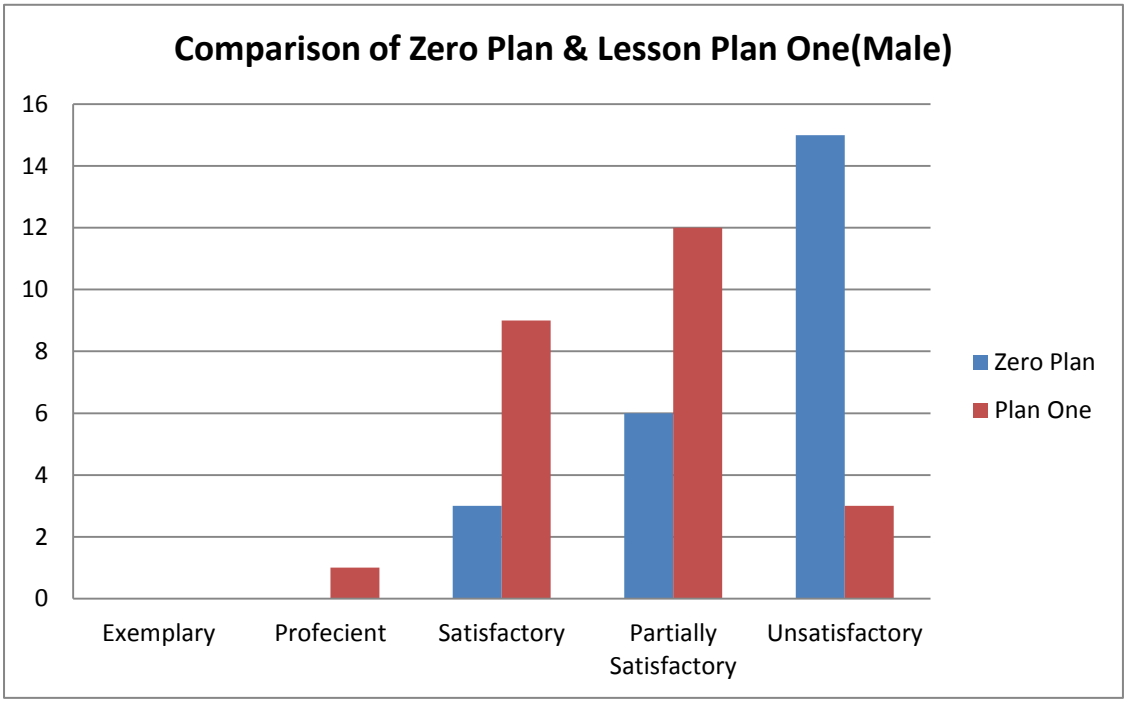
Male Teachers						
	Zero Plan		Plan One			
Category	# of Teachers	percentage	# of Teachers	percentage	change in # of teachers	percentage change
Exemplary	0	0	0	0	0	0
Proficient	0	0	1	4.17	1	4.17
Satisfactory	3	12.5	8	33.33	5	20.83
Partially Satisfactory	6	25	12	50	6	25.00
Unsatisfactory	15	62.5	3	12.5	12	-50.00

As clear from the above table we can see a shift from unsatisfactory to satisfactory levels. The average score for "plan One" for male teachers is 15.67 whereas their average score for "Zero plan" was 11.08 this shows that the % increase in their average score is 41.43. The number of lesson plan in unsatisfactory level decreased from 15 to 3 the percentage change was -50.00(negative sign indicates decrease). The number of lesson plans in partially satisfactory level increased from six to twelve and the percentage change was 25. The change in the number of the lesson plans in satisfactory level was five which increased from three to eight; here the percentage change was 20.83. The most important change was in the proficient level where we observed one lesson plan which was rated as proficient.

The comparison of "Zero Plan" and "Lesson Plan One" for different levels is graphically presented in the following table.

Figure. 4.37(a)

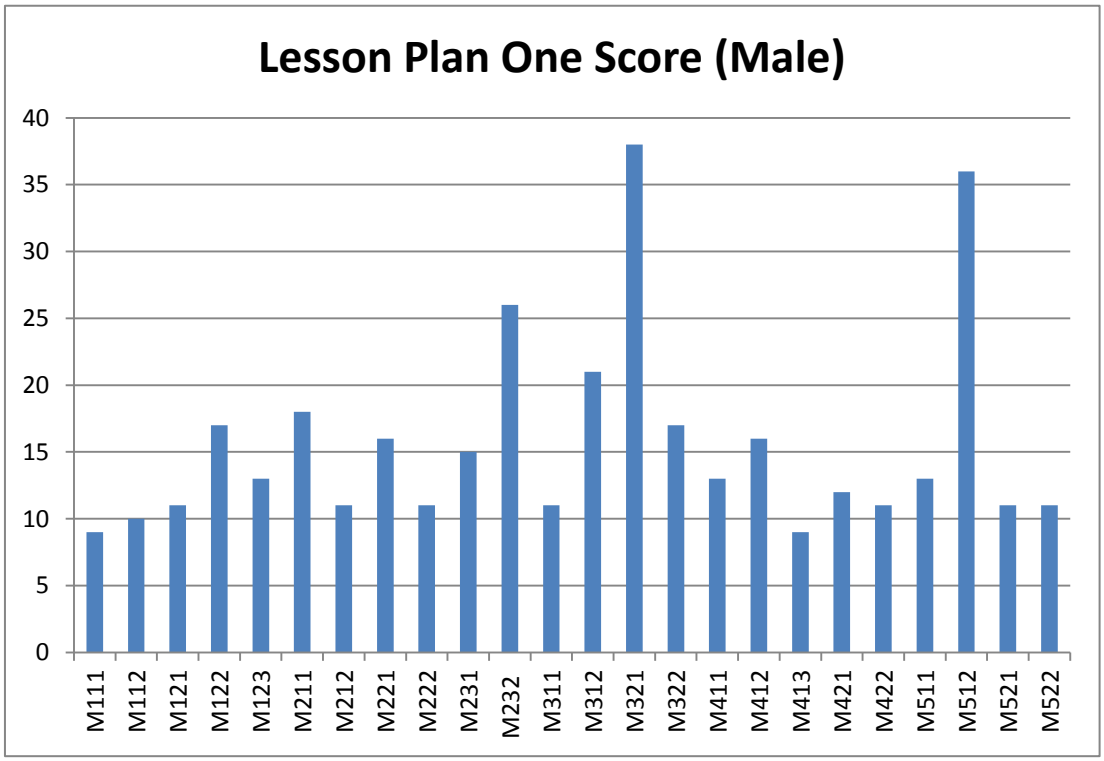
Comparison of Zero Plan & Plan One (Male)



The scoring of "Lesson Plan One" for individual male teachers is presented in the following Figure;

Figure. 4.38

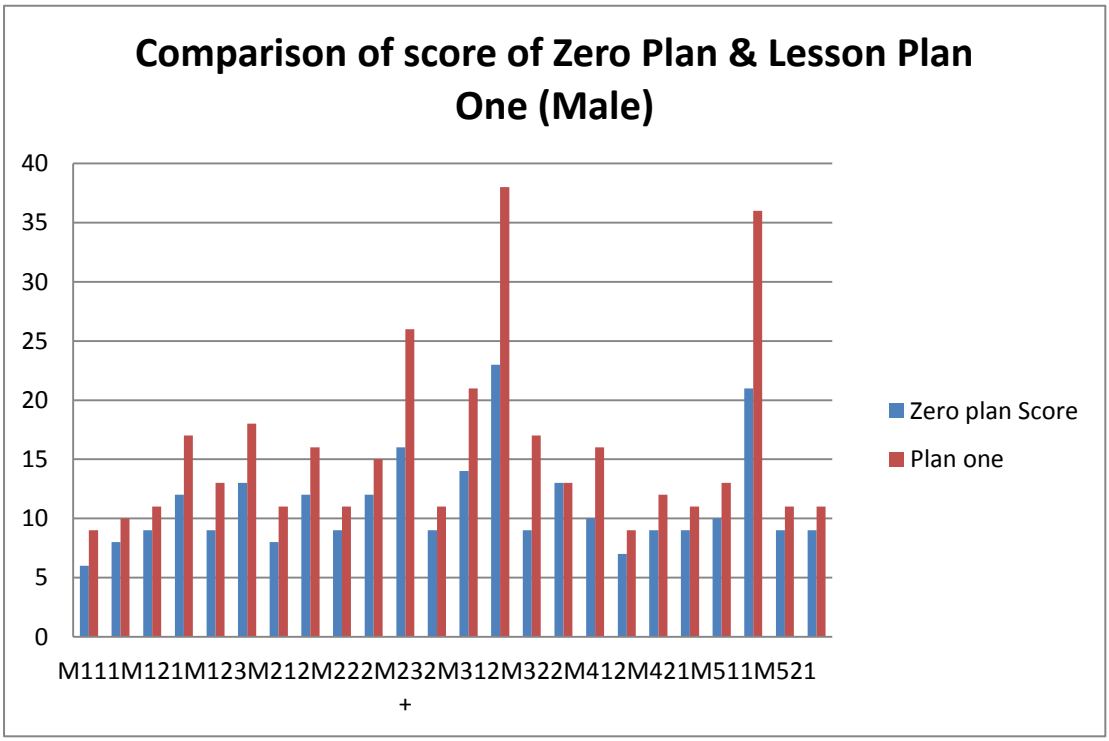
Evaluation of Lesson Plan One for individual teachers (Male)



At the individual level lesson planning skills of teachers show an improving trend. For example for teacher ID (M111), score for "Lesson Plan One" was nine, whereas for "Zero Plan" it was six, although in both the cases the lesson plan remained in the category "unsatisfactory, but it is also a fact that there is an improvement of three points , which cannot be denied. The other extreme case is of the teacher ID(M321) who developed his lesson planning skills form "satisfactory" to "proficient" level by scoring 23 points for "Zero Plan" and 38 for his "Lesson Plan One", the general comparison of the scores of "Zero plan" and "Lesson Plan One" for all the male teachers is presented in the following Figure.

Figure 4.39

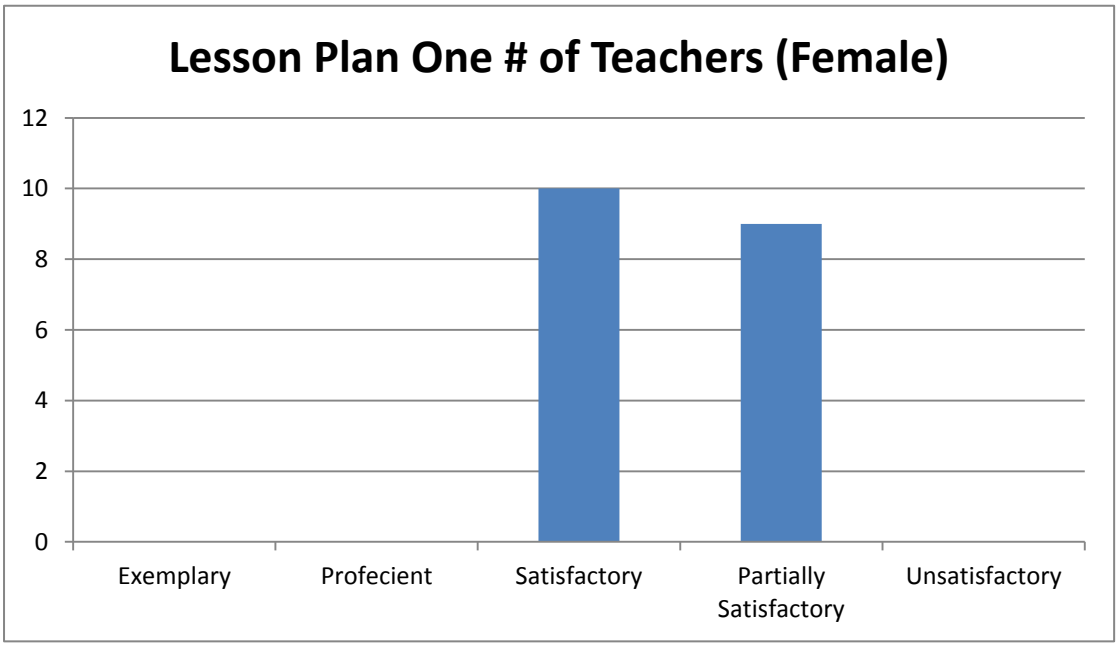
Comparison of score of Zero Plan & Lesson Plan One for individual teachers (Male)



Performance of female teachers was even more prominent in part (b) of phase four, as we see that there is no plan which could be categorized as unsatisfactory. Although we don't have any plan which could be categorized as proficient also but decreasing of ten unsatisfactory lessons to zero was a big change. Similarly increasing of three satisfactory lessons to ten was also quiet significant. The collective performance of female teachers for "Plan One" is presented in the following Figure.

Figure. 4.40

Collective Evaluation of Lesson Plan One for female teachers



The detailed comparison of "Zero Plan" and "Lesson Plan One" for female teachers shows significant improvement in their lesson planning skills. A clear shift from unsatisfactory to satisfactory levels is present. The table below shows that lesson planning skills of female teachers improved from 15.79% to 52.63% in satisfactory level category. Improvement in the partially satisfactory level was 31.58% to 47.37%

Table 4.41

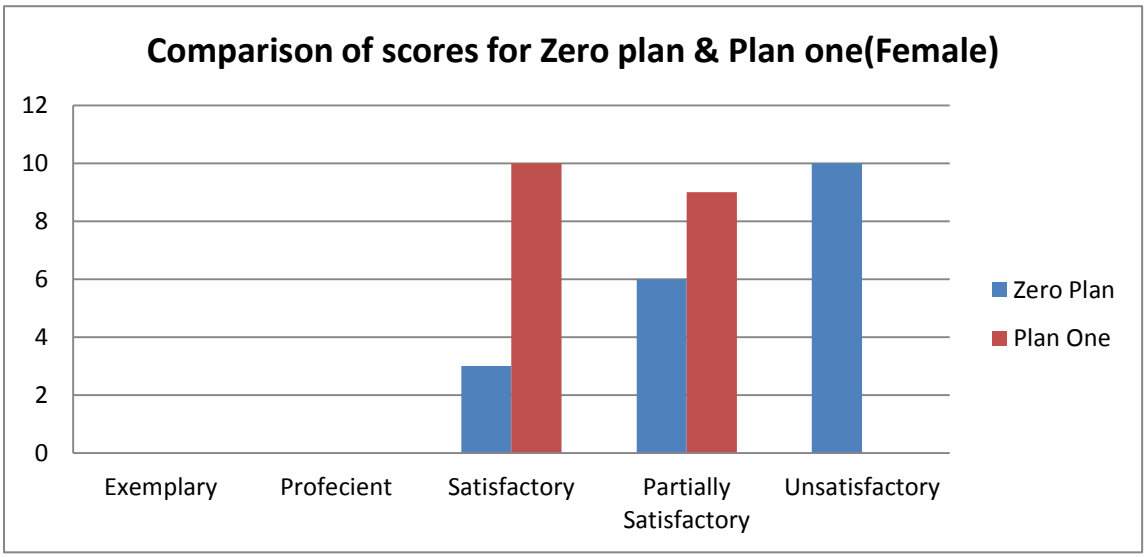
Comparison of Zero Plan & Lesson Plan One (Female)

Female Teachers						
	Zero Plan		Lesson Plan One			
Category	# of Teachers	percentage	# of Teachers	percentage	change in # of teachers	percentage change
Exemplary	0	0	0	0	0	
Proficient	0	0	0	0	0	
Satisfactory	3	15.79	10	52.63	7	36.84
Partially Satisfactory	6	31.58	9	47.37	3	15.79
Unsatisfactory	10	52.63	0	0.00	10	-52.63

The comparison of "Zero Plan" and "Lesson Plan One" for different levels of female teachers is graphically presented in the following table.

Figure. 4.41 (a)

Comparison of Zero Plan & Lesson Plan One (Female)

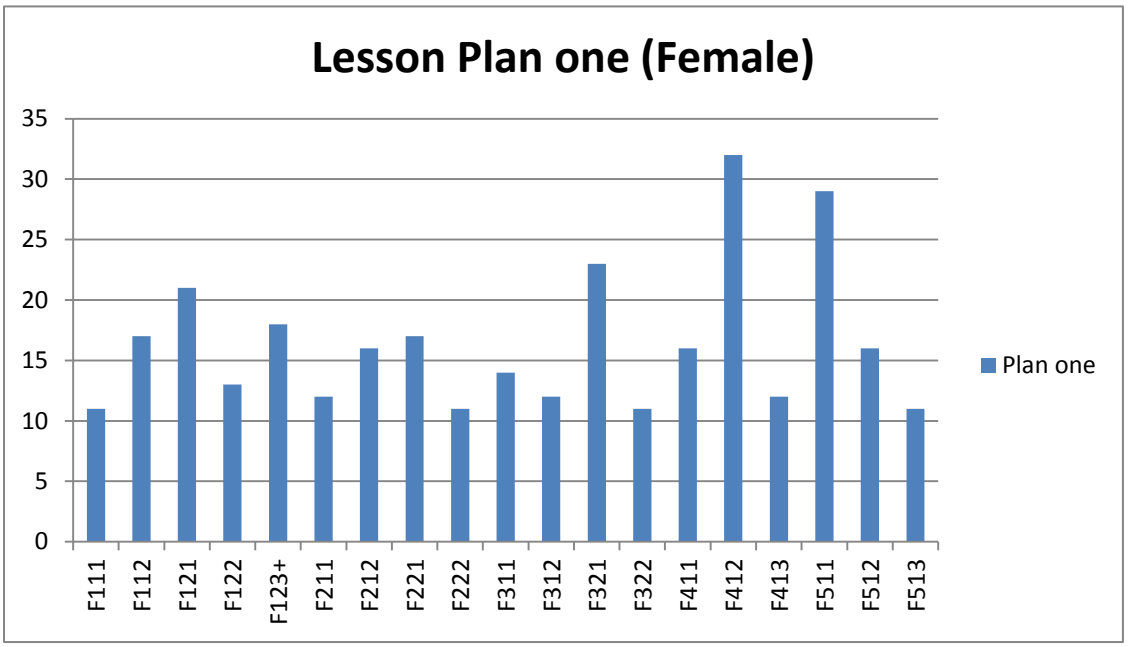


The individual scores of female teachers for "Lesson Plan One" are presented below;

Figure. 4.42

Evaluation of Lesson Plan One for individual teachers

(Female)

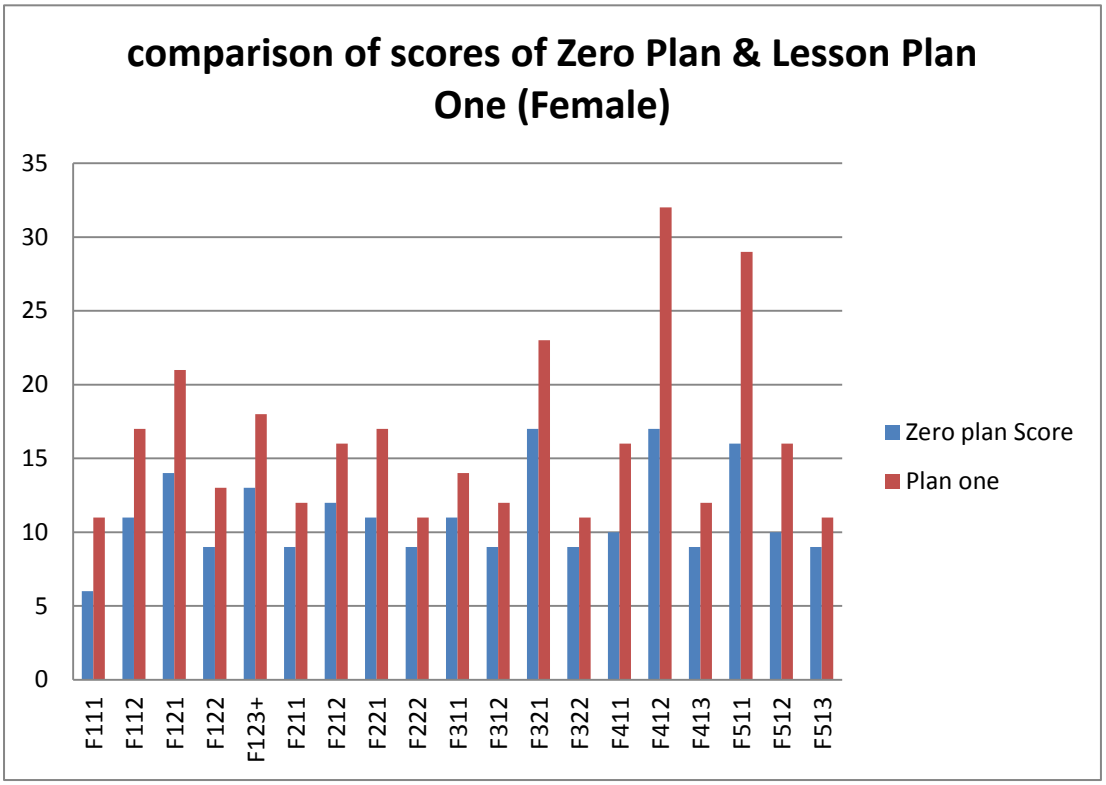


The above table shows that all the plans were scored in the range from 11 to 32. Thus all the plans developed for the second research class were either partially satisfactory or satisfactory. The average score of "Lesson Plan One" for female teachers was 16.42 putting their performance in the "satisfactory category. For "Zero Plan" their average score was 11.11 therefore percentage increase in their performance was 47.79.

The comparative analysis of scores of "Zero Plan" and "Lesson Plan One" of female teachers is presented in the following Figure.

Figure. 4.43

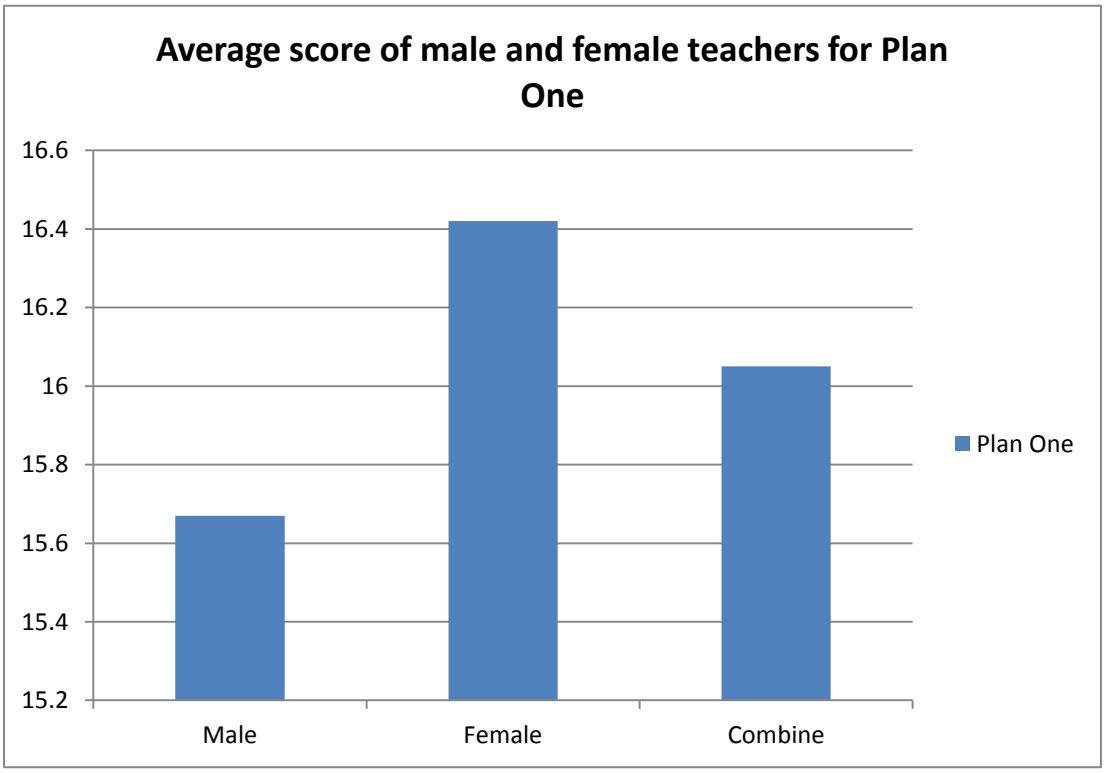
Comparison of score of Zero Plan & Lesson Plan One for individual teachers (Female)



The results show an increase in scores and consequently improvement in the lesson planning skills of teachers. The minimum increase was of two points while the maximum increase was of fifteen points.

Figure. 4.44

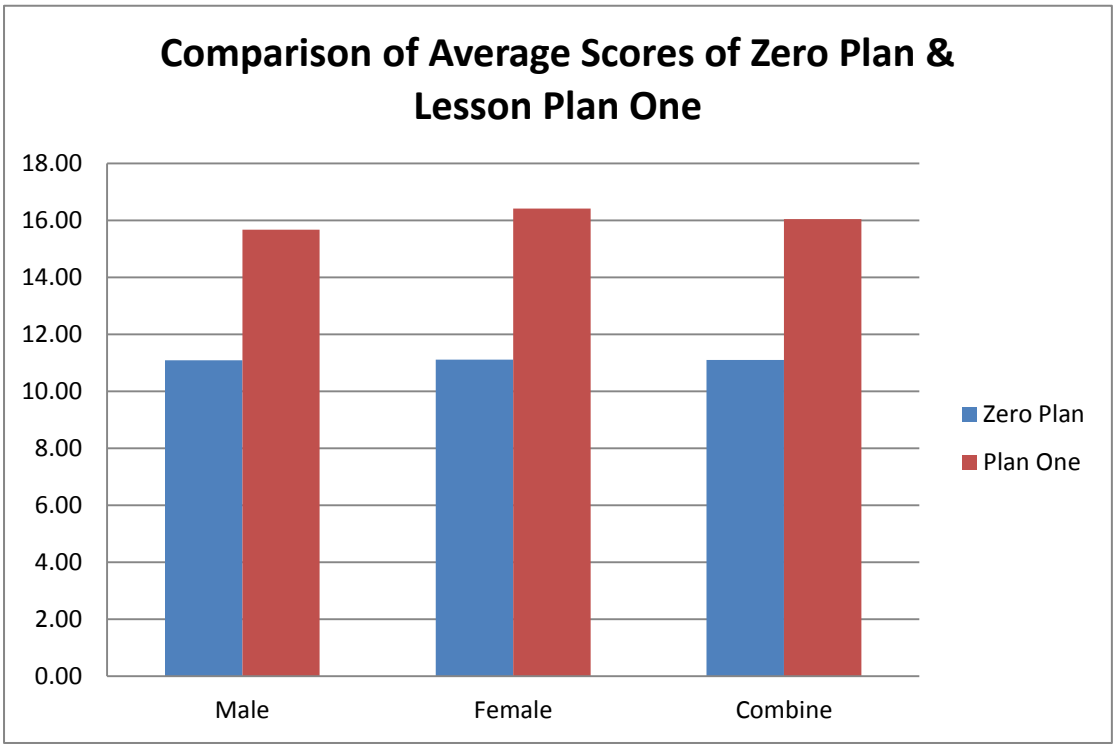
Average Score for Lesson Plan One (Male & Female)



On average the performance of female teachers was better than that of male teachers for "Plan One" the combined average was 16.05 thus bringing the teachers' lesson planning skills to satisfactory level. The comparative analysis of the scores of "Zero Plan" and "Lesson Plan One" shows a considerable improvement in both male and female planning lesson skills. For example average score of male teachers increased from 11.08 to 15.67 hence the percentage increase for male teachers was 41.43. For the female teachers the percentage increase was 47.79 and the combined percentage increase was 44.49. The improvements were encouraging to initiate the next step with more vigor and interest. The table below is the graphic presentation of comparison of scores of "Zero Plan" and "Plan One" for both the male and female teachers.

Figure. 4.45

Comparison of Average Scores of Zero Plan & Lesson Plan One (Male & Female)



The analysis of "Plan One" showed that these were more comprehensive and encouraged students' participation. The use of supplementary teaching material was also more effective and relative to the topic for example in one of the activities cards were used to discuss difficult words of the text and explain their meanings. Previously (in Zero Plan) the cards used were very small in size and written with boll point as a result those were not readable for the last couple of rows. But this time the quality of cards improved, they were larger in size and written with marker which were readable even from a larger distance. More over the cards were in sufficient number so that almost all the students were able to use them. The application of the same cards was effectively managed such that these cards were supposed to be distributed in sets of six different cards in groups and after working through those cards, sets were and then exchanged. In this way the students have the opportunity to benefit and used almost thirty cards with thirty difficult words from the text under study.

This was a strong evidence of a positive change in lesson planning skills of the teacher and the ability to perceive in advance how the supplementary teaching material could be effectively and efficiently utilized.

Phase five part (b) ─ sharing of experience and future planning:

Completion of phase four part (b) brought in fresh experiences and interesting stories to be shared. These meetings, at this stage were arranged in more organized manner. Almost all the schools selected one teacher among themselves as focal person, who was responsible to arrange these meetings and do the needful related to these meetings. I think it was the emergence of a rudimentary form of a forum at school level which if developed and strengthened could provide professional support to all the teachers of the same school initially and to the surrounding schools in case of need and demand.

At this stage I think that it would be better to mention some success stories shared in these meetings in different schools. The first experience sharing meeting at the end of phase four (b) was conducted at PS- M3.

The following interesting story was shared by the teachers from this school which I have analyzed and tried to bring to the surface those incidences which contributed to the professional development of these teachers.

Four teachers from this school participated in this research study and worked in two working groups. The two teachers from the second working group taught English to 8th grade and they worked to improve the vocabulary of their students. Both the teachers thought that their students were weak in reading comprehension. In their opinion the reason was poor vocabulary of the students, hence they decided to improve and develop the vocabulary of their classes. They used flash cards for this purpose. They shared that they found these cards to be very effective to help students to learn new words and their meanings. They also shared their experience regarding the retention of those words which were introduced through flash cards. They decided to test their technique by introducing difficult and most frequently occurring words

selected from the lesson “Prophet Muhammad (PBUH)” they arranged those words in two lists of equivalent difficulty level. In one class (VIII─A) list “A” was introduce using flash cards while the words from the other list were introduced to the class using black board as usually they did in their regular teaching. It was noted that students were able to recall more than 83% of the words the next day, although they were not told in advance to be tested. Also it was found that greater number of students were able to recall and correctly spell the words from the list which was introduced using flash cards than the words which were taught through the conventional use of black board. Similar results were recorded for the other class even though this time list “B” was taught using flash cards whereas list “A” was taught through the conventional use of the black board. The similarity in the results obtained from the two classes using two different but compatible word lists supported the fact that use of flash cards was more effective in vocabulary development for lower classes.

The experience shared by the teachers (M321, M322) revealed that they worked in close collaboration with each other, adopting the four stage model of action research (Kemmis, 1982) and found something effective which was helpful to develop vocabulary of the students. Development of vocabulary in turn improved the reading comprehension. After listening their success story I become conscious that these teachers were quite effectively completing their research cycle and they had a clear mind about three things; first of all they were trying to improve to some degree an important aspect of their teaching practice; secondly they were capable of planning, implementing, collecting data and critically analysing it; in the third place they learned from their own experience and communicated their learning with their colleagues. Sagor, 1992 (as cited in Chad West, 2011) has clearly mentioned that in many fields professionals like doctors, engineers and lawyers professionally develop through close relation between research and practice, they learn from their own experiences and make public their findings. In case of our teachers the process of professional development was similar as mentioned by Sagor, 1992.

The above success story encouraged the other working group to improve their plan; they admitted that they were not successful to involve the students in the learning process as they intended. They further reflected that in their opinion there was problem in the implementation of the plan. For example one of the teacher of the same working group showed his concern that they involved the students in tasks which had no or little role in the cognitive development of the students. The students were involved in the tasks like distribution and collection of the learning material or to write their answers on the black board or they were asked answer the question verbally.

This working group was not satisfied with their attempt to involve the students and I felt that they were somewhat discouraged after listening to the story of the other group. They were at this time on the verge of losing their interest in the research study and I could feel their disengagement from the study which I did not want. So I played my role to bring them back in to the study in such a way that they could continue their efforts for improving their professional abilities and teaching practices. Therefore I pointed out to them that they did not waste their time and their efforts were not useless because they have also gained valuable knowledge regarding two things; first they have identified a problem about the efficacy of their lesson plan and secondly they have also noticed the reason of that problem and had some suggestions to improve their plan. This is all very satisfactory and quiet normal to face problems in the process of learning. The only thing which they needed was peer support and a little help of their colleagues from the other working group, which was instantly offered accompanied with some very good suggestions like; focusing on the mental engagement of students by asking thought provoking questions; reflecting back the answers to class for opinion and explanations before conformation and demanding students to think at higher levels of cognitive domain (Blooms, 2000). The group appreciated and liked the critique and feedback of their colleagues.

The meeting had a pleasant ending and the teachers rejoined their regular classes with hope and fresh plans (Plan Two) for the next class of first research cycle. This experience sharing meeting had many indicators which revealed that the teachers were making improvements and they were analyzing their own practice and started to notice the flaws in their teaching. As one of the teachers mentioned in his reflective notes;

> *...I was annoyed first, when students were unable to follow my instructions. Then I realized that it was not their fault, actually we were not on the same side of the card, it reminded me the simple activity of our facilitator who asked us to read a number "six" 6↑written on a card, the same number was read "nine" 9↓from other side of the card. The situation was exactly the same like the above activity. Me and my class were on opposite sides of the card hence both were perceiving different meanings from the same thing. (M312)*

This account is the evidence that the teachers were in a position not only to realize the flaws in their teaching but also accepted the responsibility for it. It is also clear that the teacher was not imposing his own view point on his students but considering their point of view also. This realization was the indicator of the focus shift of teaching learning process from "teacher" to "students".

Another interesting success story was shared by the female teachers in experience sharing meeting on completion of phase four (b) at PS─F1. From this school five teachers were participating in this study they worked in two working groups. These teachers taught different subject and selected Urdu and English languages classes as their research classes. In their "plan one" they attempted to improve language skills of their students. For this purpose they tried out role play and verbal communication as language skill development techniques.

Teachers of grade VIII applied role play to promote reading comprehension of their students; in one section this technique was used for English subject and in the other section same technique was used for the subject of Urdu.

For English class unit 4 (A visit to Karachi) was selected to be taught by doing role play. In the start of the class both the teachers (F121 & F122) performed the role play and asked their class to note down what conversation took place between the two characters and what do they think the theme of the conversation was. The teachers did not mention that the dialogue was selected from the text book of the students. The simple instructions for the class were to carefully listen to the conversation taking place between the two characters and take notes if they wished.

The class silently and carefully listened to the conversation and jotted down main points. After the role play the "dialogue" was discussed in the class orally and class was given a worksheet (Annexure 12) to fill up, it was noticed that students' correctly responded to 36% (class average) of the questions in the given worksheet.

The students read the dialogue after completion of the worksheet and the number of their correct responses increased to 63% (class average). The participating teachers (F121 & F122) mentioned that the initial score (36% class average) was the effect of direct observation of the role play while the increment of 27% (63 – 36 = 27) was the effect of role play on the reading comprehension. Their argument was that in the whole process model reading was not done instead the students were exposed to role play observation only therefore any increase in their understanding of the text was contributed to the effect of the role play which the teachers performed during the class as an input for disseminating the content of the text book. They also shared that as further practice when the students performed the same role play in their groups; their spoken ability was developed as they noticed the children repeating some lines from the text changing the names. For example teachers noted the following sentences repeated by the students;

Sara and Rabia are coming to visit Peshawar.

Oh, it will be fun taking them to Sardryab.

Oh, it will be fun taking them to Tatara park.

My aunt and uncle might take us to Lahore.

My father might take us to market.

It's really wonderful to have guests.

It's wonderful to meet relatives.

(The underlined words show the replaced words by the students in their talk)

Replacements of words by the students show their comprehension of the text and their ability to modify their knowledge according to their local context.

The same technique was applied by the third teacher (F123) of this group in the other section for Urdu language (Urdu and English both were second language for the students of PS─F1). The lesson " وعدہ" from 8th Urdu text book was selected for teaching through role play and the results were found to be encouraging. Students were capable of reading the lesson themselves and answering the questions in the worksheet. The average score of the class was 69% (9 correct answers out of 13 questions). In this case also no model reading and explanation of the lesson was done, dissemination of the content was made through role play only and after observing the role play students were asked to read the lesson and answer the questions given in the worksheet. The teachers argued that in their regular language classes model reading was done along with explanation of the lesson and after this practice students required help to answer the comprehension questions. But with their new approach they claimed that the interest level of the students increased and they were able to answer comprehension questions themselves. They concluded that students better understand a written text when it was dramatized it helped them to become better readers and their understanding of the text also increased.

The other working group whose objective was to improve students' spoken ability shared that they used the activity "Introducing a friend" they admitted that

their performance was not satisfactory because the class did not took this activity seriously and the class turned into a fish market. They were of the opinion that our students (Students of PS─F1. Khyber Pakhtunkhwa) did not have the ability to learn through any other (innovative method) except the conventional chalk and talk method. They mentioned the following reasons for the failure of their lesson plan;

Students low cognitive abilities

Students are shy

Students are used to the conventional teaching method and they could not be changed through one or two classes.

Overcrowded (86 students) class

Teachers are short of time due to heavy work load.

The situation in PS─F1 during experience sharing meeting turned critical when the teachers of working group one expressed their opinion about the applicability of any changed teaching practice other than conventional teaching in their class room. I realized that they were not internally convinced that they could bring a positive change in their own teaching practice and in students' learning. This was really important to handle because it could affect the performance of the other group also. Before guiding and changing their attitude I needed deeper understanding of their behavior therefore further investigation helped me to know what were the actual causes which were restraining them from professional development. These were;

1. Social cause: - There were certain misunderstandings among the teachers of the two groups. Those teachers belonged to two different groups which had school based disputes and professional rivalry.
2. Professional cause: - They had different professional abilities and the teachers of working group 1 were not ready to accept any professional guidance from the members of the other group.

3. Behavioral cause: - They were also not ready to accept the fact that their performance needed improvement. They felt it a threat to share their professional limitations with their colleagues.

I understand that resolving social issues of schools was not the objective of this study and also the above issues could not be resolved in the short period of this research study but the prevailing work culture was an element which could affect the professional development of the teachers both the ways; negatively and positively. Here at PS─F1 this work culture and the relations among the staff members were affecting teacher's professional development negatively.

However I tried to soften their reactions and offered my professional support to improve their plan two which they accepted halfheartedly. I am afraid that these two teachers may not continue to participate in this study, which is their legitimate right.

The experience sharing meeting held at PS─F3 informed this study that the teachers improved their lesson plans up to 30%. Individually their improvement ranged from 22% to 35% on average their score was 15 only one point less than satisfactory level.

The important thing to note was the change in the science class room where previously the scientific concepts were taught like other subjects and students were given notes in question answer form. Teachers of working group 2 worked on students' participation to improve their understanding of scientific concepts. They involved the students to explore the concept "Magnetism". Instead of telling and dictating students the definition, characteristics and uses of magnets students were practically involved to do experiments using low cost/no cost materials and then record their observations. After doing simple and short activities with magnets students were asked to go through their lesson on magnets and magnetism. Teachers shared that students became active learners and they took the responsibility of their learning. In the conventional class they completely depended upon teacher while in

the above mentioned way of teaching students were quiet independent in learning this concept. Teachers also mentioned that they took more time to complete all the planned activities due to insufficient material required for the teaching of this concept. The collaboration among the group members was good enough and they played the role of critical friend for each other and gave valuable feedback to each other. One of the group members recorded her comments as critical friend in her reflective notes;

> *"…it was interesting, students were working and doing small experiments like magnets attracting each other when opposite poles were brought near to each other and they felt the repulsion when like poles were brought near each other. The teacher was giving full attention to all the students and guiding them. However if she had given clear instructions in the start of her lesson then she would have saved her a lot of time which I think was wasted in repeating the instructions again and again." (F322).*

The above paragraph shows that the teachers were making good observation and they were open enough to point out the weaknesses of each other and give feedback. The other aspect of this observation was even more valuable because it became a learning opportunity for the observing teacher and they learned not to repeat those mistakes which they had observed. Thus the whole activity turned into a collaborative learning process.

Working group 1 focused to improve the writing ability of their students through creative writing but their plan did not work out because they made it a home work task which was not completed by majority of the students and even those who did the task could not make it a creative task and copied some text to save their face. This situation compelled the teachers to revise their plan to encourage students to write something by themselves and ensure that students put their own ideas in their writings.

Three teachers from PS─F4 shared their experience in the meeting at the end of completion of phase four (b) that they enjoyed their second research class for a couple reasons; first of all they developed an understanding of the teaching learning process that it is effective when teachers and the students are both mentally engaged in the same learning activity; second, in their opinion the teaching learning process is not telling or instructing students to do something instead it is working through the activity together to develop better and deeper understanding of the concepts and third, the result of this process is mental clarification about the central concept the activity with the emergence of new questions.

They also shared that issues of discipline and class control could also be resolved if the lesson is planned properly for example previously those teachers faced the same issues to control and maintain discipline in their class because strength in the class was above 90. But with proper planning they were able minimize these issues of discipline and class control to a manageable level. One of the teachers wrote in her reflection about her research class as;

> *"Today when I entered sixth grade with my plan and activities and saw them making noise and moving all around as usual, I thought they will never pay attention and behave so that I could follow my plan. I asked them to sit down as I have something interesting for them, gradually they settled down and I started my introductory activity as planned. It was a simple addition activity in which the students responded in two different ways, verbally and symbolically. In case of incorrect answer the students was considered out and the new child joined in. They enjoyed it very much and seemed active and ready for the new task this time I distributed sets of cards (self-prepared) carrying a mathematical questions and instructions. Students were required to pic one card and answer it without using pen and paper, in case of correct answer 5 points were credited to the students' score,*

otherwise no credit was given. This was done in groups of 8 to 10 students and score of each student was recorded. On completion of round the sets of cards were exchanged among the groups. Sooner the students were working smoothly occasionally they required my help as a judge to decide whether the answer was correct or incorrect. I was really surprised to see them working nicely and independently. I asked my self is it the same class? Which is known to be the noisiest? and ill disciplined. It was indeed the same class but they were behaving differently. Their changed behavior lighted up my mind that they behave in the same way as we the teachers behave with them. They were showing interest and taking responsibility because I took interest and responsibility in my work." (F412)

The last portion of this reflective note was very important and valuable for me as researcher because it is solid evidence of the fact that this teacher realized a very important reality that the students' behavior depends upon the way they are treated. The teacher learned from her experience and this learning is a major step in the direction of professional development. The change in thoughts changes our feelings and changed feelings change our actions and we become a changed person (Kushel. 1994) The above account indicates the beginning of process of change.

Experience sharing meeting at PS─F5 added more valuable and supportive data in form of positive experiences of the participating teachers. Here in this school three teachers who participated in this research decided to focus on improving spelling (dictation/ املا). They shared that class sixth and seven were very poor in dictation/ املا so they planned to work on it. For this purpose they used cards with targeted words written on them. They used these cards in different games to help their students remember those words and how these words were spelled or written. They claimed that they found this strategy very helpful to promote spelling ability and (املا).

Initially they used sets of 6 to 8 cards to introduce targeted words and when the students were able to memorize all those words orally. They repeated the same activity and asked them to write down their word instead of telling orally. Their attempt was important in the sense that previously students were told to come prepared for dictation / املا but no efforts were made to help students to learn how to spell or do (املا) they were left on their own to learn how to spell correctly or do (املا). But this was an effort on the part of teachers that they felt this deficiency and come up with this idea to use cards and introduce different "card games" the most interesting of these games were the "broken word game" and "guess the word". In the former game students were asked to join two or more syllables (مصوتے) to make one correct word or split the word in correct syllables (مصوتے). The other game students were asked to "guess" the word from a set of 6 to 8 cards the correct guess was acknowledge by clapping for the student. This game was played with or without replacement of the cards.

The small effort of helping students to learn dictation was big step in the professional development of these teachers. The creative thinking, on part of teachers, involved in this effort was valuable because these games were a sort of practice exercise to; develop memory, promote retention and make recall faster. These games also promoted analytic and synthetic abilities of the students as they required splitting and joining up two or more syllables. This small achievement brought great satisfaction for the teachers and enhanced their confidence that they have the ability to bring a change. The only thing which matters was to take the initiative. A teacher expressed her satisfaction and ownership as follows;

> *"Before this, I had no experience about doing research and teaching in class in this way was a totally new experience for me. I did not remember any of my own teachers who had helped us learn in this way. Nor I have any previous knowledge about activity designing or the researcher gave us any readymade stuff to implement but he helped us*

to realize that it was our duty as professional teachers to have some solution for students' problems and think something to offer to the students to follow it and overcome their difficulties. It was quiet difficult when I had to work out for myself how to design and implement an activity which could serve the purpose. Many times I wished to get some prepared activity or the researcher may tell me what to do, but he didn't. Now when I recollect the whole process, I can sense the joy and pride to think that I did something valuable by myself which was successful and liked by my students".(F511)

The experience sharing meeting at PS─M2 brought three stories. There were six teachers, who worked in three groups, group one (WG─1) worked to develop English vocabulary of the students of grade sixth. The second group (WG─2) planned to help the students of grade VII to develop command on mental mathematics and group three (WG─3) focused their plan one on active learning through experimentation in class VIII. They shared their experiences as;

Experiences of WG─1/PS─M2

The plan of working group one (WG─1) was to list the synonyms of selected words from the targeted text and then to re-read the text replacing the targeted words with an appropriate synonym. They experienced that it was difficult enough for the students to practice this exercise, even the teachers themselves found it difficult to search synonyms for some of the words. Also it was more time consuming in the sense that the selected lesson needed twice the time to be completed because first time the lesson was taught with the original targeted words and then it was repeated by replacing the selected words with synonyms. However teachers thought it was a nice attempt and could be used in upper classes where the students were mature and more responsible. This method did show some signs of increased vocabulary, for example unit 2 (Ibn-e-Seena) was selected for this activity and a list of five words (Contribution, Remarkable, Detected, Contagious and Original) were chosen to be replaced with suitable synonyms. The meanings of difficult words were explained to

the students and they were asked to search the meanings of provided list of the synonyms for the targeted words, from the dictionary. The students were asked to compare those meanings with the meanings of the targeted words and then replace them with the most suitable synonym from the given list. Only 8 students were able to follow the instructions and completed the activity. Teachers argued that majority of the students could not relate the context in which a word was used to a suitable synonym. Therefore replacement of the words in some cases changed the meaning of the sentence. On these reasons the teachers considered that this activity might not be suitable for lower classes for development of vocabulary. The teachers felt somewhat disappointed because their expectations were high but the end result of their efforts were to drop the idea. Regardless of the fact that they gave up their idea it is also true that they made a good attempt and this experience added to their learning. Reflections about this class written by a teacher demonstrate the depth of his learning, he reflected as;

> *"I found that for majority of the students replacement of targeted words by synonyms was quite difficult because most of the times there is a slight difference among the meanings of words and students did not made the correct replacement. Therefore the students needed my (teacher's) help to make a correct replacement. They depended on me to first, tell apart those words and illustrate, only then they could use the words correctly. But my plan was that they will work independently and search their meanings and decide themselves which word to be selected for replacement. However only 8 students could do the task properly and rest of the students totally depended on my help. This situation turned this exercise into a "cut paste" exercise. In the end I praised those students who used correct words and encouraged the others that they could also do the same if they concentrate and make careful selection". (M211)*

The teacher gained the insight of his activity only after he implemented it in his regular class the experience was significant for him in his own context because he realized that the difficulty level of this task was quite higher for his class so it needed to be modified or made simpler. He also managed to conclude the activity in a professional way and did not exposed his concern about the complexity of the task, instead he tried to motivate rest of the students to try their best to achieve a rather difficult objective.

Experiences of WG─2/PS─M2

Both the members of this group agreed to use quiz to promote computation skills (mental mathematics) among students. They shared that students showed a different behavior about mathematics, previously majority of the students dis liked mathematics but they took interest in quiz competition and participated actively. The plan was such that class would be divided in pool A and pool B. each pool was further divided into eight teams and pool competition were arranged on daily bases. At the end the first and the second position holders from each pool were selected for final round.

The teachers commented that they found this technique effective because the interest level of the students remained high throughout the period of completion. They raised question during the class to make the things clear, as they knew that in coming days they are going to answer questions from the current topic. The students became regular in their studies and helped each other as team members to win the completion. They noted that it served as energizer to elevate students' interest, involvement and their performance. The concerned teachers shared that it required more time than usual to write too many questions each day for the quiz but still they enjoyed it because it was an interesting task to develop questions. Their feelings about this plan were recorded in their reflections, the following reflective note show feelings of the teacher about this plan;

"This study involved me so much in my job that I am thinking all the time about my class room practice and think about different and new ways of teaching. Sometimes even funny ideas also come to my mind. I feel strange about my teaching profession, these feelings I have never felt before. Specially talking about the quiz completion I feel more excited than my students. I work late in the night writing questions for each round of the quiz, although it is time consuming but I enjoy it very much and produced a rich collection of good mathematical questions. It is inspiring to design a good question and to have answer. As the time passes I am involved even more. My family has noticed this as I spend more time writing reflections, designing questions and answering them instead of enjoying TV".

The above statement show that teachers took interest and they draw pleasure in making preparations for the program the initiated, the reason was simple they felt ownership of that program and invested their time and energies to make it successful. Their level of interest motivated them to apply this technique to other subjects also as they planned for the next research class and developed their "Plan Two". Getting inspiration from one's own experiences generate continuity in professional development of that person.

Interest shown by the teacher generated interest in the students which provoked creativity in the students, one interesting example which show how creative young students are. Quiz contained a question which required using all the digits from "0" to "9" and arranging them in such a manner that a correct addition question was obtained. Students came up with forty different solutions and ten different answers. The level of scarcity of anything is directly related to its level of importance. Higher the level of scarcity, greater will be the importance; this is true in our public educational system (KPK. Pakistan) regarding creativity; the fundamental element of

the teaching and learning process, important for the upbringing and development of young generation (Wragg, 2005)

The teachers from WG─3 shared that their plan was based on experimentation for the teaching of science subject in 8th grade. They argued that in regular classes usually science subject was taught like any other language lesson, the teachers read the text and explained it and dictated answers for the exercise questions given at the end of each lesson. They were convinced that this was not the right method for science teaching, therefore with mutual agreement they decided to change the current practice by performing a related practical in the start of the lesson and then read the text book. They selected the topic "seed germination" for the first experimental class and with the help of their class they performed this experiment. They observed and recorded the changes that occurred in the seeds during the process of germination. After completion of the experiment they read about seed germination from the book. They claimed that it was easier for them to explain different phases of seed germination and students also took interest as they could relate the text to their observations and established link between theory and practical. As a result the new information became more meaningful and concrete for the students.

The situation was portrayed and reflected upon by one of the teachers as;

> *"…before this when I used to explain different scientific concepts to the class from text book I felt a gap in students learning, there was something missing. Students seemed to be confused about many points. But our new strategy "experiment first" automatically solved many problems and filled that gap which existed in the absence of experiment. In this way students develop conceptual clarification and instead of depending upon rote memorization they comprehend the content". (M232)*

This written account indicates that the concerned teachers learned something valuable from their experience and switched from the conventional teaching

methodology which they followed in their regular classes to a relatively effective methodology. They also learned from their experience that the new approach could easily be applied in the regular class setting because they did not took their class to school lab but arranged the experiment within the regular class. They also used that material which could easily be arranged locally, if there wasn't any science laboratory in the school. The results of "experiment first" approach in PS─M2 were encouraging and motivating even for other schools in KPK where science labs does not exist or not functional in both the cases this approach could easily be used to promote student's learning.

The experience sharing meeting at PS─M5 added the following story to this study. Teachers of WG─1 planned to use 'the reading buddies' technique for the improvement of reading comprehension of their class. They arranged their class and established partnership among 5 to 6 students (the number of children was more because the teachers able to arrange only few books which could be used in this plan). All the students were asked to read those books and then share the story with rest of the class each day. The narrator was selected at random from the buddies to ensure that all the students read the story and they have fully understood it. They found that those students who tried to avoid reading in class were not only willing to share their story with rest of the class but also confident enough to explain the story themselves. The major change which they noticed was that earlier students hesitated to come forward and do the read but after practicing their lessons with their reading buddies they became willing and enthusiastic come forward and share their understanding. Teachers considered this change a major step in the direction of learning with comprehension. However one teacher related this change to another factor, in his (M512) opinion students got the strength to face the class and share their understanding not majorly due to practicing and developing reading comprehension following the "reading buddies" technique but due to the fact that there was a change in teachers intentions. Previously whenever students were asked to do the reading the intentions were to eliminate mistakes but in the new strategy teachers allowed

mistakes. They emphasized what students "knew" rather than what they "don't know". This change was more effective to encourage students to take initiative and learn with comprehension then just cramming some facts of science or few principles of grammar. How teachers realized this fact could be understood by examining the following piece of reflective note;

> *"... even before taking part in this activity I often thought that our students were very weak in many subjects they highly depend on teachers for their learning and they avoid reading any printed material, even students don't read newspapers they just get the idea by pictorial messages and headlines. Actually we as teachers usually teach to read textual content and do very little to promote the basic language learning skills. Reading with comprehension is neglected at all levels therefore we do not produce good readers or book lovers. I realized this situation but to be frank did nothing to help my students however I am happy that through this study I got the opportunity to take some practical steps and make some contribution. As I was already convinced that efforts were needed to promote reading comprehension therefore me and my friend (M511) decided to apply the reading buddy technique to improve students' reading comprehension. It worked a lot and students took interest and have shown improvements but what shifted my attention was the change in my mind set. Previously when I asked my students to do the reading I was always looking only for the errors and mistakes committed by the students and tried to correct them and ignored what was correct. This time when I tried out the reading buddy technique actually I was searching for the correct conceptual understanding of the students and encouraged their efforts. Thus in a sense I was positively reinforcing the students which I think was the main reason that students were willing and motivated to share what they had learned. For me as*

teacher the important thing is not the strategy itself but what make a difference is the teacher's attitude and the way he provides feedback and the positive reinforcement to encourage his students". (M512).

The analysis of this reflective note indicated the teacher's sharp eye which sensed the actual reason of change in students' behavior. Although the element of positive reinforcement was not the subject of the strategy which was tested but once the teacher got involved in the process of self-improvement, the action research, his sensitivity shifted his attention to a more fundamental concept of behavioral change i-e reinforcement. I expect that this realization will affect his attitude towards teaching and modification of students' learning behavior in future. This indicates that action research bears a positive effect on teachers' professional development because during the process of action research many aspects ranging from minor details to major elements that have any linkage direct or indirect with the teaching learning process is noticed and its effect is studied, understood and adopted or dropped depending upon the situation.

In this case the teacher noticed that positive reinforcement was more effective in motivating the students than just pointing out their mistakes only. The next step would be it application in other situations to generalize this concept. Which I expect to see in the next research class that how it is planned and implemented in lesson "Lesson plan two".

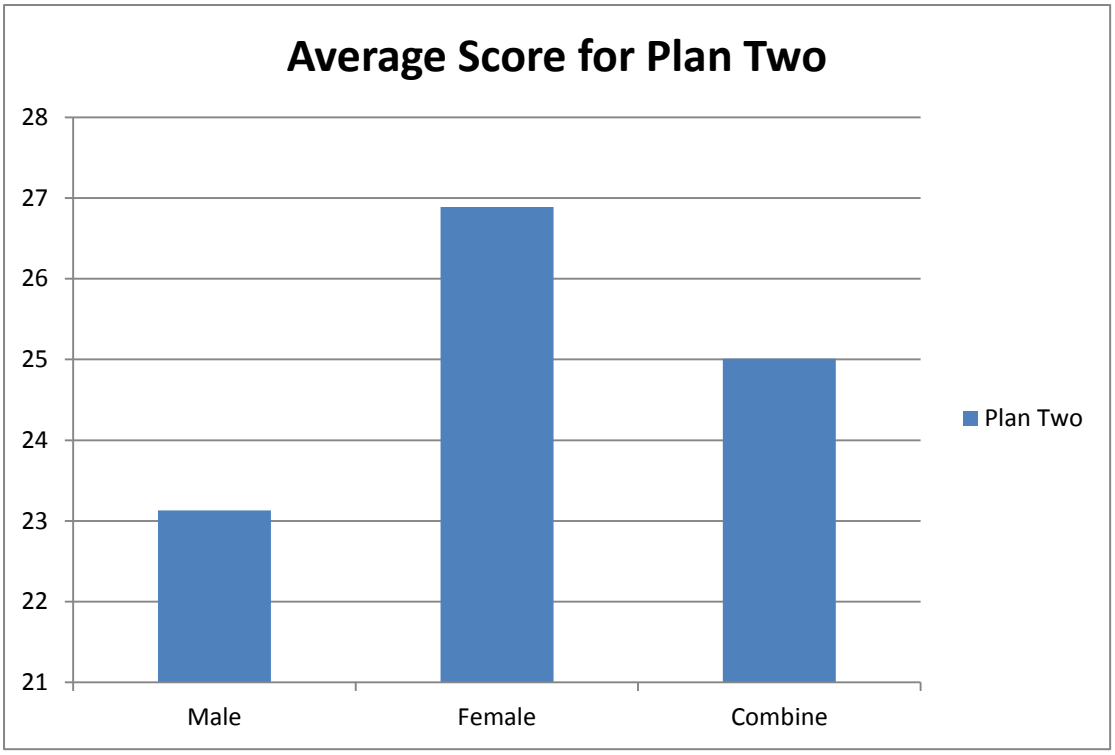
Phase four part (c) Independent Teaching/Action Research Cycle One:

Phase four part (c) was focused upon "Lesson plan two" the main point was to implement "plan two" and to measure any change. Therefore "plan two" was evaluated according to the criteria set through in the evaluative rubric mentioned (see annexure 11). In this phase all "Plan Two" were assessed and a comparison with the "zero plan" and "Lesson plan one" was also made on the individual bases. The assessment of "Lesson Plan Two" showed that the overall performance of teachers

improved. The average score of male and female teachers for plan two is given in the following Figure.

Figure. 4.46

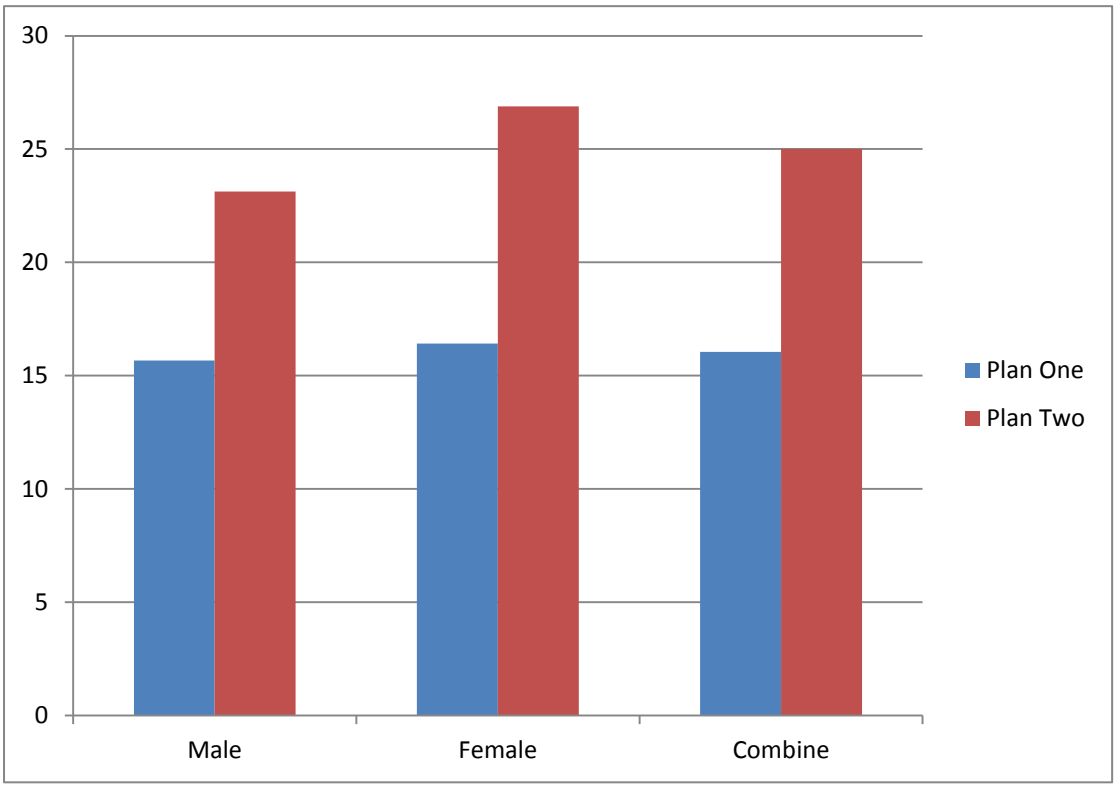
Average Score for Lesson Plan Two (Male & female)



This table shows that the combined score for Lesson Plan Two was 25.01. Performance of the participating teachers regarding their lesson planning skills show considerable improvement as evident from the following Figure;

Figure. 4.47

Comparison of Lesson Plan One & Two

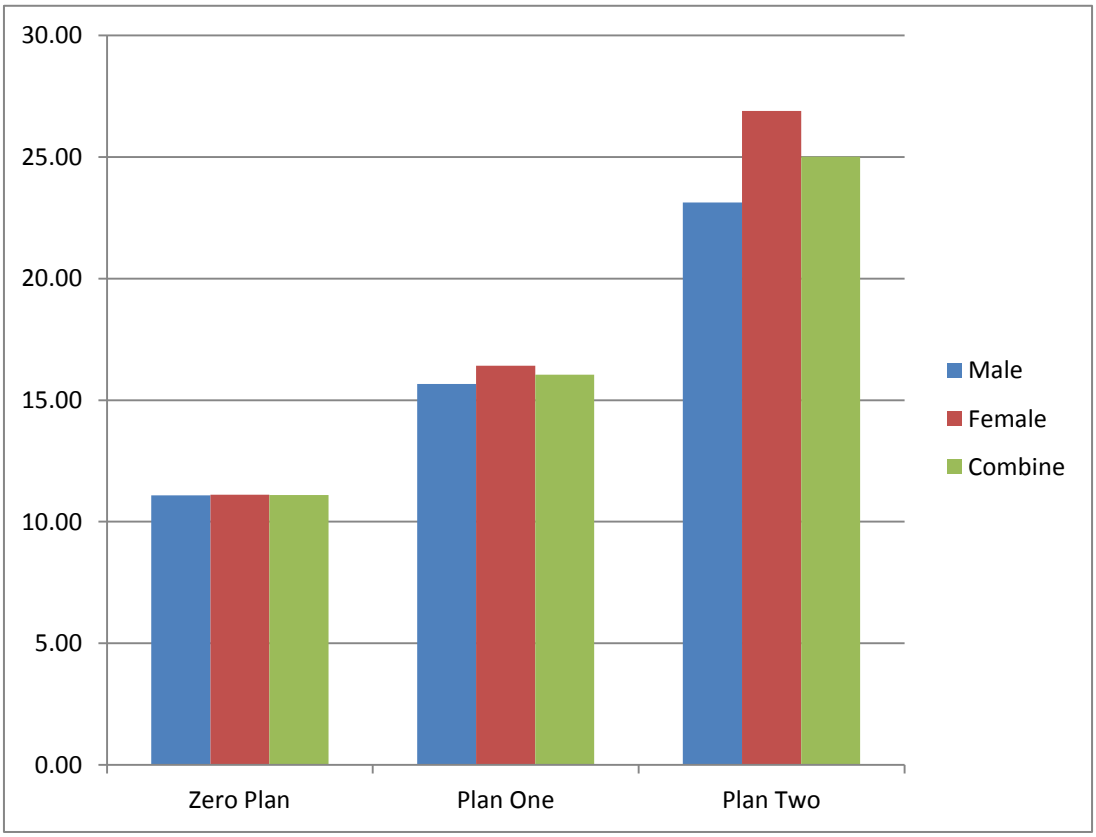


The comparative analysis of the average scores of plan one and Lesson plan two shows that there is an increase of 47.61% for male teachers, 63.76% for female teachers and increase in the combined score is 55.83%. These scores present a significant increase in planning skills of participating teachers. The combined average score for "Plan Two" was calculated to be 25.01; on average plan two were categorized as "satisfactory" looking back the "Zero Plan" were categorized as "partially satisfactory" with an average combined score of 11.10. Similarly "Lesson Plan One" was categorized "satisfactory" with combined average score of 16.05 although both "Plan One" and "Lesson Plan Two" were categorized as satisfactory but there is a considerable difference in the scores for both the plans which is almost 56%.

The following table shows the comparative progress in lesson planning skills of male and female teachers in the first research cycle. The bar graph for the average scores of three lessons shows a progress of 15 points in three weeks' time.

Figure. 4.48

Comparison of Three Lesson Plans (Cycle One)



Plan Two was primarily focused on the lesson planning skills and development of learning activities. Teachers tried their best to enhance these skills; some cases of such efforts are presented here. Among male teachers the highest score for "Plan Two" was 47 and that lesson plan was evaluated to be proficient (M321). Similarly among female teachers the highest score for "Plan Two" was 42 and that lesson plan was also evaluated to be proficient (F412) according to the given criteria level of proficiency is achieved at a score of 38 and level of exemplary at score 50 thus both the top scorer lesson plans rested somewhere between these two levels. The important features of these plans were;

1. SMART objectives

2. Guided instructions
3. Effective activities

Objectives of both the lesson plans were written in terms of students' terminal behavior and teachers' expectations. The objectives clearly stated what teacher expected his/her students to do or achieve at the end of the lesson and what students will be able to do or gain after the lesson. For example the teacher wrote following objectives;

The students will be able to;

1:- Comprehend English language commands and act accordingly.

2:- Use normally spoken commands in simple sentences by themselves.

3:- Use magic words in normal conversation.

These objectives reflect students' performance in a measurable way and enable the teacher to guide the students individually to develop language skills like "listening" and "speaking".

Once the targets were set, innovative learning activities were developed which ensured students' participation and their learning.

In order to achieve lesson objectives simple but effective activities were developed, these activities were simple in; i) designing and ii) conducting. The activities were simple because they did not required a lot of time to design and any special supporting material to perform. These were also simple to understand and act upon for students as their complexity level was kept low. For example in one of the activities teacher used body language to introduce basic commands like, stand up, sit down, go to, come here and bring me. Students listened to these commands with attention and followed them correctly. In this way they had an opportunity to promote their listening skills in the other half of this activity; students practiced these commands among themselves enabling them to promote their speaking skills also. Gradually the activity was expanded to include more commands with addition of the

magic word like please, thank you, and sorry. In the expended activity common objects of daily life were used as supporting material thus setting an example how teachers could use common objects as teaching materials if they plan their lessons. Amazingly not a single word of any other language (Urdu or Pashto) was used throughout this activity.

During non-formal talks teachers expressed their concern about the application of "direct method" in English language classes; they think GTM was the only method which could be used in our (KPK) schools. But this simple activity proved that our students were competent enough to follow direct method for learning English language if the lessons were properly planned.

Apart from these characteristics these lesson plans were innovative enough to change the conventional don centric approach with the tyro centric.

The third important element in this lesson plan were "instructions" teacher used very simple and a few instructions only, I remembered the noisy classes and the ever shouting teacher telling the students to be quite and take their seats, but this time the class environment was different and the students were behaving in responsible manner. They responded promptly to teachers' instructions as a matter of fact the class instructions and the commands which were selected for students to learn were mixed up. This minimized the volume of class room instructions. Shortly we can say that it was a good lesson the observations of the critical friend reflected the same views;

> *"That was a good class and the children focused on learning new commands they were very attentive while listening to you (class teacher) and acted upon the commands correctly there was no hesitation in their actions which showed that they were understanding what you (class teacher) intended. The use of pictures along with the commands was helpful to avoid translating the commands. That was a nice and intelligent approach; I (critical friend/observer) would like to*

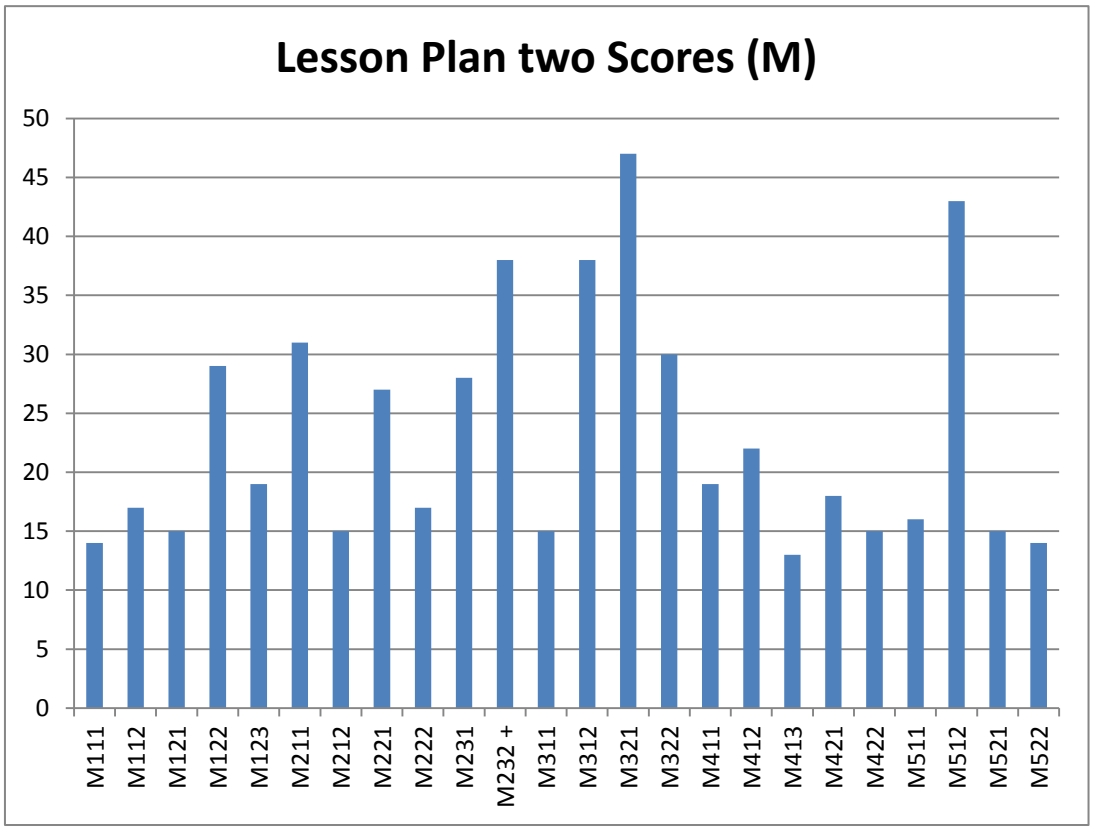
apply it in my class too, made the verbal commands more meaningful however, I would like to propose that you should have used separate charts for each command because in the classroom I (observer) noticed some students in the rare rows asking each other which command she is talking about students seemed confused in relating the correct picture with the command under discussion. Also many pictures at a time distracted their attention and they seemed lost or left behind many times during the lesson". (F411)

"On the whole it was a pretty good lesson. Your (class teacher) attempt to use direct method was good and students picked the meanings of the commands you used but I (observer) think it would be difficult to teach the whole lesson of the text book through this method. However what was more impressing for me was that the students were taking interest and following your (class teacher) instructions and practiced those commands for themselves. I was pleased to see their cooperation with each other and their serious attitude while practicing those words, to be brief, I liked todays lesson".(F413)

The following table presents the scores of male teachers for "Plan Two" all the scores are above 11 thus no plan was categorized as unsatisfactory. The highest score was 47 and categorized as proficient. The score of individual teachers are as under;

Figure. 4.49

Evaluation of Lesson Plan Two for individual teachers (Male)



The comparative analysis of scores of three plans for individual teachers shows progressive improvement in their lesson planning skills. The table below indicates that the participating teachers have shown improvements in planning lesson.

Figure. 4.50

Comparison of Scores of Three Lesson Plans (Male)

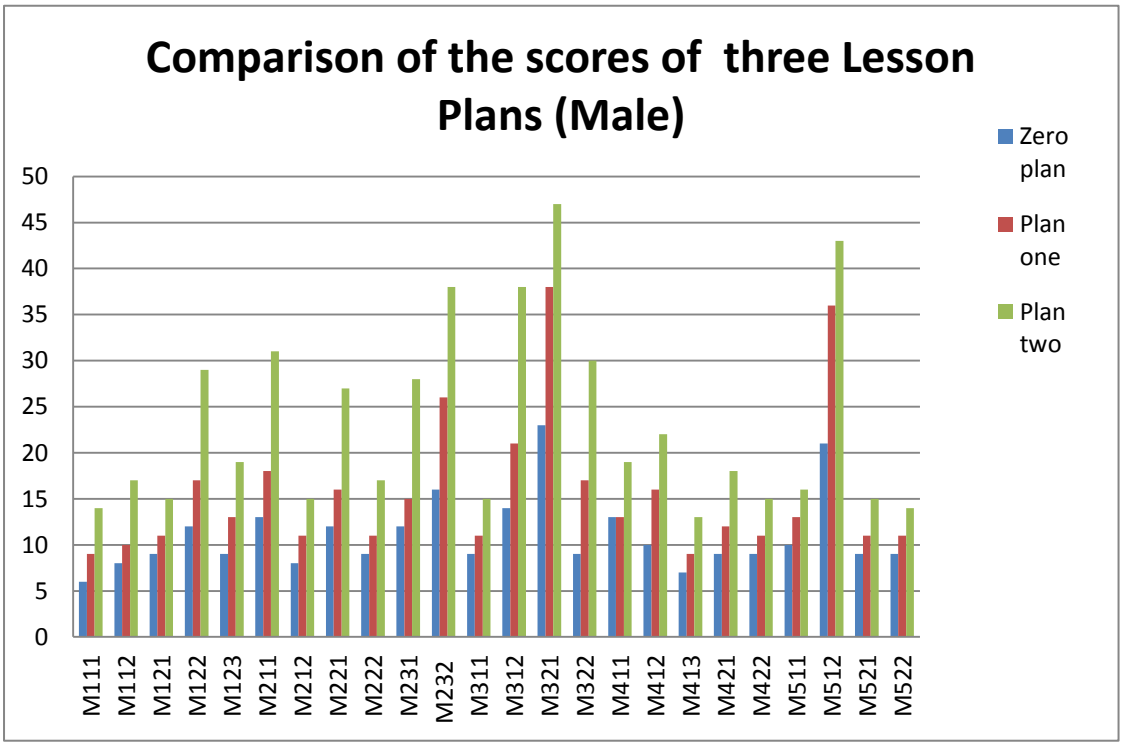
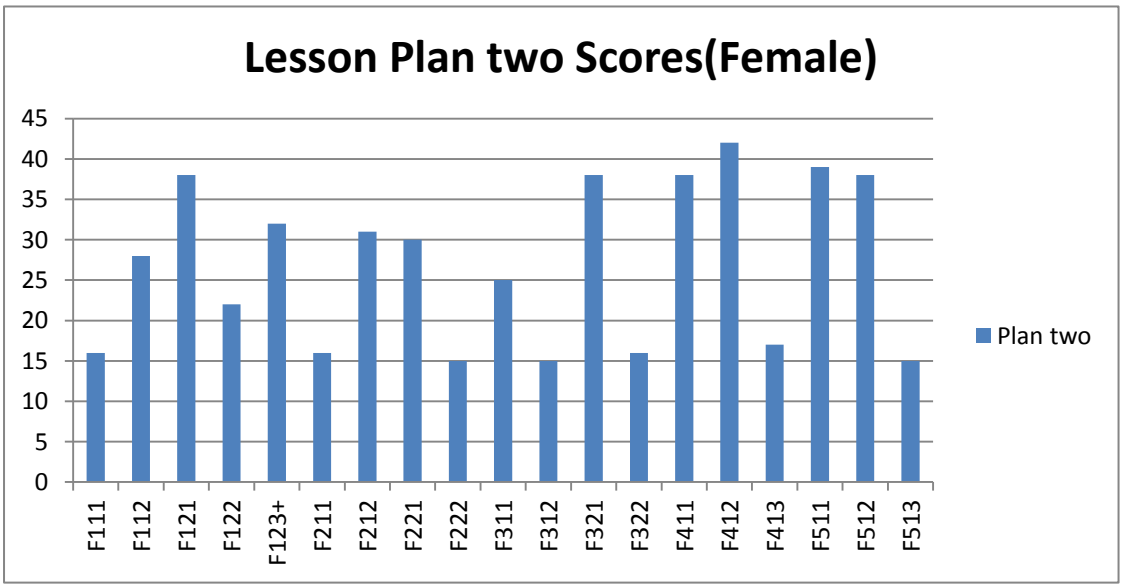


Figure. 4.51

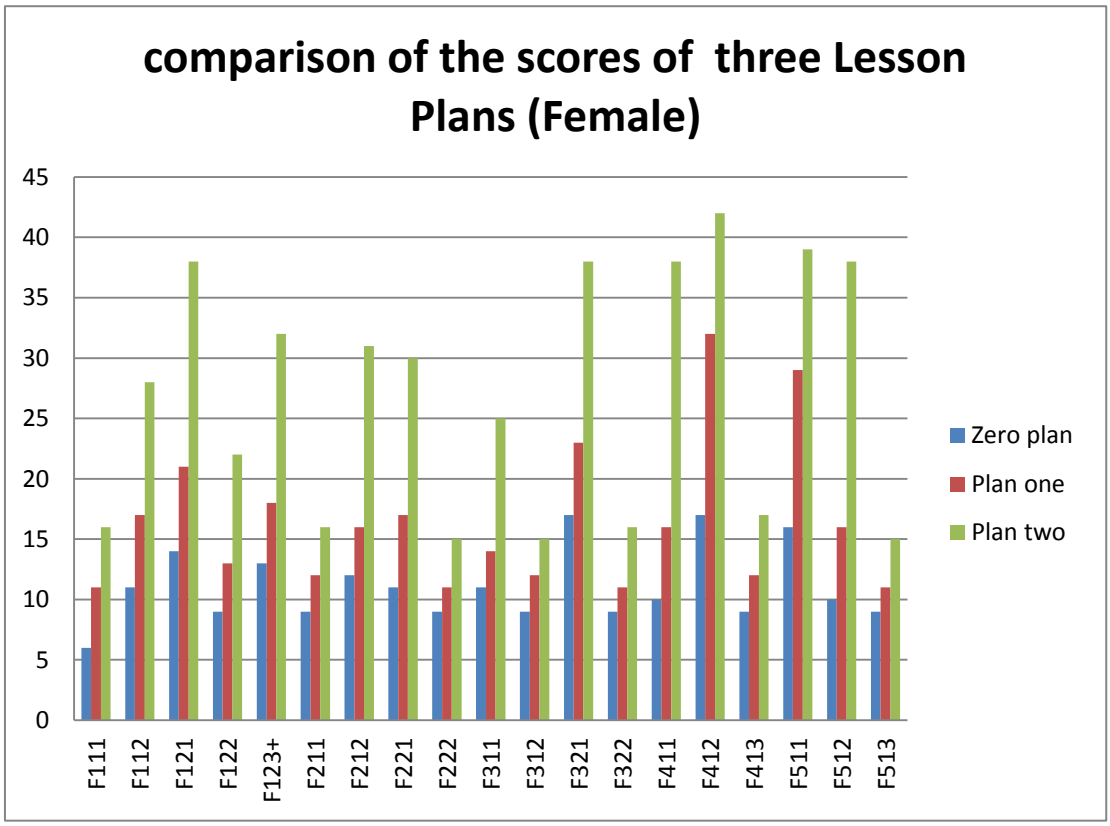
Evaluation of Lesson Plan Two for individual teachers (Female)



The above graph presents the scores of Plan Two of female teachers, here too only three of the lesson plans were scored 15 while rest of the plans were scored 16

and categorized as satisfactory. In the table below the comparison between the scores of lesson plans developed during the first research cycle is made which showed that female teachers have also made progress in planning lessons. The score of individual female teachers are shown below;

Figure. 4.52 Comparison of Scores of Three Lesson Plans (Female)



Completion of phase four (c) expanded the existing knowledge of participating teachers and provided new experiences which were discussed and shared during experience sharing meetings in phase five (c). The detailed account of which is given in the next section of this study.

Phase five part (c) ─ sharing of experience and future planning:

With the end of this phase first cycle of the study was completed which I consider successful because the experiences shared by different groups revealed many in depth stories and events which served as source of valuable data for the study and opportunities for the researching teachers to gain further insights of the teaching-learning process. This insight of teaching-learning process and understanding of child

psychology enhanced teachers' professional development. On completion of first research cycle data was qualitatively analyzed which was collected through lesson observations, focus group interview and teachers' reflections. Using grounded theory and coding technique major themes were categorized. This enabled me to develop a deeper insight of the available data. The process of naming and labeling was very demanding and complex as all reflections and other documents were written in Urdu. The process became further intricate due to comparison of new and the coded data giving rise to the all- inclusive "core categories" which emerged from the collective data (Strauss and Corbin 1998).

According to Ponte (2007) it is important for teachers' professional development to have the ability to link theory, practice and job requirements. In order to establish strong bonds between these three elements teachers should study their own practices, doing so requires knowledge of two domains. The first domain includes understanding of course content, teaching methodology and students' educational needs. The second domain includes strategies to examine our own teaching practices. Drawing from Ponte (2007) argument I consider subjecting ones' practice for critical examination and analysis is the first step in the direction of professional development especially in our context (KPK, Pakistan) where there is no research culture among school teachers or any other mechanism for teachers' professional development at departmental or school level. Teachers have preconception that they don't need any improvements and they resist the idea that there is something missing in their teaching or something needs to be improved. Therefore the initial persuasion of school teachers to subject their teaching practice for critical analysis was quiet difficult, although this analysis was going to be done by themselves and they were their own judges.

In these circumstances the examination of data showed that teachers were engaged in the process of; number one studying their own practices. Number two developing their conceptual understanding regarding the subject which they had

chosen for research class; number three they tried different methods other than conventional “chalk and talk” method (Elaine, 2005) thus improving their teaching methodology and number four they were involved in skill development.

Studying their own practice:-

The participating teachers agreed to self-analyze their teaching practice. To ensure that the data generated by them as a result of action research will not be shared with any official of the department even the principal of the participating schools. The teachers were highly concerned about the confidentiality of the results of their self-analysis, for instance one of the head masters of the participating schools showed his interest to join the working group of his schools but the teachers of that school resisted the idea because they felt it a kind of threat to the confidentiality which was promised. Although it was difficult, initially, to get agreement of the teachers to participate in action research but by the end of research cycle one at least 11 teachers (6 male and 5 female) showed their willingness to participate in the current study this was the result of the “buzz” which had started with the start of this study in the participating schools however the request were politely refused on technical grounds and to maintain uniformity in data.

I realized that teachers were attracted and they developed a desire to join in for the following reasons;

Mechanism of action research
Encouraging attitude of the researcher
Professional support
Confidentiality of the findings
Students’ response

I am convinced that the initial resistance which I faced could be removed if it is realized to the teachers that conducting action research means “self-judgment” and self-improvement through experience.

4.3 CONCEPTUAL DEVELOPMENT

As mentioned above linking theory with practice and fulfilling job requirements needs sound understanding in two areas one of which includes course content, teaching methodology and students' educational needs (Ponte, 2007) the focus of teachers during first cycle was mainly the same. Teachers own understanding of course contents was questionable and they did not trouble to probe into the content and acquaint themselves with it. But during the first research cycle teachers attempted to enhance their awareness about the course contents. Teachers' reflections and my interactions with them showed that deeper understanding of the course contents was developed during first research cycle, for example following excerpt from teachers' reflection indicates that the teacher developed an insight of the content for the first time while preparing for her research class;

> *"…the most important and immediate change which I (teacher) personally realized was my own Urdu pronunciation. I (teacher) noticed for the first time that I wrongly pronounce many words although I had been teaching Urdu subject for the last so many years but I did not noticed this before. This study made me notice my weakness. I made a list of the words which I suspected were wrongly pronounced this list included many words; for example I pronounced "کائے" whereas the correct pronunciation was "کھائے" Similarly I used to pronounce "پل" instead of "پھل" my weakness was in pronouncing the sound " ھ". I became more worried when our facilitator pointed out that wrong pronunciation altered the meanings also. Therefore I worked on this problem and corrected this weakness. Now I am happy and can pronounce these words correctly". (Translated from Teacher's Reflective Journal, F122)*

The above excerpt indicates that teachers started to take notice of their weakness and started to improve them. It is a fact that those teachers who belong to

families where Pashto is spoken as first language they face such difficulties in Urdu pronunciation. However it was a good sign that teachers tried to improve themselves. However it was considered the first level of professional development (Ponte, 2007).

Following is another excerpt indicating enhanced understanding of the course content. This teacher used to teach mathematics to grade 6 but only used instrumental approach and followed procedures in a mechanical way. He did not try to attend the innocent "why" which was always there in students' minds. The teacher reflected upon this issue as;

> *"... I (teacher) thought I was a good mathematics teacher but in today's class when I was asked "why! We take LCM to solve frictions?" and I told "to solve the question... I─ I mean to say that it is the procedure" but I was sure that I haven't answer the question, at least the boy did not want this answer. Then I asked myself "why we do so?" many answers came to my mind, "because these are the steps" or perhaps "to simplify the fractions" but I rejected them all the only conceiving answer was "that how we are told to". At this point I felt the same confusion like the young boy and it was a turning point for me. I searched for the answer and thanks to our facilitator who guided me and helped me to find the answer. I learned that there was the concept of equivalent fraction behind this LCM procedure. Now I get prepared for the innocent "whys" before going to my class and this preparation have forced me to learn mathematics a fresh". (M412)*

Teacher's reflection draws attention to the fact that he never thought about the questions which arise in the minds of students and remain their unanswered. Teacher used to teach from the text book and solved questions from the exercise and did not paid attention why we follow set procedures? What is the logic behind these set

principles? Actually the teacher himself did not have the correct answer so in search of answer his learning and understanding of the course content increased.

Teacher with ID-F112 was teaching English subject to grade VI and VII, she reflected on the process of action research and her own learning. She mentioned in her reflective notes how she came to feel the need of her own learning the basic English grammar in order to improve her teaching. She also pointed out that prior to this study her teaching practice included reading of the text with translation and doing only comprehension exercises leaving rest of the exercises. But doing action research and reflecting on her teaching practice made her realize that she herself needed to develop comprehension of basic English grammar. She expressed herself in the following words;

> *"…before this study I would have never realized that I need to strengthen my English grammar nor anyone else mentioned so. I assumed it sufficient to do the reading with translation and writing the answers of comprehension question. It never crossed my mind that my knowledge of English grammar was very limited, I think I skipped all grammatical exercises because of this reason but did not accepted the fact but when I joined this research study and started seeing things with a different angle I gradually accepted this reality and started to learn simple English grammar as it appeared in the exercises. Now instead of skipping grammar exercises I learn them first and then do them with my class. For this change I am thankful to the researcher of this study who guided me and introduced me to the process of continuous learning". (Translated from Teacher's Reflective journal, F112)*

Apart from the above mentioned stories experience sharing meeting after third research class of cycle one brought many other incidents of teachers' improved understanding of the course contents for example;

"...it was the first time since I (The Teacher) am teaching science that I myself have handled a microscope and saw with my own eyes the internal structure of a root".(M123)

"...I(The Teacher) did not know that there was a microscope which was available in our school laboratory but teaching in research class aroused its need and I(The Teacher) took it out and not only made it available for the students but also used it for the first time myself for observing internal structure of a plant cell".(F311)

"...I(The Teacher) noticed that there were many Urdu letters which I wrote incorrectly like "ص" which I(The Teacher) wrote incorrectly as "ف" and the direction of different strokes was also not correct".(F122)

"...it was indeed very difficult for me to correct my pronunciation of the sounds of "ph" or "f" and "p" I(The Teacher) pronounced these sounds the other way round. Same was the case with Urdu sounds of "ف" and "پ"(M421)

"... I (The Teacher) had been teaching science to grades VII and VIII for quite some years I used to seek help from a locally produced student's guide and dictated the direct answers from it. I admit that there were many topics of which I had little knowledge and never realized that I should try to improve myself but for my research class I understood two chapters "پودوں کی د نیا" and "عالم حیوانات" from science grade VIII book. I seek help from my group mate and also from science teacher of our school". (F322)

"...teaching operations on sets through "Venn diagrams" was not interesting for me as I don't like "Sets" however as we agreed to follow the regular sequence of the topics and not to pick any special

one for our research classes, what I really wanted to, therefore I practically did the exercise and learned how to present sets and set operations through Venn diagrams". (M522)

These accounts provided the evidence and supported the concept of improved understanding of teachers regarding course contents which they had been teaching in their respective classes. The teachers' narratives revealed that they started analysing their teaching which they hardly did before, and found many areas in content of the study which needed deeper understanding on their part in order to improve teaching in the class. When this situation was analytically reviewed a change in the teacher's attitude was observed, as all the teachers had the experience of teaching the same above mentioned subjects in the near past but they went through the topics without noticing their short comings. Conduction of action research in their regular classes to examine their own teaching practices draw their attention towards these short comings and they took practical steps to make up these deficiencies and improve their practice.

Cycle one completed with the evidence that teachers took notice of their deficiencies, realized that they were responsible to improve these shortcomings and practically tried to improve their teaching practice by improving their understanding of the course contents, proper lesson planning and developing their teaching skills.

On completion of cycle one I realized significant change in teachers' attitude they were convinced that this practice had substantial effect on their performance in the class and giving them better control on the teaching-learning process. Teachers' attitude change because; instead of ignoring they started noticing their deficiencies, in place of concealing they shared and discussed their problems and needs, they took practical steps to find solution for their problems rather than blaming others and they initiated to depend upon their own abilities as opposed to relying on others for help and support.

4.4 CYCLE TWO

The same procedure followed in cycle one was adopted in this cycle too. Cycle two comprised of three research classes based on three lesson plans i-e zero plan, plan one and plan two. As in cycle one teachers' on average, achieved satisfactory level regarding lesson planning skills therefore in this cycle lesson planning was not the primary focus. Instead innovative teaching strategies, questioning techniques and assessment methods were the chief areas for measuring professional development. Teachers' planned their lessons to try out some innovative teaching strategy to teach different concepts in their classes. They started with "Zero Plan" implemented it in their regular classes, reflected upon teaching strategy and then re-planned for the next research class. When I say that teachers used innovative teaching strategies I mean to say that any strategy other than conventional chalk and talk method (Elaine, 2005). I would also like to refer to the prevailing teaching culture, discussed earlier in this chapter, where it was considered enough to read from the text book, with oral explanation of the basic concepts in local language and writing down the key points or meanings of difficult words on the black board. Hence any approach applied for the transfer of knowledge other than the above mentioned approach was considered as "innovative."

4.4.1 Pedagogical Development

Analysis of the activities undertaken in cycle two showed that this cycle aimed at implementing some new and innovative teaching strategies applying action research to promote interaction among students themselves and between teacher and students. The new approach intended for encouraging pupil centered teaching strategies to create an environment where students become active and take the initiative for their own learning and understanding of the subject matter hence instead of relying on teachers they construct their knowledge and subsequently fit in the new knowledge into their existing knowledge to build and shape meanings of the fresh knowledge according to their own intellect.

The conventional teaching at any level does not ensure deep learning (Gibbs, 1992) while studies provide evidence that methods other than the conventional classroom teaching have produced much better results (Jenkins, 1992) researches also support the idea of using a mixture of methods instead of only one particular approach as it is agreed upon that no one particular teaching method alone could be suitable for each and every subject and situation (Gibbs, 1992) Whereas on the ground what observation supported, was the fact that teachers used only one method (recitation and translation) therefore as an step forward to achieve professional excellence the participating teachers focused on using inductive teaching strategies in this cycle. Seemingly the term "child centered" or "inductive teaching" appears broader when compared with the scope of this study as it may include so many teaching methodologies like inquiry method or project method etc. all these methods may be called "inductive" or "child centered" because they enforce and bound students for acquisition of new knowledge in comparison with the conventional teaching approach used in our classrooms. Thus any strategy which demanded active participation on part of the students and enforced the students to build up their own understanding of the new knowledge instead of gathering and memorizing unprocessed raw information received from their teachers (Prince, 2006) was considered inductive or child centered in this study.

What Ponte (2007) pointed out that teachers needed to have the understanding of teaching strategies which they apply and the ability to analyze them to measure their effect on transfer of knowledge as the main requirement of the process of professional development became gradually evident in cycle two. The lesson plans included activities which demanded students to take active part in the learning process physically and mentally. For instance in research classes of cycle two different activities designed by the teachers were based upon the principle of students' active participation, following are some glimpses;

> *Students of grade VIII worked in small groups for preparing a summary of the English lesson "A dream" page 39. The approach of the activity was "active learning" and the students were allowed to read the lesson in small groups discuss it and mark the major and minor ideas of the lesson. Students were engaged in an academic and constructive discussion they explained their understanding of the lesson to each other and listened to other students as well and at the end they wrote a brief summary themselves. This practice was totally different from the conventional summary writing where teacher used to write the summary on the board and students copied it and memorized it.* (Lesson one M321)

The activity was extended to creative writing applying the same "active learning" approach and this time students created imaginative stories themselves in their respective groups. Through this instructional strategy all the students were engaged actively in the learning process and encouraged to think critically and develop deeper understanding (Meyers & Jones, 1993) of additional aspects of writing skill. Application of this changed and comparatively innovative strategy needed careful planning and relating the instructional objectives to students' learning outcomes by the teacher. It is interesting to note that these teachers in the start of the study were of the opinion that in our school no other teaching method was applicable except the conventional method. But they proved that it was applicable.

Other incidents reported also showed clear signs of active participation of the students in the learning process in contrast with the conventional recitation translation method. Active learning approach was implemented in a variety of ways and for a variety of subject matter taught, for instance a teacher used group work in her science class for teaching of "ضیای تالیف" photosynthesis (chapter 3) to the sixth grade students. She shared her experience and reported as;

"…to my surprise the girls did so well and responsibly that I felt sorry why we don't apply these new techniques with our children? Why we under estimate them? They only need our support and encouragement and that's all. Although I did not do much except telling them to complete a project in their groups and provided them the required material from school laboratory. Activity 3.2 (chapter 3) page 32 was selected for the project and it was completed within three days' time. I was more impressed by the mutual interaction of the students than the outcome of the activity itself. They proceeded systematically helped each other worked together and contributed to make their project successful."(Teacher's Reflective Journal. F212)

The analysis of the above account from teacher's reflective journal shows that teacher did not undergo the labor of designing or planning this activity but she selected the activity directly from the text book and implemented it in class for the first time whereas the previous practice had been skipping these activities and just dictating direct answers for the question like "what is photosynthesis? How is it important for all living things?" Obviously the old practice did not promote deeper understanding of the phenomena except rote memorization but the new approach not only produced comprehension but also produced social values like healthy relations among group members, academic and moral support to the weaker students to improve their learning and better psychosomatic adjustment in contrast to the egoistic competitive attitude which develops as a result of idiosyncratic learning efforts made by the students during the conventional classroom teaching. This cooperative attitude towards learning was developed among the students as the result of a minor effort of the teacher who just diverted her attention to words the implementation of better instructional strategy — cooperative learning.

Another teacher used cooperative learning in her English class with students of grade eight as an instructional strategy. She divided the class in small groups of 5-6

students and asked them to complete the exercise (8.1.6 & 8.1.7) given at the end of the lesson "Enjoying a visit to Lahore" unit-8 in their groups helping each other to complete the given task. She found that student took more interest in their work and completed the task in the allotted time. Students commented on the given pictures and expressed themselves in a comprehensive manner. This approach brought in a variety of ideas for discussion and promoted the presentation skills of the students. Students also benefited from this technique to build up their confident to share their work in the class. The concerned teacher shared her experience of using this strategy to ensure maximum students' participation as;

> *"…contrary to my (Teacher's) previous practice of solving the end of lesson exercises which were limited only to the comprehension questions and dictating the answers of questions. I expected my students to memorize them and reproduce the answers in test. But when I changed my practice of dictating answers of the comprehension questions with the exploration of the answers by the students and including other type of exercises too rather than skipping them I noticed that students became confident to express themselves more effectively. They began to work independently and started trusting themselves instead of looking for my help. This approach also changed students' attitude from solitary to sociable learner working together to boost their own understanding and playing active role to enhance the learning of their class fellows."(F121)*

Here again we see a shift in the teaching practice usually the teacher used to complete the lesson and then dictated the answers of the questions given in the exercise. She also ignored other type of exercises except the comprehension question because she thought those were not important from the examination point of view for instance in this particular example, questions like discussing pictures are usually not included in the examination therefore such exercises were ignored even if they had a

significant role in development of students' knowledge and skills. But with the use of such exercises we observe a shift of focus from the examination to learning and skill development. This shift is a significant step in teachers' professional development.

The following activities shared by teachers (M122, F321) brought more interesting experiences of implementing instructional strategies other than those already discussed above. Their instructional strategy required students to "discover" instead of "follow" and construct their own knowledge rather than acquire knowledge. Both the teachers belonged to different schools one male and one female but the common element was the grade and the subject which they taught. Both of them taught science subject to grade eight. They adopted a different strategy and asked their students to systematically study the given concepts completing the following four steps; prediction, conducting experiment, recording observations, and drawing conclusions. They reported that their students went through the above four steps and made conclusions which were very close to the actual concepts and they needed very minor adjustments and took less time for clarifications. The detailed account of the experiences of the concerned teachers served as data for this study which was;

> *"…when I(teacher) told the students about my plan they were a bit upset and got worried that it would be difficult for them to complete the task but I suppose they were troubled because of the different approach of teaching which I intended to adopt. However I told them it's going to be interesting and informative. Our topic for the study was "Electricity, the mechanical means of generating electric current" here I tried to involve my students in a kind of simple inquiry and formulated a question for exploration which was "what would happen if a bar magnet is moved across a copper coil attached to a galvanometer?" I explained to them the procedure how they were going to find out the answer of this question themselves because this time I was not going to use text book or give them notes, so first they*

were going to make an intelligent guess based on their previous knowledge (prediction) then they would verify and test their expectations (testing/experimentation) and record the observations and finally they would draw the conclusion. Following the prescribed procedure students explored the question under study and recorded their observations and communicated them in written as;

Prediction:-

1. *nothing would happen as a result of the experiment*
2. *can't tell any thing*

Testing and observations:-

1. *Movement of the bar magnet produced deflection in galvanometer*
2. *In-wards movement of magnet produced deflection towards right and out-wards movement produced deflection towards left.*
3. *Quicker movement of the magnet produced stronger deflection and slow movement of the magnet produced weak deflection.*

Conclusion:-

As galvanometer is an instrument to detect flow of current and as the result of experiment we observed changes in the position of galvanometer pointer. We conclude that the magnetic field of the bar magnet somehow produced electric current which was indicated on galvanometer."(Teacher's Reflective Journal M122)

This piece of writing indicates that teacher involved his students in a kind of "investigation" following inquiry method and students explored the given concept and made discoveries themselves rather than believing in bookish information. It is also important to note that after performing the experiment students changed and reconstructed their opinion about the results of the experiment thus expanding their knowledge based on evidence (Dewey, 1938). The same teacher also encouraged his students to explore "thermoelectric effect" following the same procedure. The

students followed almost all the steps, like developing a question for investigation, hypotheses formulation, collection of data and its analysis and finally communicating their findings in written or oral form. Which are the basic steps of inquiry method (Beyer, 1971) the concerned teacher shared that both the tasks were part of the text book but previously he left out such kind of activities and did not bother to involve the students in these constructive activities but as a result of participation in this research he realized the importance of these innovative techniques and gradually started implementing them in his teaching and found them very effective to promote scientific attitude and active learning among students making the teaching learning process student centered instead of teacher centered (Collier, 1997)

Experience shared by (F321) regarding the same strategy as applied by male teacher (M122) supported the idea of implementing innovative teaching strategies (inquiry method) with evidence, in female schools also. Her experiences were;

> *"...students studied the given concept "موم بتی کے شعلے کے حصے" in their groups they observed different colors in candle flame and noted four parts. They took interest in the direct observation. They also did further investigations by performing the activity given on page 116 of their science text book (عملی سائنس) grade eight. The strategy was observe, discover, record and present. Students observed the flame discussed about its different colors and found four parts of the flame. They recorded their observations and presented their findings with the help of drawing or shared their observations in key words. Students also commented on the level of hotness of each part. After having this practice they studied the relevant pages (115&116) of their text book.*

During cycle two the study of the lesson plans, teachers' reflective journals and attending the experience sharing meetings informed this study about another teaching strategy which emerged as the most common one in the sense; first, majority of the teachers used it and second it was used for the teaching of many subjects.

Deeper analysis of the situation indicated that discussion method appeared popular among the participating teachers for a number of reasons; number one it did not require any other resources or teaching materials as needed in experimentation or activity based learning. Schools with limited supplementary teaching materials and teachers acquainted with lecture method pushed teachers more towards this approach, as it is based on verbal interaction (Dillon, 1994) number two, according to Unruh (1986) discussion method could be equally applied in large and small classes, this was the second major reason that teachers liked it because generally in majority of schools of KPK and especially in the participating schools, strength in classes was almost double of the standard number of forty. The third factor which made discussion method more favorite was its utility in different subject for a variety of conceptual activities like analyzing complex concepts, comparing two ideas or objects to find out similarities, evaluating processes and drawing conclusions to establishing any cause and effect relationship between ideas or events (Aggarwal, 2001). And the fourth reason for using discussion method by majority of the teachers was its fundamental principle of involvement of students and their active role in the learning process (Kenneth, 2005) and teachers found it convenient to apply discussion method in their classrooms because this method is more close to the conventional lecture method. Following are some of the selected examples classroom discussion generated by the teachers to teach different lessons;

Teacher (M211)

> "…I used discussion method to teach lesson nine "A letter of invitation to friend to attend your birthday party" in grade six. Students liked the new approach and also gave maximum in put in the form of ideas. They discussed the main parts, like address, salutation, body of the letter and closing of an informal letter. The class was lively and almost all the students wrote a simple letter themselves during the class."

Teacher (M521):-

> "…our facilitator and researcher of this study introduced us with discussion method and loud thinking technique which I (M521) used in mathematics class of grade eight to teach "proportion"(exercise 4.2). Discussion made the class active and students solved the problems themselves instead of copying them from black board."

Teacher (F211):-

> "…use of discussion method in science class was new for me as I (F211) thought that experimentation was the only effective method for teaching of science however I found discussion very effective for teaching of science. I used this method for teaching of chapter 6 "ہوا" (air). One thing which I noticed was the level of participation of the students they asked questions and even attempted to answer the questions also."

Teacher (M421):-

> "…discussion method for teaching of English to grade eight was fruitful because I (M421) found it an easy method to address the needs of students who were below or above average and at the same time it was equally good for average students too."

Teacher (F123):-

> "…teaching of Urdu lesson " مرزا ظاہر دار بیگ " applying discussion method broaden the scope of teaching in the sense that the lesson was explained and understood in the context of the whole novel written by "Nazeer Ahmad" this method allowed me (F123) to incorporate information which were not included in the text but were important to understand the lesson for example when" کلیم" explained the reason of his visit to his friend's " مرزا" house needed extra information to make

sense of the lesson. Discussion method helped me (F123) to establish links among different parts of the lesson and the complete novel."

According to Kulsoom and Asif (2012) discussion method could be used to improve existing teaching practices because it was more close to lecture method and mostly depended upon the verbal abilities speaking skills of the teachers. Here the opinion and reflections of the participating teachers held the same notion and they used discussion method to improve their existing teaching practice.

4.5 POST INTERVENTION LEVEL

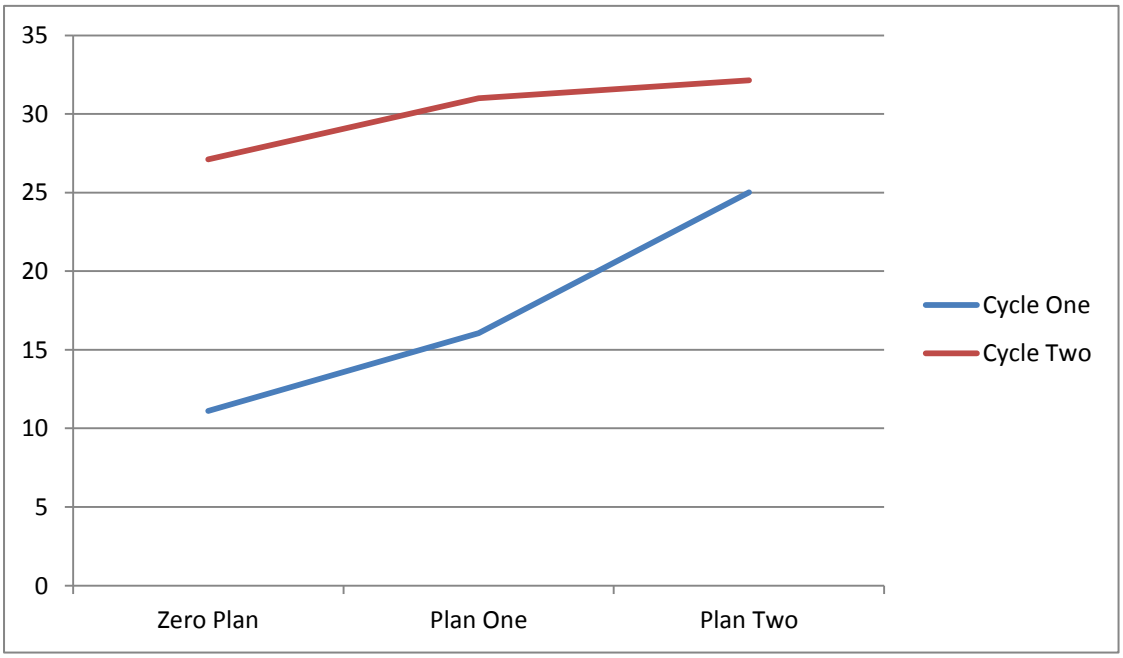
The intervention stage was extended over a period of six weeks and during this period two research cycles were completed using Kimmes (1982) four stage model of action research. The research participants were supported to develop professionally by providing necessary input (information) followed by practical support to apply the received knowledge under supervision of the researcher. The next step was independent application of the acquired knowledge in real classroom situation and then evaluation of the whole cycle. This process was repeated again and again throughout the duration of study period. At the end of second phase of the study data was collected and analyzed to record the effect of the input provided, thus post-intervention stage brought in the following information related to the effect of the input and its impact upon the professional development of the participating teachers. As mentioned earlier in this chapter seven areas i-e lesson planning, teaching methodology followed by the teachers, students' involvement in the teaching-learning process, communicational skills of teachers, questioning techniques, assessment and writing reflection were selected as indicators for measuring teachers' professional development. During pre-intervention stage the above mentioned areas were observed and the existing situation was recorded. While in the second stage of intervention necessary input was provided to the teachers along with opportunities of practically implementing and testing new knowledge. Now here in the pot-intervention stage data will be analyzed to see any change in these areas. And comparison of post and pre-test

results will determine any significant change in teachers' attitude and improvement in the above mentioned areas contributing to the professional development of the teachers.

1. Lesson planning skills:-

In the pre-intervention stage it was observed that none of the teachers used written lesson plans for their class room teaching. They followed no specific guide lines the only scheme which was available in some of the classrooms was monthly break down of the course content indicating the topics or chapters expected to be completed during that month. However during the intervention stage they developed lesson plans which were scored according to the rubric, following graph presents the development of lesson planning skills of the teachers;

Figure. 4.53
Development of Lesson Planning Skills



The situation at the end of cycle two regarding lesson planning skills of the teachers was encouraging as we found a significant change of producing on average a satisfactory lesson plan from a situation of having no lesson plan at all.

2. Teaching method used:-

In the start of the study only one dominating method i-e chalk and talk method (Elaine, 2005) was used by the teachers in their classrooms but gradually other teaching approaches like Activity based learning (M211, M232, M312, M321, M322, M512, F121, F122, F123, F322, F412, F511) Cooperative learning (F212, F121) Inquiry method (M122, F321,) and discussion method (M211, M421, M521, F123, F211) were reported to be used by the teachers in their classrooms.

Retrospectively analyzing the situation, teachers used only Grammar Translation Method (GTM), Lecture Method (LM) & Lecture Demonstration Method (LDM) and were usually engaged in few activities like, translating the text in local language, simplifying the text by replacement of difficult words, explanation of concepts, solving exercise and dictating notes. But as mention above teachers did apply Activity based learning, Cooperative learning, Inquiry Method and Discussion Method engaged in activities like, giving and elaborating instructions, guiding and directing students to explore and eliciting information instead of telling. The level of teaching change considerably because initially 72 % of the teachers' focused on memory oriented teaching while it dropped to 48.34 %. Again the teaching at comprehension level improved from 21% to 38.54 %. The third level of teaching which was observed during pre-intervention phase was focused on developing critical thing among students, its percentage improved from 7% to 13.12% the results are summarized in table below;

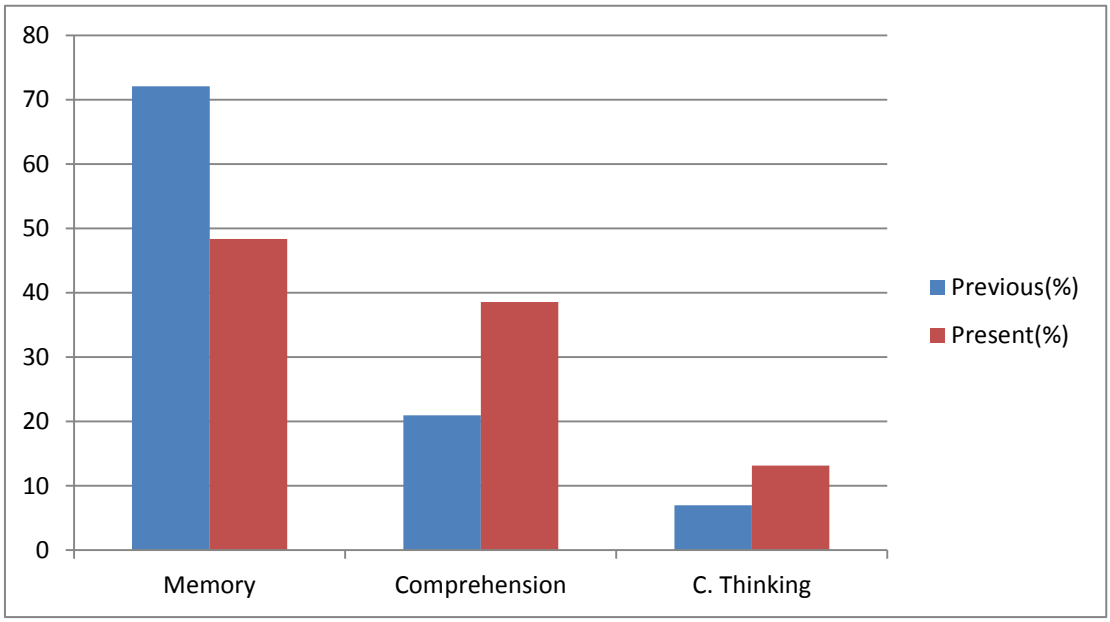
Table 4.11(c) Teaching Levels (Comparison)

Teaching Level	Previous (%)	Present (%)
Memory	72.09	48.34
Comprehension	20.93	38.54
C. Thinking	6.98	13.12

The following bar graph presents the comparison of the both situations;

Figure. 4.11(d)

Teaching Levels Graphic Presentation



To further investigate the situation 187 students, both male and female, were tested for their cognitive abilities. The especially designed tool (see annexure 7) consisting of six items, covering all the six levels of cognitive domain (Blooms, 1986) were included in the test, was administered and the students were asked to complete all the items. The following results show students' performance for these six levels of cognition;

Table 4.54

Students Performance Post-intervention

Students' performance (Test Scores) Total # of Students 187		
Level of Cognition	# of correct Responses	% age of correct Responses
Information	159	85.03
Comprehension	126	67.38
Application	113	60.43
Analysis	78	41.71
Synthesis	53	28.34
Evaluation	46	24.60

Previously during pre-intervention phase the same test brought the following results;

Table 4.54(a)

Students Performance Pre-intervention

Students' performance (Test Scores) Total # of Students 192		
Level of Cognition	# of correct Responses	% age of correct Responses
Information	163	84.90
Comprehension	122	63.54
Application	105	54.69
Analysis	47	24.48
Synthesis	26	13.54
Evaluation	11	5.73

The comparison of these results show that the % age of correct responses increased for the higher levels of cognition while the number of correct responses for the first three levels were maintained

Table 4.54(b)

Students' Pre/Post Intervention Performance Comparison

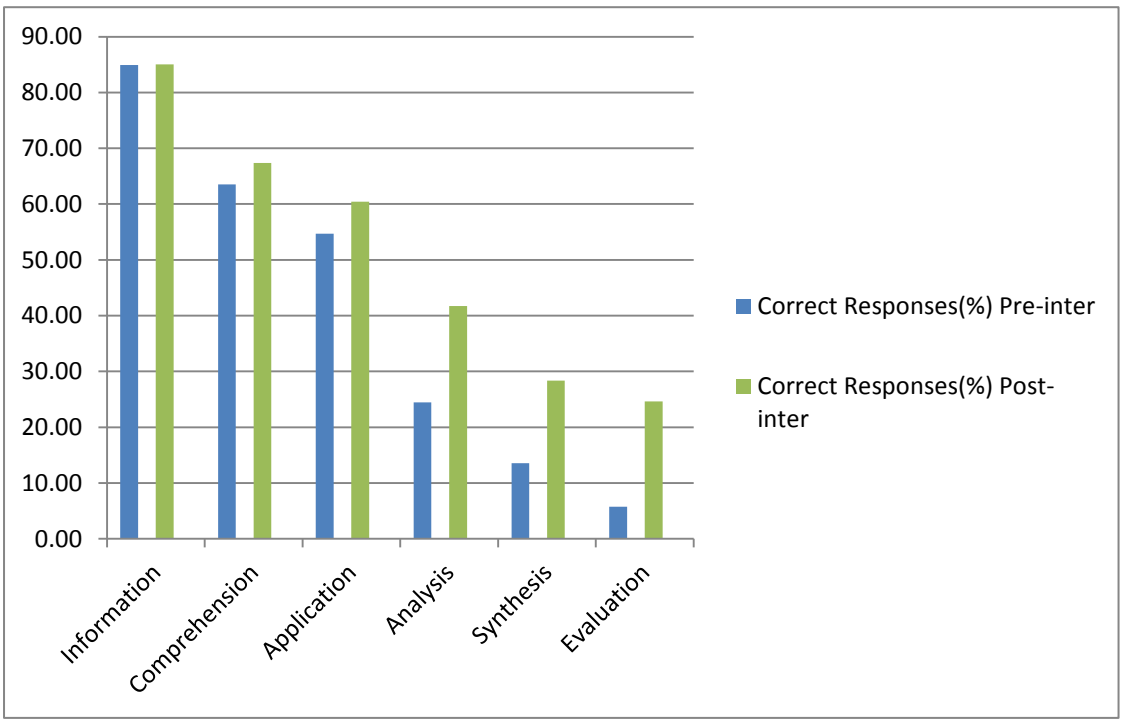
Comparison of Students' performance (Test Scores)		
Level of Cognition	Correct Responses (%) Pre-inter	Correct Responses (%) Post-inter
Information	84.90	85.03
Comprehension	63.54	67.38
Application	54.69	60.43
Analysis	24.48	41.71
Synthesis	13.54	28.34
Evaluation	5.73	24.60

It is evident that increase in the correct response for the first three levels was not much significant but the difference for higher levels was quite significant. This

improvement in students' response was the result of the changed teaching methodology. Students' performance is directly related to the teaching methodology applied in the start when teachers used the conventional teaching strategies the students' performance was prominent at the first three levels i-e information, comprehension and application because conventional teaching promoted only mastery of the content information but when teachers used other strategies of active learning like discussion method, inquiry learning or cooperative learning students showed improvement in their analytic and synthetic abilities. This improvement in upper levels is presented by the following bar graph.

Figure. 4.54(c)

Students' Pre/Post Intervention Performance Graphic Presentation



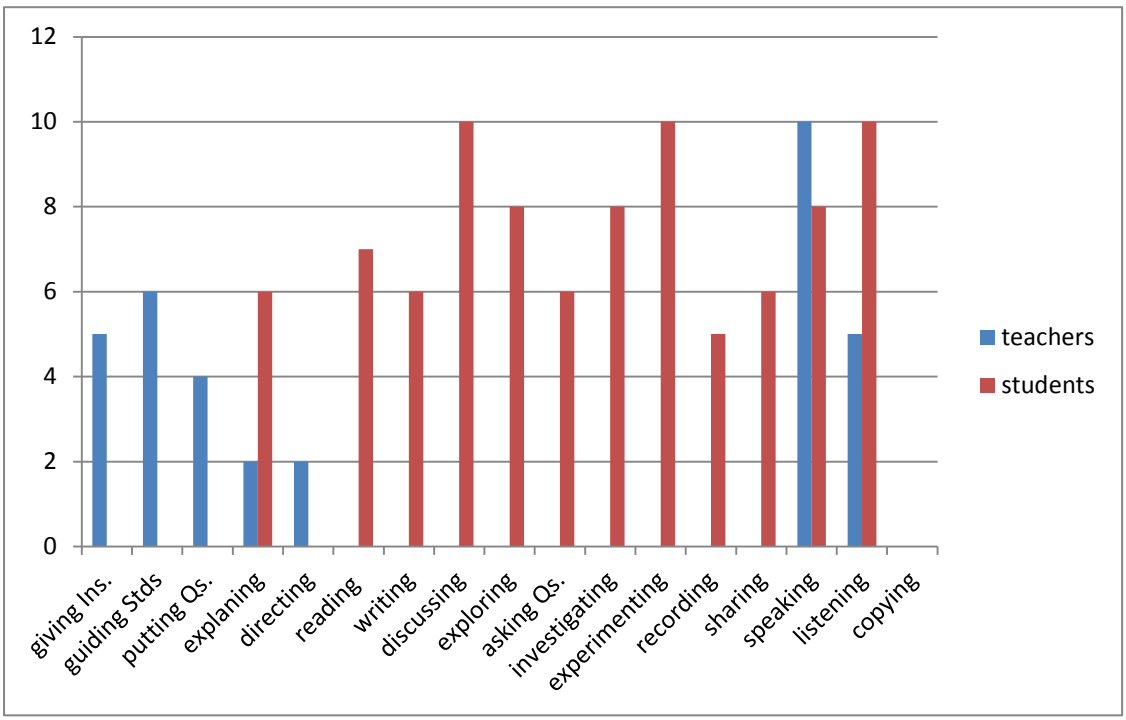
1. Involvement of students in teaching learning process:-

During the pre-intervention phase class room observation informed this study about the level of involvement of students in the teaching learning process. The situation has been presented graphically in table 4.19 where we see that teachers remained active and dominated the teaching learning process whereas students remained passive listeners or they copied from the black board and rarely asked

question for clarity of mind (on average less than 3% students asked questions). But the situation changed considerably in the post-intervention stage which is presented in the following graph;

Figure. 4.19(a)

Involvement in TLP



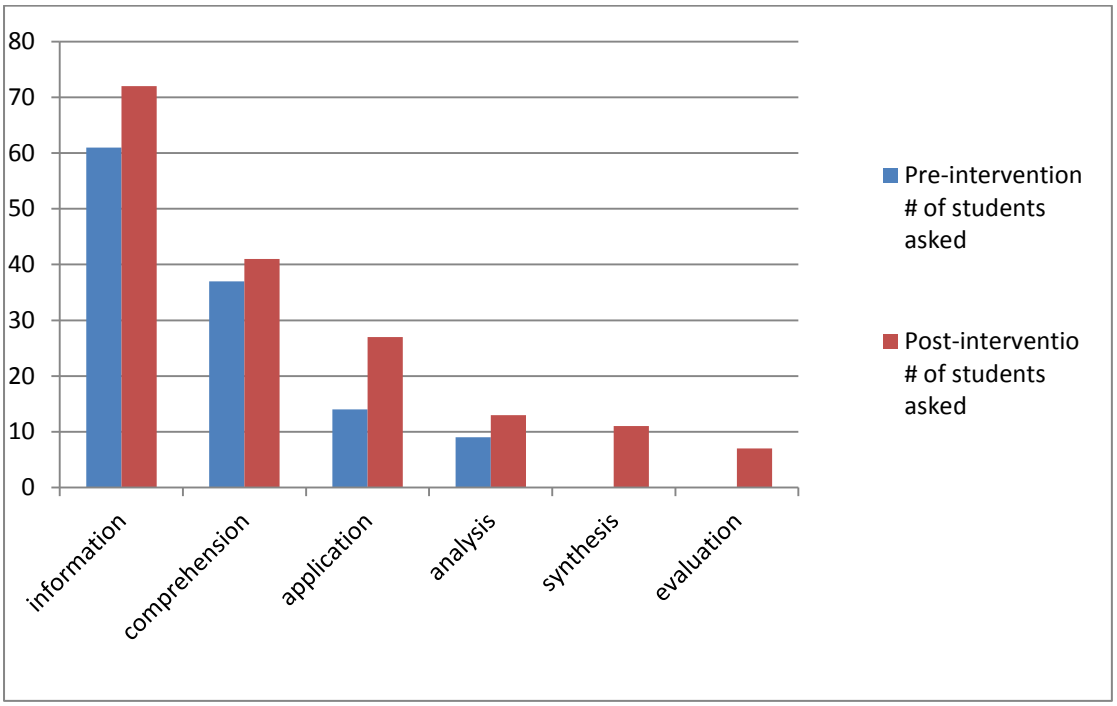
Here we can see that students were quite active and they were found involved in many activities requiring higher order thinking skills which was absent previously. Students discussed, shared ideas and explored the concepts themselves and discovered knowledge instead of just being recipient of knowledge.

2. Questioning technique:-

Improvement in questioning technique of teachers was recorded throughout the period of intervention and post-intervention period of this study. Questions raised in classroom were studied from three different angles; First it was noted what type of questions were asked by the teachers during classroom teaching. Second how students were encouraged to ask questions and what type of questions were raised by the students during the class and third how many students raised questions. Throughout

this study it was recorded through observation and during experience sharing meetings that teachers switched from asking direct and close ended questions to indirect open ended questions. Also a shift from unilateral communication to bilateral communication was observed in classroom atmosphere, students were reported to raise questions and the number of students asking questions increased.

Figure. 4.55
Number of Students raising questions Pre/Post Intervention Comparison



This is note able that during pre-intervention phase comparatively lessor number of students asked questions and the level of questions asked focused only first four levels of cognitive domain. No questions were asked which touched the levels of synthesis or evaluation. During post-intervention phase questions for all levels were asked although fewer questions were asked at synthesis and evaluation level but questions asked at these levels indicated that students were mentally engaged at higher levels of thinking. This stimulated students to ask higher order questions.

3. Communicational skills:-

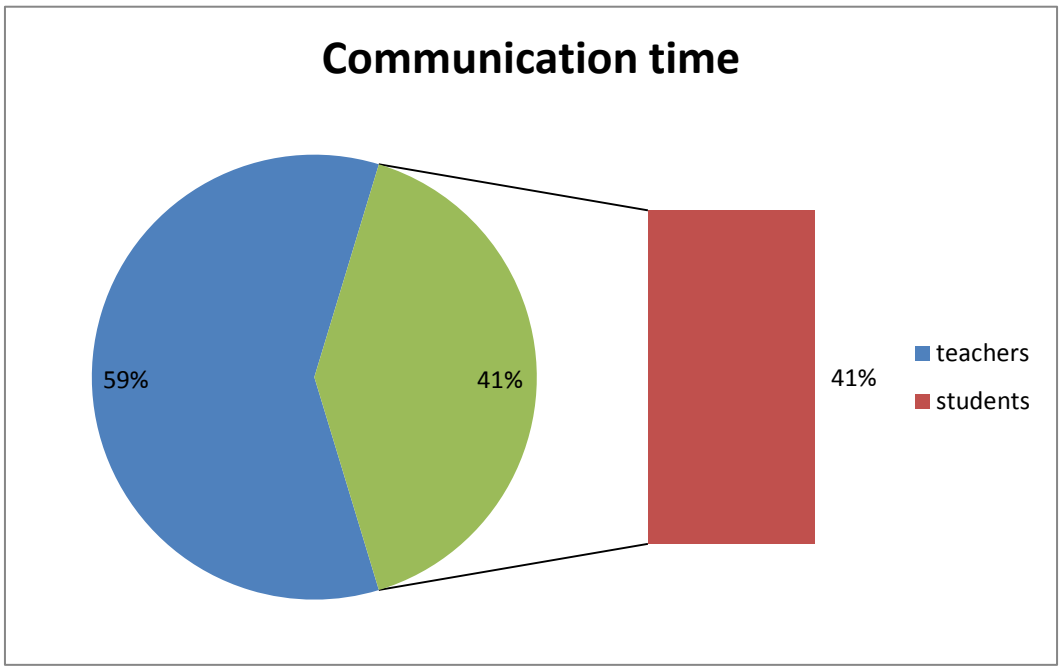
As mentioned earlier it was observed during pre-intervention phase that teaching process was “one way” communication and teachers dominated this process

and students were rarely allowed to ask questions or share their experiences and knowledge. But during the post-intervention observation students were found more active in classroom, level of their involvement was higher, already discussed in the start of this section. Teachers' economy of words improved by 30% and their score on average increased from 38 to 49 on the vocabulary test. Use of wrong words decreased to 38.57%. It may be noted that the wrong words recorded during post-intervention phase was slip of tongue rather than misconception. The reason was the instant replacement of the improper word with the suitable word for example the teacher replaced "force" with "pressure" and "heat" with "temperature" instantly.

The average time distribution for active communication during classroom teaching in pre-intervention phase was 9% (Table 4.23) which increased to 41% as shown below;

Figure. 4.23(a)

Active Communication time Post-Intervention



The change in graph shows that students became more active in classroom and took active part in discussion although the active communication followed the simple "one to one" teacher ↔ student pattern. But during post-intervention phase none of

the "engaged" students were excluded from discussion rather they were mentally engaged by asking simple question like "are you getting the point? Kamal! (pseudo name) or inviting comments and opinions of other students such as; what do you think? Or is he correct? Can you add any further point? Hence the learning benefits were extended to other students also. Another change which was observed was the uniform distribution of this communication time throughout the class duration instead of deferring it to the end of the lesson.

1. Assessment:-

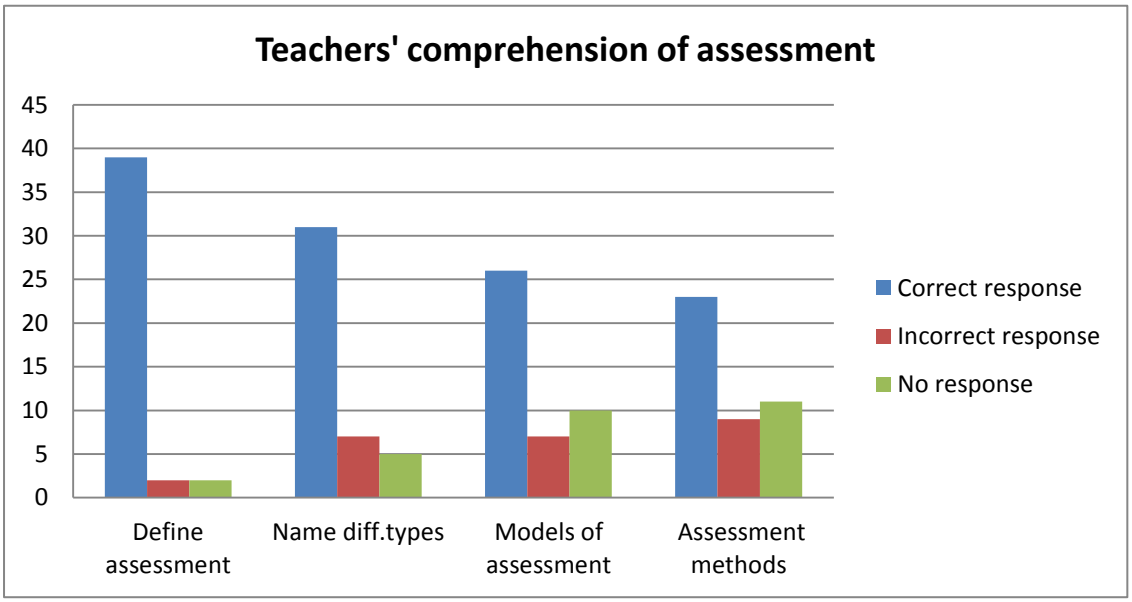
   Teachers' previously conceived notion of assessment as "examination" changed and they considered assessment as;

   > "…it is a process which supports and measure learner's overall development" (M321).
   >
   > "…assessment enables us to develop desired skills and competencies; it also informs us to improve our instruction and methodology" (F412)
   >
   > "…it could be regarded as means of providing feedback in a constructive and friendly way" (M512)

   A notable change in teachers' perception about assessment was viewing assessment as a means of improving instruction and teaching methodology (F412) they realized that assessment was a part of instruction and not something separate (Airasian, P. W. 2001). Using the same chick list (annexure 8) teachers' understanding of the concept of assessment was recorded in post-intervention phase. The results are presented as follows;

Figure. 4.24(b)

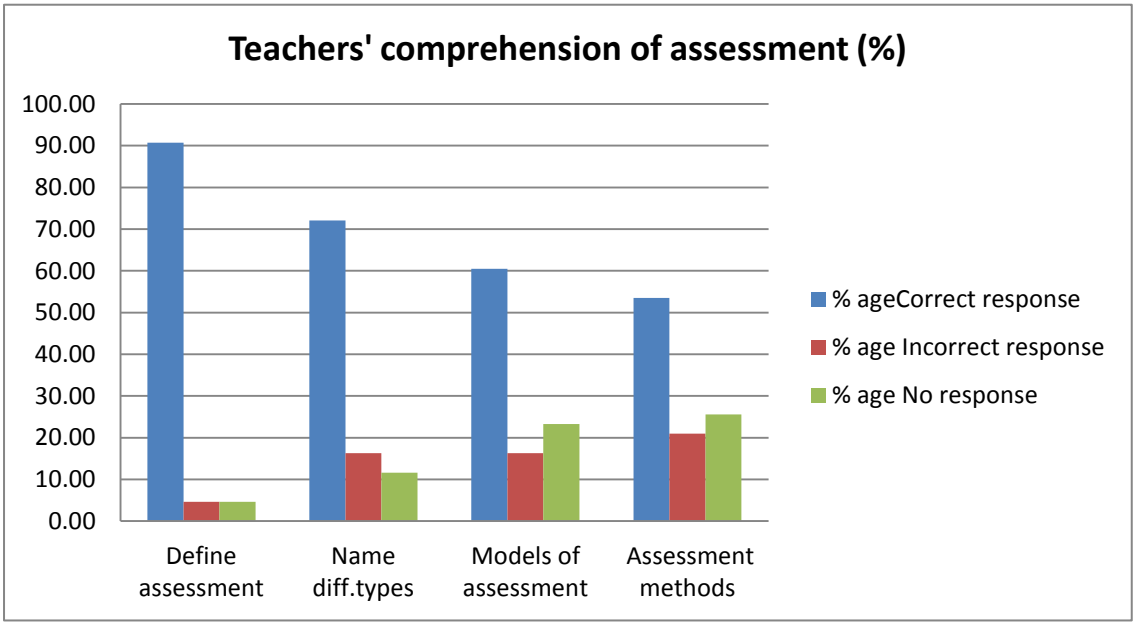
Teachers' comprehension of assessment



The above responses were calculated in percentages for more convenience and understanding. The following table shows improved understanding of teachers, regarding the concept of assessment;

Figure. 4.24(c)

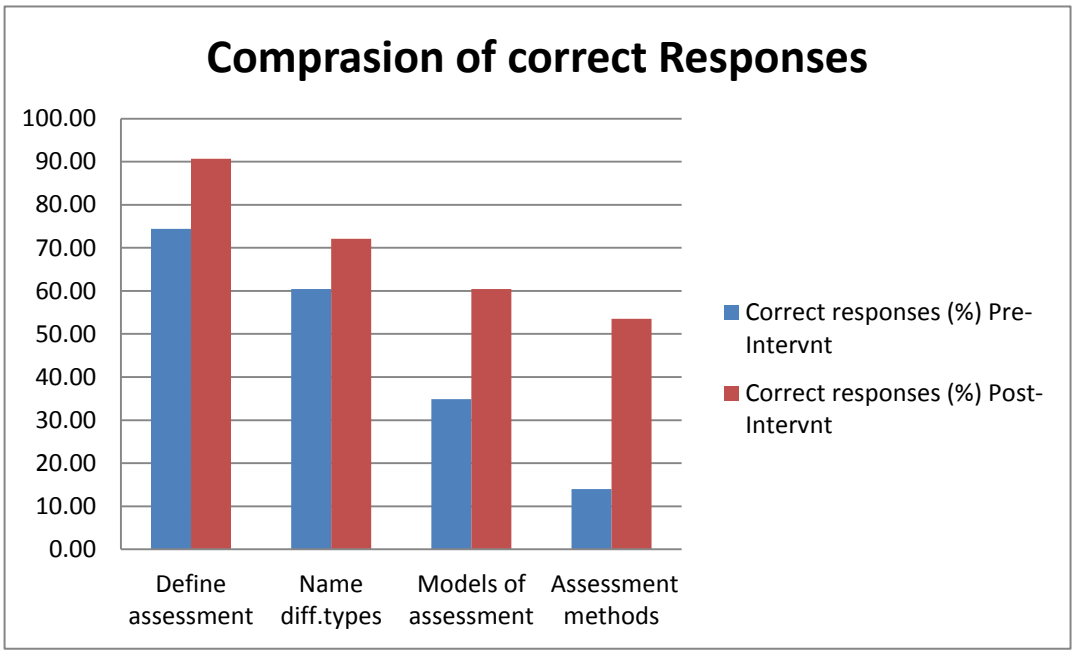
Teachers' comprehension of assessment (%)



On average increase in the % age correct responses ranged from 12% to 40% the comparison of correct responses for different questions during pre and post intervention phases is presented as follows;

Figure. 4.56

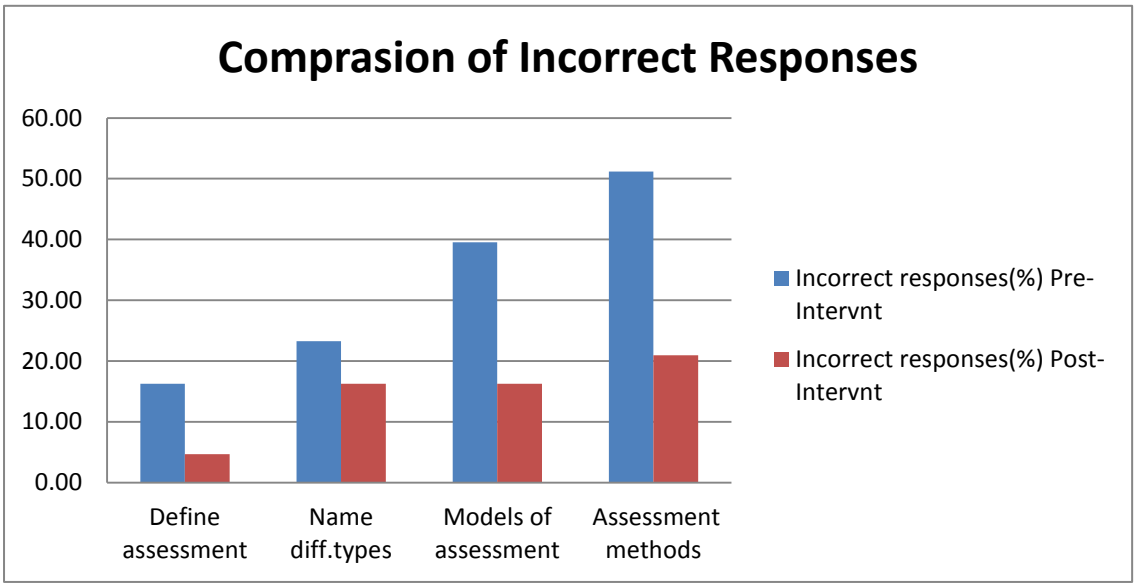
Teachers' Comprehension of Assessment (Correct responses)



On the other hand considerable decrease was noticed for improper responses which are presented below;

Figure. 4.56(a)

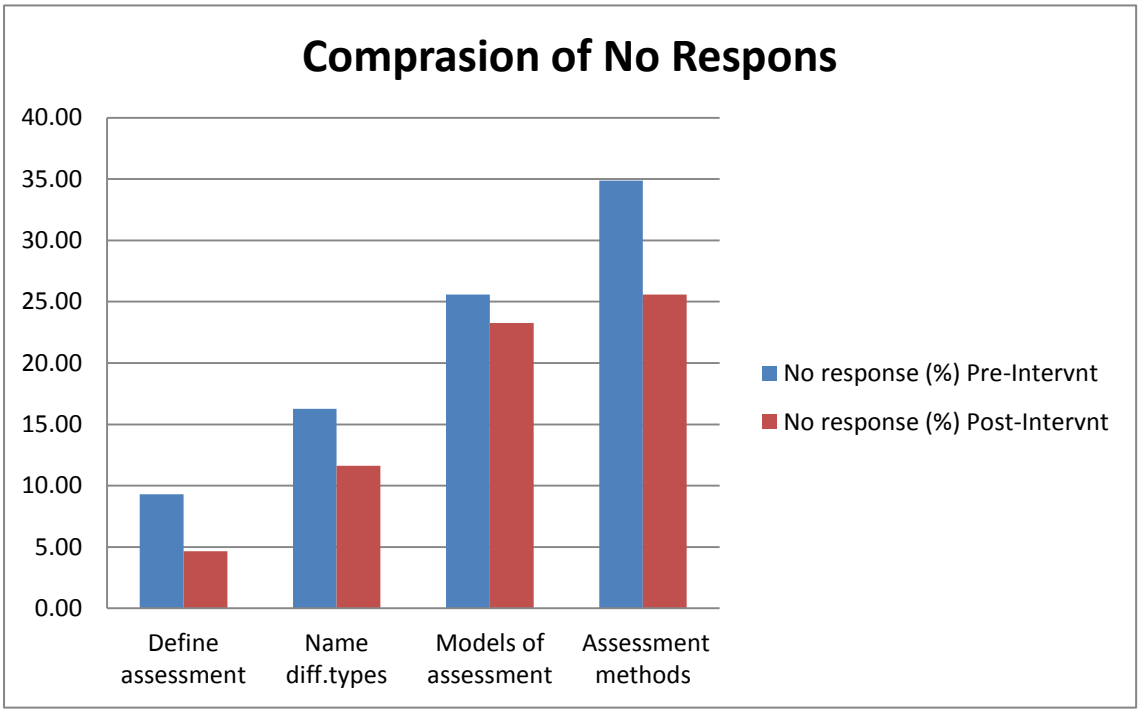
Teachers' Comprehension of Assessment (Incorrect responses)



Similarly the number of cases of un-attempted question also decreased which are presented as follows;

Figure. 4.56(b)

Teachers' Comprehension of Assessment (No responses)



2. End of class notes or teacher's reflections about class

The last aspect which was included in the observation was whether teachers' reflected upon what they taught? Did they keep any written record of their reflections? During pre-intervention observations it was noted that teachers did not record their reflections about the lessons they deliver. No evidence of written reflection was recorded. Majority of the teachers were unaware of the term "teachers' reflections". The positive change in this aspect was obvious and it could be simply presented as;

No Reflective Writing ——————→ Writing Reflections

The progress made by the teachers in writing reflection had three distinct stages these were;

Acquisition Stage:-

In this stage teachers gained basic knowledge about writing reflections. This information was imparted during orientation sessions. A rough estimate of the level of understanding of the teachers was made from their responses during orientation sessions. For example they responded to the question, what is reflective writing as; *a piece of writing or a dialog with our inner self showing critical analysis of what we have taught.(M312,F121)* In response to another question, what is a good reflection? They shared; *good reflection includes expectations, the bests & worsts, applicability to real life and points for further improvement (M322, F512)*. They also shared during these sessions that writing reflection needed to describe the event, analysing and explaining the situation and mentioning our feelings about the event.

Improvement Stage:-

This stage comprised practical implementation of theoretical knowledge gained in the first stage of acquisition. Teachers started writing reflection about their class teaching. Their reflection in this stage was of very preliminary levels rather they were just some written description of the proceedings of the lesson. For instance one teacher wrote first reflection as;

My topic was "مالک کے عظیم خلق" I wrote all the difficult words and their meanings on the black board and asked the students to note these words meanings in their note books. After this activity I asked them to sit in groups and read the lesson with me. Then the students read the lesson in their groups. After this I gave them some cards with difficult words on them and their meanings on other cards and students find the meanings for difficult words on their cards and showed them to their friends. In the end I wrote sentences for important words from the exercise and asked the students to read the lesson at their home for practice.(Teacher's Reflective Journal─ID.F312)

After attending experience sharing meetings, getting feedback and peer support the improved form of reflection written by the teacher was as follows;

Reflection writing is confusing for me or it is difficult for me to express myself in writing however the option to write reflection in Urdu solved the problem to some extent. I think our colleague (F321) is much better and she can guide us to write reflection, I liked her reflection which she shared with us in the meeting. One thing is clear that my reflection dated May 2013 was not good. (Teacher's Reflective Journal─ID.F312)

This written account for sure tells us that the teacher realized one of her weakness and had a desire to improve it. She also had a rough plan how to improve and from whom she could get support. Her next reflection supported the above thinking as she wrote;

"…I realized that my writing skill was not good so I started discussing about research with my group-mate especially after the class and noted important points. But soon I felt that those were her points which did not reflect my thinking. But I liked her advice to organize my reflection around the following questions these were;

What I wanted from my students to do?

Did they get what I planned?

What else I could do to improve my teaching

Apart from these questions I tried to write a page or two to improve my writing skills. This practice improved my ability to express myself in writing. As a result my reflective journal now presents a better picture of my teaching" (F312).

This account tells us how teacher planned to improve her writing abilities and could reflect in a better way. Here is another portion from her reflective journal which provides evidence of her progress and improved writing skills;

"…use of maps and paper boats for teaching Urdu lesson " تہ آب غازی *"*

was very good, lesson became lively and girls took interest they moved paper boats like real ones and considered themselves the commanders of those boats and imagined destroying enemy base. The words became meaningful for them. They learned difficult words more easily and more girls took turn to read the lesson. I noticed that the lesson was read out by eight girls whereas usually three or four girls repeated the lesson. I think I was successful in creating interest and developing reading skills of students. (F312)

The teacher seemed optimistic but her reflective narration had improved and she had tried to grab the essence of writing reflection.

Advanced Stage:-

In their third stage of writing reflections teachers wrote much better and critical reflections for example the following is a good piece of reflective writing which was shared by one of the teachers, traced his progress from "no reflection to writing good reflection". The teacher reflected as;

"...I (he) was initially of the opinion that writing many objectives, general and specific, as we have been taught in B.Ed, is a quality of the lesson plan but now I (he) see that we should set realistic and achievable objectives. I (he) have learned how to write "smart" objectives. What are "smart "objectives? This was totally strange to me. However writing "smart" objectives is very important for effective teaching. Now I (he) see that objectives should reflect the terminal behavior of the students, they should reflect the performance of the students so that we could measure any change in their performance. Writing objectives in this way need a lot of thinking which I (he) had never done before. Also it was a bit difficult for me, as I (he) was used to teach without a written plan it has triggered a thinking in my (his) mind that my (his)teaching was directionless. I (he) can now plan lessons with "smart" objectives and will teach accordingly". (Teacher ID- M312 Reflective diary).

Still another teacher reflected about his teaching practice as follows;

"...personally speaking the last week was really important and exceptional. Because what I learnt during this time and added something valuable to my knowledge which I haven't experienced before. Astonishingly, I came to know that I have found the answer to the question why my students are poor performer? The answer was, because I did not try to address their problems and supposed that they learn automatically. Retrospectively I can say that I did not do much practically to improve my students' performance but one thing is certain that I have realized that I must change and improve my own teaching practice to change and improve my students' performance. I am convinced that by changing my teaching the students' performance will definitely improve. At the moment, I feel pity for my students and consider myself responsible for their poor performance. I have decided

to try my level best to improve my own practice and help my students to perform better. I also found this study an opportunity because it draw my attention to the facts which I mentioned above and which remained hidden from my sight in the past". (Teacher's Reflective Journal─ID.M411)

This teacher had linked students' performance with the teaching practice of teachers and claimed that if better teaching strategies were applied it could change students from poor performers to good performer.

A specimen of critical reflective writing by one of the teachers showing her inner feelings about the teaching learning process and realization of the limitations regarding her own professional competencies is given as under. She wrote as;

"The last few days, since we have been involved in this research, were stimulating and notable in my professional life because I felt that, although I am a teacher by chance not by choice, teaching needs my full attention. Classroom teaching was not something which I enjoyed and I always blamed students for not working hard or paying attention. But in our orientation session when our attention was drawn to the question that;

Considering your competency and level of skill in the field of education that you have, if replaced with your swimming competency and skill, would you jump in to the river water and will reach safely on the other bank of the river?

Or

Considering your competency and level of skill in the field of education that you have, if replaced with your surgical competency and skill, would you operate your own son or daughter?

Gave me a shock! To be honest my answer was "No" this was something which made me think, Am I doing justice with my job? Is my earning justified? Am I helping my students to develop their mental abilities? These were the questions which changed my thinking and perception about classroom teaching. I am convinced that teaching is much more than book reading or solving mathematical problems.

During this time I was not just thinking but also preparing for my first research class and did many things, the first thing which did was to write down the objectives of my lesson, which was not an easy job. I asked myself what I actually intended to achieve by teaching the lesson "Keeping Good Health" I couldn't had a clear answer, but still I wrote lesson objectives;

To impart information about the Good Health

To enable the students to read the lesson with correct pronunciation

To understand why is it necessary to take proper food

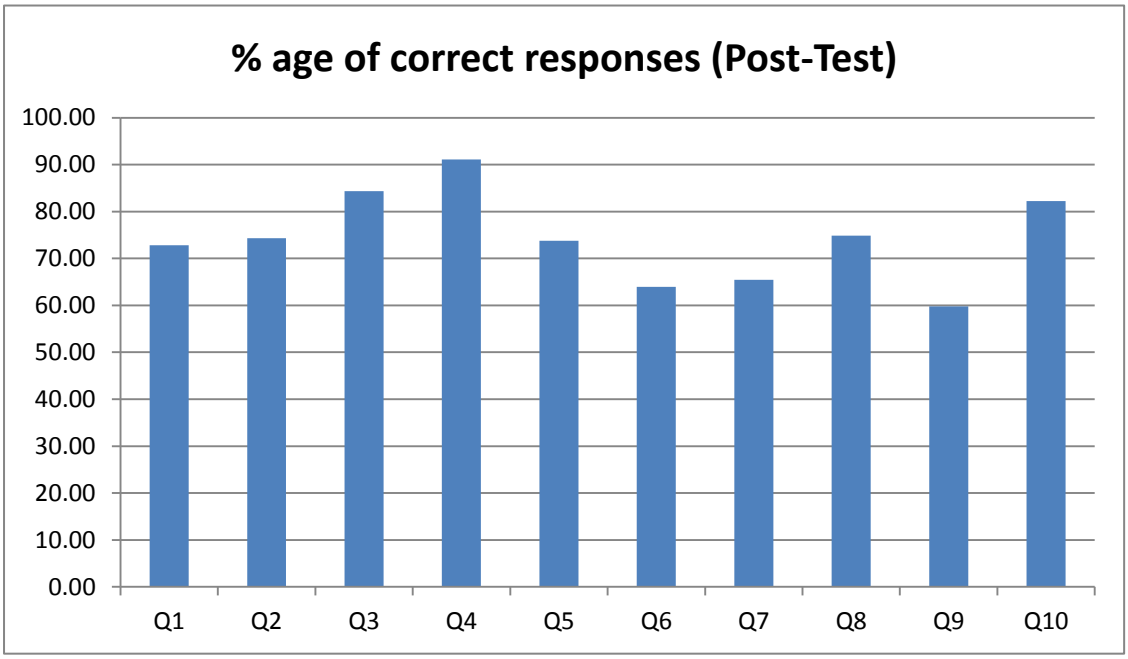
I also tried to think some interesting way to deliver the lesson effectively and prepared some coloured cards for difficult words. I also included assessment at the end of the lesson. For this I also searched some of my old lessons plans which I prepared during my B.Ed course to have a good lesson plan. To cut the story short I had a written lesson plan and some teaching material other than the usual black board. After the lesson the students were happy about the coloured cards and the story which I told them in the start of the lesson but I was not satisfied with my lesson. As I still want to know what I really intended to teach my students!(Teacher's Reflective journal─ID.F321).

Getting satisfied with what we are doing makes us relaxed and slowly we start losing the interest and vigor required for the efforts we made and our performance drops from high to average and then to below average. The above statement is important that it reflects the teacher's dis-satisfaction with the purpose of her teaching. Also she mentioned that she tried out changed teaching strategy to improve students learning. Although she claimed those students took interest and performed well but she seemed to achieve more than what she did. For the evaluation of teachers reflective writing a simple rubric was used (see annexure 13)

On completion of intervention phase "Post-Test" was conducted. Teachers' performance in this test is shown in the following graph;

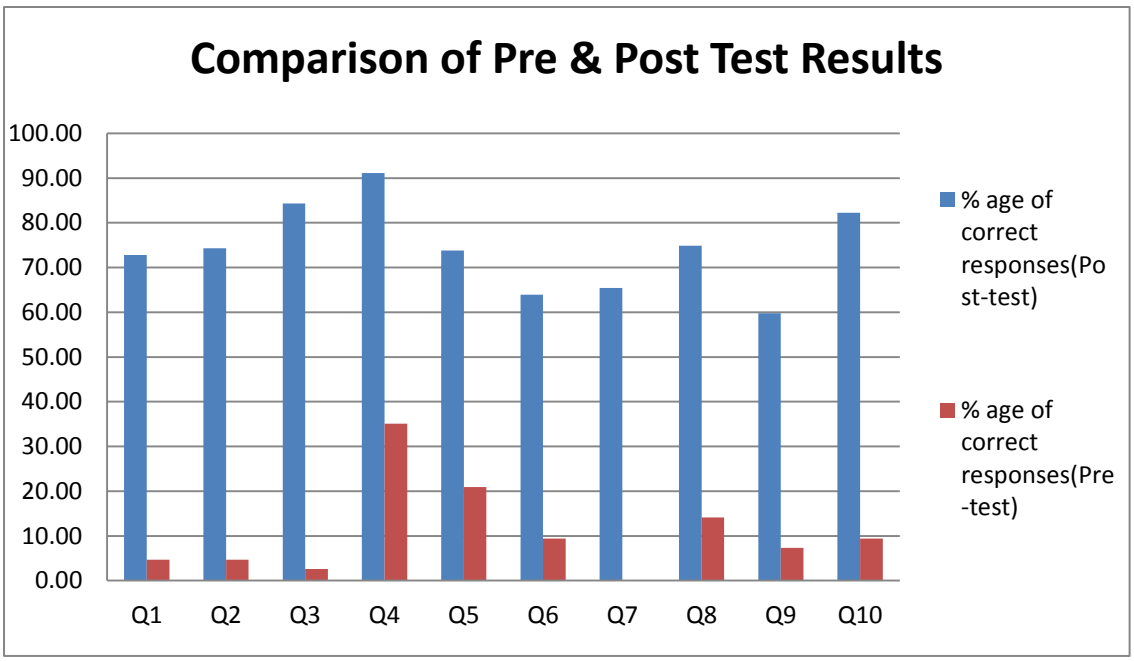
Figure. 4.57

Post Test Scores of Participating Teachers



The comparison of pre and post test results show significant improvement in teachers knowledge and different skills like lesson planning, conducting research especially action research, making assessment, reflective writing and questioning techniques. The following bar graph shows the comparison of pre and post test results;

Figure. 4.58 Comparison of Pre &Post Test Results



On completion of intervention phase it is concluded that teachers had progressed professionally. They took responsibility for students' performance and made decisions to set instructional objectives, did better planning think critically and created learning activities. They worked systematically and tested new ideas and educational strategies to improve their existing teaching practices. Above this they developed self-confidence and more positive attitude towards their profession. They started enjoying teaching and developed professional pride, which I believe can help teachers to exercise control over teaching learning process and enable them to resolve any emerging issues related to classroom teaching. Interest and professional pride are the main elements which can derive teachers to make attempts to perform in more professional manner developing an insight of the teaching learning process enabling students to learn in their own individual way utilizing their maximum potential to achieve more.

CHAPTER 5
FINDINGS AND RECOMMENDATIONS

In this study, the practicing in-service teachers from the selected schools of Khyber Pakhtoonkhawa (KPK) conducted action research in their regular classroom setting in order to measure their own competency regarding course content, lesson planning skill, and pedagogical skills using four stage; plan, act, observe and reflect model (Kemmis, 1982)

Teachers' who possessed better academic records and had been regular students during their academic years proved to be better in carrying out action research and critically analyzing data. Also there have been some important factors pointed out in the following discussion and need to be investigated separately.

5.1 DISCUSSION

The optimistic attitude of teachers and disregarding any deficiency in their teaching methodology prevented them from taking any step to change and improve their existing teaching practices. Teachers never attempted to critically observe their classroom practices and go through self-evaluation. In this prevailing attitude and the school environment where research is regarded as an alien concept, a short study like this is no guarantee of sustained attitudinal change and professional development, although positive results have been recorded. Here it should be kept in mind that this study did not claim to produce any permanent change in teachers' attitude but supported the idea that action research does provide a systematic approach for the teachers to detect the gaps between teaching and learning and then investigate the possible reasons for these gaps. Once the teachers have identified the causes of insufficiencies of their teaching practices they will be in a position to improve that area (Borrie, & Nevill, 2001) which is the logical ending of the whole process of action research. But the question remains that in the above mentioned circumstances

who will take the initiative to start the cyclic process if action research. During the course of this study the fact surfaced that to bring a positive change in teachers' attitude to improve their existing practices at least two types of forces were needed external and internal, in our case the source of external force was researcher's personal interest whereas the source of internal force was intrinsic motivation and self-satisfaction of the teachers. After completion of this study with drawl of the researcher's input (source of external force) the intensity of internal force (intrinsic motivation) will decrease and it is feared that as more and more time will pass the teachers will turn again to the same lethargic attitude unless sustainable measures are taken in the form of follow up program or starting action research programs at school level.

The teachers' weak academic and professional back ground also affected their ability to critically analyze and deeply reflect on their teaching practice therefore they usually ignored some very important areas including selection of vocabulary and adopting the most appropriate teaching methodology, which needed serious attention and improvement. As teachers had little control over the teaching-learning process therefore sometimes they faced difficulties in controlling their temperament.

Although the results of this study, like many others (Dean, Kumari and Mohammed, Robinson, 2009) also support that action research could be implemented by teachers to improve their teaching practices and professional development but getting acquainted or mastering research skills is no guarantee that teachers will continue to use the technique for their professional development and self-improvement. Still it to be noted that teacher in Pakistan with no research background must additionally develop their skills to critically reflect upon their classroom teaching so as to become proficient enough to frame and initiate prolific working plans to improve their own teaching practices (Kemmis & McTaggart, 1988).

The participating teachers were also not capable enough to effectively collect relative data and analyze it in their own context to decide the next step for further development and refinement of their skills.

Reporting was another important issue for the teachers almost all with the exception of few wrote their reflections in Urdu, which were then translated into English. Although all efforts were made to translate the text in its true world and sprit but sometimes it was difficult to produce exact English substitute of Urdu words. This might have affected the data to some degree. The use of video recording is considered an important source of evidence and data (McNiff & Whitehead. 2006) but its use in our culture especially in female schools was not possible this limited our scope of evidence and data collection even though it could be used to some extent in male schools but there too resistance was expected from some teachers having rigid religious background therefore to avoid any social or cultural resistance and keeping uniformity in the data use of video recording was excluded for this study.

As the teachers were not used to keep record of their teaching hence they had no means to disseminate what they have achieved or what their problems were but during this study they were introduced with idea of experience sharing meetings. Teachers joined together after each research class and discussed their lesson plans shared their experiences and gave feedback to each other. Experience sharing meetings were sort of forums for professional learning and benefiting from each other's learning but initially teachers focused what they have planned and the targeted area of improvement. They discussed and reflected mostly on how well their plan worked or why their plan did not work. Their interest revolved around the implementation of the plans (Ponte, 2002). During experience sharing meetings I noticed that teachers usually supported each other's ideas and efforts and did not raised critical questions they even supported poor ideas and activities just to gain support of their colleagues in return. This element affected the role of "critical friend"

and slowed down the rate of professional progress which would have been comparatively higher if the situation was the other way round.

The focus of the discussion in this chapter is based upon the research question "*How can we as teachers improve ourselves to enhance our professional competencies, using Action Research?"* in this research the main research question was studied from different perspectives initially an understanding of the existing classroom practices was developed secondly it was observed that how different learning opportunities were created for the learners and how learning activities were organized by the schools and teachers, how we as teachers function within the existing situation and what could be done within the limits of the present system to improve the existing teaching practices and increase the efficacy of practicing teachers.

The argument centers on the question of validity of the existing teaching practices particularly at school level, whether these practices possessed the ability to meet the national education standards set forth by KPK government (MoE. Govt. of Pakistan. 2009). In Pakistan teachers are expected to have continuous professional development in the following areas mentioned in National Professional Standards for teachers;

1. Attaining fresh subject knowledge:- Acquisition of current and recent content knowledge of subject they teach

2. Practicing modern instructional approaches:- Use of broad knowledge of instructional tools, strategies and pedagogical skills

3. Students' assessment:- Ethical monitoring and assessing of students' learning outcomes

4. Development of studious character in students:- Cultivating in students the ethical scholarly disposition (National Professional Standards for teachers. MoE. 2009)

Unluckily none of the above mentioned aspects of professional development is considered to be worked upon and no organized efforts are made to bring improvements in these areas. The facts regarding acquisition of up to date knowledge of the subject which the teachers taught were not very encouraging because none of the teachers attended any refresher course or workshop specially designed for the promotion of subject knowledge of concerned teachers, however teachers did attend trainings designed for the development of general pedagogical skills.

During pre-intervention phase the classroom observation and non-formal discussion with the participating teachers informed this study that teachers used teacher-centered approaches and when they were inquired about the implementation of other potential teaching approaches, they appeared to have no or little information about any modern teaching methodology. The participating teachers further informed this study that using the conventional approaches to teaching was their limitation because the student body which they dealt with belonged to poor families with weak social and educational background therefore it was difficult to apply teaching strategies other than the conventional method.

However the present study was an effort to help teachers strive for professional development using action research. It should be noted that all educational activities at any level are inter-woven and they could not be treated separately. Changing one without changing the others is meaningless; these are interdependent and have their effect on each other. But due to limitation of resources and technical reasons this study was restricted to the implementation of action research by taking specific actions and properly gauging the outcomes in the context of the study. In this process some evidence was buildup which could be used for generalization in the context of KPK. Pakistan.

The basic assumption underpinning this study was that classroom teachers could become comparatively more empowered, gain professional autonomy and improve their teaching practices by applying the methodical procedures of action

research and studying their own practices which they usually followed in their classrooms.

Classroom teaching could not be treated as a simple interactive process between students and teachers or among the students themselves neither it could be considered as a single chain phenomenon. In fact the teaching learning process is complex (Halai, 2011). The complexity of classroom practices is primarily by its nature and secondly for technical reasons (Elliot, 2004 and Kemmis, 1986). In addition to this the situation became more complex when teachers; with no practical knowledge and skills of conducting research; applied research procedures and tried to study their own classroom practices. If we assume that teaching learning is a complex process than for sure this process has at least two main aspects i-e physical and metaphysical aspects. The physical aspect includes understanding of content, methods, instructional strategies and student's psychology. According to Ponte (2007) the educative process is based on instrumental and ideological knowledge, encompassing the physical aspects of education and which have been explored quite extensively (Rowland, 2000; McNiff & Whitehead, 2006; Ponte, 2007; Adler-Collins, 2008) but the metaphysical aspect; which is rather more abstract and complicated than the physical aspect; has been comparatively less explored one. This study also focused only the physical aspect of the educative process and viewed teacher's professional development as their progress in the physical aspects of the educative process and neglected the metaphysical aspect of this process. During the course of this research study the importance of metaphysical aspect of educative process was felt pretty clearly because through education we as teachers try to bring positive change in students' behavior, perceptions and believes for the development of their physical self and the inner-self but unfortunately all educational efforts are usually focused upon the development of the physical-self only and very little is done to bring positive change in the inner-self. The development of this inner-self had been one of the major themes of Allama Iqbal poetry, he pointed out the lack of efforts done to enlighten and develop this inner-self, he wrote in *Bal-e-Jibril*;

یہی زمانۂ حاضر کی کائنات ہے کیا
دماغ روشن و دل تیرہ و نگہ بے باک

His thoughts demanded the promotion and development of inner-self through self-determination and firm belief in one's own abilities but these two elements are still missing from the current educational system. He wished that these qualities may be bestowed to the education system and the teachers so that the same may be passed on to the next generation, he wrote as;

مئے یقین سے ضمیر حیات ہے پُر سوز
نصیب مدرسہ یارب یہ آب آتش ناک

In the light of above discussion one can argue that the holistic professional development of teachers must include physical and metaphysical components of professional development so that they might be able to better adjust themselves to fulfill their responsibility of developing student's personality.

This view of professional development might not be acceptable to some people and generate some kind of strain for the practitioners also but all human beings whether they are teachers or students are the balanced combination of body and soul therefore any attempt of its development which is tilted towards any one of the two components i-e body or soul would result in uneven and imbalanced development of personality. It is therefore needed to search for a comprehensive approach which could accommodate both the aspects of human nature and which is easily understandable for the practitioners and universally applicable so that we could; as teachers, fulfill our responsibility of holistic development of child and enable him at the same time to survive in the ever changing world.

In trying to understand this view of teachers' professional development we draw our argument from idealist philosophy of education which is primarily based on metaphysical idealism and secondarily ethical and societal idealism. According to this

viewpoint the final truth is God who is permanent and all other things are temporary therefore objective of education must be establishing a strong link of man with God, instead of only developing cognitive domain to achieve limited worldly benefits. As the teachers have to play the central role in these efforts therefore they must develop themselves a strong linkage with God and purify their souls to achieve this end along with those skills which are required for the development of physical aspect of students' personality. This is what holistic professional development is and required to meet the challenges of present times. In the light of above discussion any activity undertaken for the professional development of teachers must be all-inclusive in its nature which is nearer to the type of analysis and investigations done in arts rather than based upon rigid scientific principles and procedures. Thus all sorts of programs for teachers' professional development should be perceived as creative, inventive and instinctive endeavor focused on the development of metaphysical abilities of those who are responsible for the development of young generation. These professional development efforts should be holistic in nature encompassing activities starting from mastery of the skills to apply scientific methods in teaching till the development of metaphysical abilities—purification of soul (تزکیہ نفس) meditation, and intuition.

This study also intended to analyze the hands-on skills of class room teachers engaged in action research and to identify those distinctive elements that may be considered for further studying the possibilities of applying action research at school level and including it in the existing pre-service teachers education programs as a tool for teachers continuous professional development as well as the essential qualification for becoming an accredited teacher. Although the results supported that action research could be utilized as a strong tool for professional development of teachers and hence it must be included in all pre-service teacher's training programs but teacher training programs offered at university level, with the exception of few(AKU-IED. Karachi) do not consider action research to be included in their course of study. However it is hoped that policy makers could be convinced to consider action research for inclusion in their scheme of studies. While conducting action research

teachers should develop a personal working concept following a systematic investigative method (Kemmis four stage model) , and observer any improvement in their own teaching practice themselves. But during this study it was also noted that bringing teachers to the above level of competence, there rested many obstacles;

i:- teachers had no knowledge about research and its mechanism

ii:- they lacked the skill to collect data objectively

iii:- they were unable to maintain a balance between regular teaching and research.

The common challenge for all the teachers was to keep balance between their role as a teacher and as researcher at the same time. They found it difficult play both the roles side by side and usually ignored one of the aspects. Another important factor which needs our consideration was students' learning, during the research classes it was observed that sometimes the engaged teacher became so much involved in the learning activities which they had designed and the execution of these activities as they had planned that neglected students learning and their achievement. Instead they focused upon the procedures and the mechanism of those activities. For example one of the participating teachers wrote in his reflective journal:

> *"I admit that while teaching in my research class, at times I became so excited and involved with my teaching that I overlooked students learning and ignored their achievement" (M232).*

Similarly many other teachers (M211, M322, F121, F212) reported that it was difficult for them to differentiate between teaching and doing research at the same time. Furthered more teachers had no other means to record their data through tape recorder or make a video of their classroom teaching, they totally relied upon their memory and recall abilities to reflect upon important features of their lesson planning and record data for further analysis.

It was quite demanding for the participating teachers to associate experimentation and generating new knowledge to depend upon themselves for their own professional development but they had no idea that conducting action research in their classroom to investigate their teaching practices would provide them with an opportunity for developing insights of the teaching strategies they apply and about the strengths and limitations of those strategies. The participating teachers had a limited perception regarding use of their existing knowledge which could be considered as consumption of knowledge in the sense that they did not apply it to produce new knowledge. Thus application of knowledge through action research generates a continuous cycle of producing new knowledge therefore the perception of application of knowledge could be defined as a process of converting theoretical knowledge into practical form, which in return produce further theoretical knowledge and so on (Elliot, 1991). This process of conversion of theoretical knowledge into practical form and generating new knowledge from practice has dual functions of personal and organizational professional improvement. But the teachers who participated in this study seemed to be closer to the personal function than organizational function of application of knowledge through action research. Although individual learning has its effect on the development of practice but both are two different aspects of action research (Ponte, 2008) which can work side by side but putting more stress on only one aspect; the individual learning and neglecting the other aspect; development of practice can turn action research into a process of individual improvement and a tool for personal growth, which has no significance for the organizational improvement and development of practice in general. Therefore care should be taken to maintain a balance between the above mentioned two aspects of action research.

Still another factor which had its effect on the rate of professional development of the participating teachers was their academic and professional background. The quality and academic level achieved by the teachers during their formal education contributed to the rate of professional growth of the participating teachers. Teachers possessing higher academic records and attending educational

institutions as regular students made rapid progress as compared to those who acquired education as private candidates'. Therefore the importance of educational background of the teachers in their professional development could not be ignored.

Although this study supported the idea that action research had a significant role in turning participating teachers to student centered teaching (Zeichner, 2003) but this change could not be totally credited to action research alone because other factors like teachers' own formal education, teachers' attitude and motivational levels had significant impact in this direction and in the professional development of teachers. However this study put forward that action research has a significant role in the professional development of teachers and can serve as an important tool for self-improvement and improvement of practice. Although the concept of action research and its practice was unfamiliar to the participating teachers in the context of Khyber Pakhtunkhwa, Pakistan but the teachers who took part in this study proclaimed that they had realized substantial improvement in their classroom teaching and their perception about teaching and learning.

According to Ormell (2000) action research is considered bottom to top approach but in the case of this particular study the idea of action research was introduced by the research hence changing it into top to bottom approach. However the participation in the study was made totally on voluntary bases and the teachers were free to quit at any level of the study if they desired so. But all the teachers continued till the end and their level of motivation was maintained throughout the period of study. The reason for teachers' active participation could be the influence of researcher as master trainer for district Peshawar and because he was already introduced to teachers as teacher trainer and professional guide. And perhaps his ten years' experience at PITE as teachers' trainer was another reason for their cooperation, willingness and active participation.

Now I would like to discuss my role as the researcher in this study, basically my role in this study was as an "agent of change" who attempted to convince a group

of teachers (43 both male and female) to change their classroom practices. In this attempt the foremost difficulty which I faced was to convince the participating teachers to realize that they needed to initiate a process of changing their current practices. I observed that teachers were reluctant to participate in this study because they thought if they agreed to participate; it meant that there was some deficiency in their teaching methodology or they were lagging behind in some basic skills required for effective teaching; for which they were not ready in the beginning. The teachers were in a state of complacency and sanctimoniousness. They were far away of trepidation regarding their current practices. Thus in my attempt to breakdown the deep-rooted assumption, the social habit (Lewin, 1951) which prevailed among the teachers, that teaching is telling and good teaching was the one; when a teacher could tell the students as much as he could in an interesting way; I used concept of "group pressure" as a force to minimize and weaken the inner resistance of the teachers which stood in our way to change. Lewin (1951) considered that if the social value of group standard is higher, greater will be the inner resistance of the members of the group to deviate from the group standards. In our (Pakistani) society teaching profession has a low prestige therefore group standards are low hence resulting in weaker inner resistance of teachers, which was overcome with minimum efforts on the other hand the idea of being a member of a research group and conducting research by them in their schools for the first time developed a sense of honor among the participating teachers. This created a high social value of the research group which served as an attractive force for the participating teachers to deviate from the conventional standards of classroom teaching and to follow innovative strategies. Thus using single phenomenon of value system (ibid) I tried to create "repulsive" force which served to detach the participating teachers from their previous practices; which according to Lewin is termed as "unfreezing" and "attractive" force which served to motivate and prepare the teachers to consider other teaching methods and strategies for effective teaching. Lewin mentioned

three stages of change i-e unfreezing, moving and refreezing but I think that the group under goes another stage which lies in between the “unfreezing” stage and “moving” stage which may be called as “deciding” stage when the subject mentally prepares himself to take part in the change process or otherwise. This deciding stage is important to pass through smoothly because unless the subject has not win over his inner resistance himself any change produced would be temporary and the subject would return to the old practice as soon as the “attractive” force is weakened or lifted. Therefore it is necessary to give time and allow subjects to think critically and then make a decision about stepping in to the next stage of the change process or otherwise. To make sure that all the teachers had a decision of their own and were willing to participate in this study; they were asked to read the consent form and sign it to ensure their voluntary participation. Furthermore they were free to leave the study at any stage if they desired so. The voluntary participation and not bounding them to remain part of the study in case they wanted to leave had very positive effect in the sense that those teachers who agreed to participate continued their participation till the end of the study and they had a sense of responsibility and commitment to complete all the stages of this study. The level of commitment was evident from their full participation in experience sharing meetings at the end of each research class. Therefore, it is wise to go through the stage of “deciding” instead of stepping into the “moving” stage directly. Similarly, I realized that there lied hidden another stage between the “moving” and “refreezing” stages which could be termed as “adopting” stage. The argument which I may present in this regard is the fact that during the process of change we are dealing with living human beings who are unique in all respects and they are bestowed with the ability to “think” although all human beings differ in the level of their ability to “think” inter personally and intra personally.

Two persons would differ in their ability to think and even a single person would have varying levels of thinking. According to Ibn-Khaldun there

are three degrees of thinking namely perceptive, experimental and speculative thinking. These levels differ from each other in their complexity and in their scope. Also these are attained at different times during any cognitive development activity. Thus no two persons during a change process would pass through the "moving" phase at identical levels and by the end of this phase both would stand at two different levels of knowledge, attitude and skill, now mere attainment of additional knowledge and skills is no guarantee of a real change unless the subject exhibits desired changes in self-perceptions and is able to conquer the "inner resistance" (Lewin, 1951). Therefore on completion of "moving" phase and going through the process of re-education one cannot step directly in to the phase of "refreezing" as mentioned by Lewin, but would pass through another phase, in which the subject adopts and selects the amount of information and type of behavior pattern corresponding to his level of intellect and current needs. This phase could be termed as "adopting" and the subject than moves on to the next phase of "refreezing". In this way it is argued that instead of completing and passing through three phases; unfreezing, moving, and refreezing (Lewin, 1951) of the change process, the subject follows a path of five phases namely;

1:- unfreezing,

2:- deciding,

3:- moving,

4:- adopting and

5:- refreezing.

Lewin (1951) considered "social habits" as obstacles to change, which needed to be broken down in order to change people and he also admitted that these social habits are deep-rooted. Drawing upon Lewin's work the process of change appears to be a linear function which is completed as the last stage of "refreezing" is achieved and some desired social habit is produced or the previous one is modified. If the process of change is considered to be a liner

function then after laps of sometime produced change and the fresh social habit would again need reconsideration. This lead us to assume that process of change is not liner but cyclic thus on reaching the last stage of change process the subject should develop fresh or modified social habit along with the development of speculative intellect, which according to Ibn-Khaldun (1394) is the ability to think beyond sense perception. Speculative intellect enables the person to arrange and combine the hypothetical knowledge in a different order or combine it with other intellects such as perceptive or experimental intellect to generate new knowledge of the same kind or even of different nature as a result of synthesizing different aspects of knowledge. In this manner perfection could be achieved. If on the other hand the change process terminates at the freezing stage without enabling the subject to develop speculative intellect then achieving perfection is doubtful.

During this study it was realized that both the individual and the group possess equally important roles to be played in a change process. Putting stress on only one element and ignoring the other may make the whole process biased. Lewin has concentrated more on the role of the group and considered the group as the chief influencing force to change the outlook of an individual he wrote;

> "*only by anchoring his conduct in something as large, substantial and super- individual as the culture of the group" (Lewin, 1948, p. 59)*

In his opinion, group was superior and more significant than the individual. He considered group norms as the controlling factor of human conduct. Thus group play central role in re-educating the individuals. Lewin put forward that through the influence of the group an individual can change his views and opinions. Fresh awareness and manners could be learnt through group participation only. No doubt the influence of group in shaping individual thinking and behavior cannot be denied but group influence is something external for its members therefore any change produced as a result of this influencing force will have its roots in an origin lying

external to the person. Now if we accept this group influence as the "major leverage" for re-shaping individual's out-look (Bargal, D. 2006) than in case of existence of some other more influential group the produced change would be at risk of further change under the stimulus of more influential group. Thus focusing and relying more upon the external factors like field force or group influence and ignoring the inner potentials of the individual exposes Lewineion paradigm to an inbuilt threat of impermanency and the strength of this model becomes its weakness.

In Lewineion paradigm individual is seen as substance which is totally dependent on external forces for its change and his own will or self-determination has little role to play while the external forces seem to be active enough leaving internal forces in the background and inactive. Some of the active elements of Lewineion model mentioned are;

1:- Social climate

2:- Role of trainer

3:- Atmosphere of freedom

4:- Meeting people of different attitudes

Lewin (1948) focused on the above mentioned elements as the means to bring change and revising self-perceptions and social perceptions to enable the group members to see other fellow men and social events in a different way which could be extended further than the commonly held beliefs or wrong thinking. All of the above elements compose the external environment to which the individual is exposed and hoped that through these external elements the individual will change and adopt those desired behavior patterns which originates from interpersonal relations developed in the group. Not only are these externalities a source of changing personal perceptions but a means to protect and stabilize satisfactorily the new beliefs, protecting the group member from other influences actively existing in the surrounding in which the individuals live (ibid).

Lewineion model consider environment superior to individual but Bogoslovaky (1936) considered individual (self) superior in learning process. While discussing the matters of environment and individuals he clearly mentioned that environment and the individual both equally influence each other. He highly valued the initiatives taken by the individual in the determination of his environment. He said that it is the choice of individual personality to select the affective stimuli and thus shaping and creating his environment. He attached superiority to the individual in the determination of environment. Hence ignoring the role of individual in determination of the environment or subjecting it to the influence of environment for its determination seemed injustice.

Lewin considered "group norms" as the "optimal condition" for producing any desired change, he suggested that in doing so all group activities should be carefully "planned" for the members of the group to pass through and achieve the intended out comes of what was planned. To him, the process of change could not be left on the mercy of chance or accident but it needed careful planning. He believed that "*false stereotypes and prejudices*" were the result of wrong thoughts and concepts. If the above thinking is analyzed we see three main points;

- identification of false beliefs and misconceptions,
- identification of the consequences and inappropriate behaviors resulting from false beliefs and misconceptions
- taking concrete steps and working out a plan
- determining the outcomes or objectives of the plan

Now this approach leads us to think of an "out sider" other than the person who undertakes the process of change to determine and identify "false beliefs and misconceptions". Who has the authority to determine what is wrong and what should be and finally sets out to formulate a "plan of action" to settle the things correct. Thus the individual is left with no other option but to proceed step by step in the direction and follow the plan designed by someone else and as a result the new behavior pattern will reflect someone else thinking and not

the individual. Furthermore that the process of change will again end on development of a perception based upon some alien viewpoint and not upon the change in the individual's own thinking. It may be called the "replacement" instead of "changing" of perceptions. Still more important is the fact who will determine that the trainer or the "outside person" is unbiased and his own thinking will not affect the plan. I suggest that in the process of change the "individual" should be made responsible for all the phases starting from the identification of fallacious conceptions till the determination of the outcomes of all the planned activities. No outsider could do this job better than the individual himself who is undergoing the process of change because no planning can replace the initiatives taken by the individual in the determination of his destiny (Bogoslovaky. 1936).

Placing working environment under the umbrella of personal initiatives now we are at stage to analyze the initiatives taken by the participating teachers to make improvements in their classroom practices. The initiatives taken by the participating teachers were classified in to the following five categories;

I:- Enabling
II:- Defying
III:- Authenticating
IV:- Remodeling
V:- Reforming

The study showed that although the efforts of the participating teachers were at very preliminary level but they did empowered teachers to use action research as a tool for making their classroom teaching more effective (Lew, M. & Mohsin, M. 2011) and connecting theory and practice to minimize the existing gap between them. Through this exercise of conducting action research at classroom level teachers felt more in control of the teaching learning process, they developed a better understanding of their teaching activities and as a result students achievements improved.

The participating teachers involved themselves in different activities ranging from simple acquisition of new information to carrying out trials and gaining insight.

The next step; after enabling themselves; which they took was to defy the existing practices of their school and accepted to face the resistance and attitude shown by the rest of the teachers of their school in response to their unique work and conducting research activities in their classrooms. After agreeing upon conducting research and taking the initiative and passing the first to phases the further took the initiative of authenticating what they learnt during input sessions and their own prior pedagogical knowledge acquired during initial teacher training programs. Next the research participant remodeled and changed themselves and their own practices. Although this remodeling was restricted to the participating teachers only or extended to other members of their respective working groups in the form of feedback, reinforcement and moral support but in a sense it was a contribution to change and reform the whole school. I realize now that this personal remodeling could be more formally projected at least at the same and other participating schools, with rest of teachers who did not participated in the research study. The duration of this study was almost ten weeks which I think is very short period professional development of teachers in the true sense because any significant activity of professional development is a long term process along with a follow-up program which is continued over a long period of time (Elmore, 2002; Richardson, 2003; Kedzior and Fifield. 2004). It is therefore argued that the change observed in the participating teachers can be associated with professional development but it is no guarantee that this change would turn into a permanent change because in the absence of any follow-up mechanism it would be difficult to say anything about the sustainability of this change in future. It is assumed that under the dominating culture of conventional teaching this change will fade of gradually, and also the variables such as educational management and administration, curriculum (Marzano, 2003), role of parent teacher council, availability of sufficient funds and teaching materials, and external support (Richardson, 2003) have their impact on teachers professional development, and

mostly all of these variables are inactive or negatively effecting teachers professional development in our (Pakistani) context, however it is believed that the teachers who conducted action research would be in much better position to exercise control and resolve classroom problems arising from time to time.

According to Marzano (2003) professional development of teachers is related with students' achievement. For this study the two phases of action research process i-e planning and reflection were analyzed to see their relation with students' achievements. For each cycle any change in planning skills and skill in writing reflection for individual teachers was recorded and then the students were tested to measure their achievements, each time class averages were calculated to relate them with the change in the respective skills of the related teachers. Data analysis showed the following results;

	x	y	z
x	1		
y	0.903809	1	
z	0.865948	0.895193	1

In the above table "X" represents teachers' skills in writing reflections, "Y" represents planning skills of the participating teachers where as "Z" represents class averages for the test scores of the students. The corresponding values in this table show that variables X and Z are positively correlated (0.87). Variables X and Y are positively correlated (0.90). Variables Y and Z are also positively correlated (0.89). Apparently we see a positive relation among the three variables but other factors like teachers academic and professional qualifications; content and students intellect could not be ignored and more controlled investigation illuminating the effect of those factors could further prove the validity of the above results.

However the common thread found all the way through the entire study and among the individual teacher's professional development process was the fact that better the teacher was in critically reflecting upon his or her lesson delivered better they were in planning effective and efficient lessons and as a result students' achievements boosted up. The results presented in the above table although reflect the whole group of 43 teachers but the same could be generalized to the individual teachers also because those teachers who were good at writing reflections were also better at planning lessons and the average performance of their students was better than those teachers who were not as good as they were in writing reflections or planning lessons. The interrelationship of the three variables could be presented in the following figure:

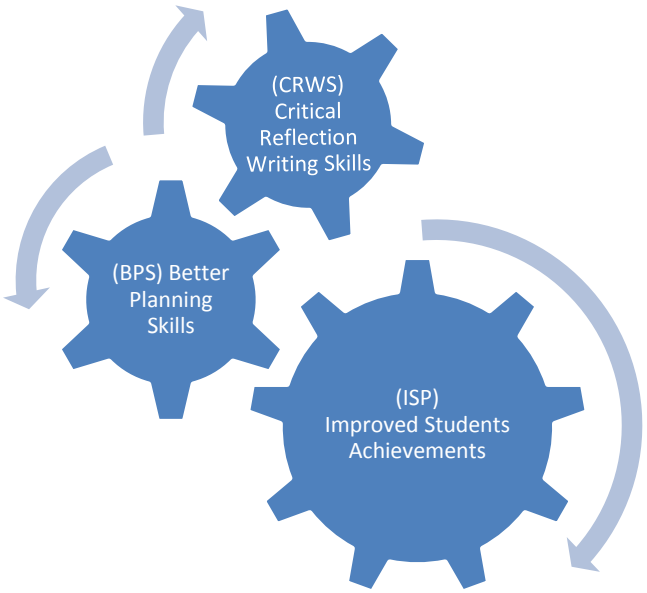


Figure 5.1 Interrelationship of three variables

For research study it is important to arrange for the evidences which could justify the claim made by the researcher and satisfy and convince diversified readers. This is also important to minimize skepticism which is likely to move in stealthily in a research study. What may be the reason of doubt, strong and unbiased evidence abates it and proselytizes readers what is claimed. This end demand thoughtful consideration to continuously evaluate the research study (Guskey. 2000).

As the nature of this study did not favor any summative evaluation done by a person external to the study rather it required a continuous internal evaluation mechanism. Drawing from the work of Scriven (1967) three phase evaluation plan was followed to arrange for the evidences and proves. The evaluation plan for this study included preformmative, summative and formative levels of evaluation. The first phase is already discussed in chapter three; here I shall briefly discuss the next two phases of formative and summative evaluation.

Following Guskey (2000) model of evaluation for professional development its five levels were arranged such that level 2 & 4 were carried out during formative evaluation whereas level 1, 3 & 5 were included in summative evaluation. This alteration in the sequence of levels was made on purpose to meet the unique requirement of this study, for example the first level "Participants' Reactions" was accomplished after the completion of second level "Participants' Learning" and fourth level "Participants' Use of New Knowledge and Skills". Another change in the order of these levels was that level three "Organization Support and Change" followed level five "Student Learning Outcomes". As this study was fundamentally based upon Kemmis four stage action research model therefore evaluation of participants' learning and use of new knowledge and skills was done side by side during each cycle. Data collection and its analysis was carried out simultaneously, thus level two and level four proceeded all other levels in this study. The application of these levels in an order different from that presented in the said model did not create any problem in gathering or analyzing the information and hence evaluating the outcomes of the study on the whole and of each cycle separately. This fact made me realize that it was not necessary that the sequence of these levels should strictly be followed and these levels could be applied as separate independent levels. Dr. Guskey mentioned in his article, "…*each higher level builds on the ones that came before"* (Guskey, 2000 P. 5) however in our case different levels worked independent of the earlier lower levels.

Formative Evaluation of the study

During formative evaluation of the study my first concern was augmentation of participants' learning. To be focused, answers for the following questions were searched for. These questions were;

Whether participants learnt something new?

Was their existing knowledge enhanced?

Did their pedagogical skills hone?

In order to measure any change in existing level of knowledge of the participating teachers, their pedagogical skills and attitude, their level of participation in orientation workshop, their performance during co-planning and co-teaching were observed and recorded. The process learning and augmentation of knowledge was obvious and followed the natural stages of resistance, molding, acceptance, and application. The recorded data showed that participants gradually became active although they were passive and apathetic in the start of the session. Their comments like;

> *...planning is time consuming; ...lesson planning and course completion cannot take place at the same time;...methods other than those presently used cannot be applied in our schools*; *...innovative methods are beyond students' comprehension; ...research needs time and expertise. etc.*

Showed their unenthusiastic attitude but gradually they started to raise interesting questions like;

what characteristics a good lesson plan have?

where can we find more information about action research?

how can we collect data while teaching?

what is the role of a critical friend in action research?

how many cycles could be completed for any problem?

which issue we can address in our research?

The next stage which they reached was providing explanations and making developing their own viewpoints regarding different questions asked by their group members. This process of stepping out of the state of passing negative comments and then asking questions, attaining clarity of the concepts and finally responding to questions and sharing their viewpoint, itself was an evidence of positive change and improvement in participants' learning. It was expected that at the end of input session participating teachers would be able to;

1. improve their pedagogical knowledge and skills.
2. change their optimistic attitude with realistic attitude.
3. implement their new knowledge in their existing working conditions
4. apply "Action Research" for their professional development.

The above objectives prescribed for the "intervention" phase served as targets to be achieved but no fixed level was determined because the study intended to know how much teachers could benefit from applying action research to develop professionally. Therefore, in the absence of a standardized level of achievement the magnitude of change for individual teachers was determined through the comparison of the results from pre-intervention observation and teachers' performance after completing the intervention phase.

In the next phase of formative evaluation the focus of our consideration shifted from learning of participating teachers (level 2) to the use of new knowledge and skills (level 4) by them. To evaluate the application of their learnt knowledge and determining the extent to which research participants were able to use this knowledge, observation in real classroom situation was used to evaluate their ability to apply new knowledge. Teachers' reflective writing also shed light on their changed perceptions and modified behavior. Another source which played significant role in modifying teachers thinking and turned the focus of their non-formal talks was experience

sharing meetings which were held after each research class. However these observations and other measures were taken during the course of research study and no spaced observations extended over a longer period of time was made.

Summative evaluation of the study

Insofar as finding answers to the fundamental questions regarding summative evaluation of the study, it was noted that teachers gradually developed interest in this activity and their reaction toward research activity changed from partially negative to positive. As time passed participants' feelings about the worth of this research study slowly got stronger and stronger. They started valuing research as an important and useful technique to gain better control over teaching learning process. They considered action research as a source of testing and improving their current practices. Their initial pessimistic perception about present and innovative teaching methodologies (*methods other than those presently used, cannot be applied in our schools*; *...innovative methods are beyond students' comprehension*) changed into relatively optimistic and realistic perception (*Previously when I asked my students to do the reading I was always looking only for the errors and mistakes committed by the students and tried to correct them and ignored what was correct. This time when I tried out the reading buddy technique actually I was searching for the correct conceptual understanding of the students and encouraged their efforts. Thus in a sense I was positively reinforcing the students which I think was the main reason that students were willing and motivated to share what they had learned*) M512.

Later a stage came when the participants started realizing that their efforts to investigate their own teaching practices were valuable enough to help them overcome issues related to their classroom teaching for which; earlier, they had no solution and counted on external help:

> "*...I have realized that I must change and improve my own teaching practice to change and improve my students' performance. I am convinced that by changing my teaching the students' performance*

will definitely improve. ...I have decided to try my level best to improve my own practice and help my students to perform better." (Teacher's Reflective Journal─ID.M411)

Analysis of teachers' reflective notes revealed that they developed a sense of trepidation and apprehension which caused them to change and come out of the state of contentment that what they were practicing was correct. This, what I think, was the first step in the direction of positive change and improvement which led the teachers further towards their professional development.

Finally, now we discuss the impact of this activity upon students' performance and link it with teachers' own development. As mentioned earlier that students' performance (average test scores) were positively correlated (0.87) with teachers' skill to critically reflect upon their teaching practice. Similar results were obtained between students' performance and teachers' skill in lesson planning. The correlation coefficient for students' achievements and teachers' lesson planning skills was 0.89 which indicated strong positive relations between these two variables.

However in the absence of any other research evidence regarding students' IQ, their previous subject competency and motivational level, the element of ambiguity remains in the above results.

Other factors like teachers' academic and professional qualifications, course contents and students' intellect could not be ignored which may have affected the mutual relation of the variables tested. Still further the professional development of teachers could not be restricted only to lesson planning skills and skills to critically reflect upon ones' performance but conducting action research in one and not the only way to improve professionally.

5.2 FINDINGS OF THE STUDY

In the start of this study I did possess some knowledge of our (KPK) educational system as an employee and was informed about its various issues and

loopholes. Further during the course work required for PhD degree I gained knowledge about research through rigorous practical assignments regarding research, its types and phases of conducting research. During this period I developed special interest in action research. Meanwhile the opportunity of working as principal researcher in the Pak Norway project for conducting small scale research projects through collaboration of three universities, namely, university of Peshawar, AKU-IED. Karachi and Oslo University Norway further increased my interest in action research and encouraged me to apply action research to study the issues of teachers' professional development here in Khyber Pakhtunkhwa, Pakistan. However the fact remained that as a PhD scholar my knowledge in this filed was limited and when I discussed the proposal of this study with worthy Dr. Kulsoom Jaffer IED. Karachi (2013) her comments were;

" *Asif ! you have no idea of the magnitude of this work, reduce your sample size*" (Kulsoom Jaffer. Personal communication, march 29th 2013).

This issue was brought to the notice of my research supervisor Dr. Arbab Khan Afridi who guided me in a different direction of synthesizing the two approaches, the one followed by AKU-IED with limited sample of five to ten research participants and the other followed in university of Peshawar with at least fifty participants, as requirement of PhD study. Also the issue of using quantitative data or qualitative data was important to settle down because the nature of action research demanded qualitative data collection and analysis on the other hand large sample size favored quantitative data. However consensus was developed to follow mixed approach and to take maximum benefit of the strengths of quantitative and qualitative data to build up stronger evidences from the data collected. The complexity of the study and other difficulties were tormenting and demotivating but my advisor encouraged me and summed up the discussion by reciting Allama Iqbal's following verses;

ے مشام تیز سے ملتا ہے صحرا میں نشان اس کا
ظن و تخمین سے ہاتھ آتا نہیں آہوئے تاتاری

ے یوں ہاتھ نہیں آتا وہ گوہر یک دانہ
یک رنگی و آزادی اے ہمت مردانہ

With the guidance of my research supervisor and generous support of Dr. Kulsoom jaffer I worked through my first cycle and immediately realized that there is always a little more required to transform theoretical knowledge into living practice (Hilgard. 1964)

> "*one does not move directly from astronomy to navigation without concern for tides, prevailing winds, and the location of lighthouse…"*
> (ibid)

Educational practices are not exceptional because they depend upon educational aims, needs of society, labor market demands, resources allocated for education and the pedagogical skills of the teachers (Hilgard. 1964). And I think that my actual learning started the moment I realized this fact. To me all my theoretical knowledge seemed futile unless it was reflected in the living practice of the participating teachers of this research. And achieving this end I passed through different cycles of action research which further consisted of many mini cycles and I found that action research had a much more complex structure than a simple spiral, rather it appeared to me that action research consisted of a core spiral from which shoot out axillary spirals depending upon the nature of change under consideration.

No matter how much superb theoretical knowledge is, it will remain ineffective unless it is carried out contextually to refine current teaching practices. (Zahra. 2007) any practice draws it assumptions from the well-known primary believes of underpinning theory of that practice but it certainly not instructs or involves itself in the mechanism of practical implementation. Thus it is needed on behalf of the teachers to combine their personal experiences and adjust the theoretical

information according to their peculiar classroom problems. Strengthening and developing this synthesizing skill of classroom teacher is the first step in their professional development. Furthermore if learning is considered as behavior modification then in the first place it requires emotional development–replacement of all negative feelings by healthy positive feelings about teaching and learning process. In the second place we need intellectual development–strengthening all faculties of mind or more precisely development of five types of minds introduced by Howard Gardner (2008) these five types of minds are discussed independently by Gardner but in case of teachers and their professional growth I think that the characteristics of these types of thinking should be unified and developed in teachers only then the teachers can properly educate and help their students to learn in real sense. Beside these (five minds of future) thinking abilities teachers need another type of ability which Imam Ghazali has mentioned as "spiritual purity" (*Ihya' 'Ulum ad-Din*, Vol. 1, p. 48-51) to establish close relation with All Mighty *Allah* and invigorate the *sunnah* of holly prophet for character building and gaining control over *nafas*. He warned that if the purpose of any educative process is only the gain of worldly objectives was despairing. It should be remembered that Imam Ghazali was not an opponent of modern sciences rather he considered Islamic sciences and modern sciences harmonizing and obligatory to each other (ibid). Thus in addition to synthesizing and creative abilities attaining spiritual purity is an utmost necessity for professional development of teachers.

The above account was my overall feelings which gradually developed throughout the research period and finally shaped up in the above form. Now I would like to proceed further and share my learning and experience of this research study in some detail.

Referring back to our main research question "*How can we as teachers improve ourselves to enhance our professional competencies, using Action Research*?" to find answer to this question 43 teachers were engaged in this research

study and track of their professional growth was maintained to find out the similarities in the process of their professional development through the application of grounded theory to record the emerging pattern of any significant change and improvement in their current practices. As this research was technically a bi-tier study hence it generated data on two levels; at teachers' level and at researcher's level. On teachers' level the participating teachers learnt new techniques, research methods, applied them in real class room situation and developed insight and as a result their professional competencies improved. At this level the focus remained "*what"* happened as a result of the intervention. While on researcher's level the focus expended to *"why"* and *"how"* it happened.

Here is the teachers' perspective of their own professional development. Generally all the participating teachers pointed out that they added *"something"* valuable regarding their teaching practice from their own teaching experiences when they participated in this research study. They noticed many important aspects of the teaching learning process which they had hardly paid attention before. However the magnitude and nature of this *"something"* remained different for different teachers. All most all the teachers admitted that they were introduced to the concept of action research and through this practical activity of applying action research model–plan, act, observe and reflect (Kemmis 1982) they felt more in control of the teaching-learning process. The simple technique of reflecting on their actions (teaching activities) and taking measures for further improvements was interesting and a self-governed activity which made them empowered and responsible instead of taking orders from high-ups(Authorities and Principals). This practice built up their confidence in their own abilities and elevated their morale. One of the participating teachers wrote, "…*it was different from our usual practice but I realized my worth in the teaching process, it was me who could bring a change and nobody else"* (F121)

Beside the positive impact of this study on teachers individually it also had deep impact on students learning in the sense that students' comprehension improved,

students started to raise question instead of accepting facts unquestioned and rote memorizing them. This positive impact was observable regarding the role of students in the teaching-learning process; the pre-intervention observations indicated a passive role of students which changed with active participation of students.

Teachers, involvement and increased concern to improve their teaching practice was also evident from the use of effective teaching material; previously no teaching material except text book and chalk board was used but as an indicator of improvement teachers started using a variety of teaching aids to supplement their classroom teaching and clarifying the concepts under discussion. Teachers also adopted other innovative strategies like activity based learning and explorative approaches instead of mere telling and chalk and talk approach.

As an effect of this research study the prevailing atmosphere of discussing non-professional issues during school hours changed to more professional talks like discussing issues related to classroom practices, planning research classes and sharing experiences with each other.

Although the overall impact of this study was positive and encouraging to apply action research for continuous professional development of school teachers but the whole process of research was not free of challenges. Teachers did not have any previous know how of research and lacked the skill of conducting research along with regular class teaching at the same time. Reaction of non-participating teachers of the same school was discouraging and apathetic which created hurdles in conducting research. Administrative support remained limited up to verbal assurance and little was seen practically.

The researcher's perspective included "why" and "how" in addition to "what" happened as a result of this study. This extended perspective could be rightly related to the analogy given by Ernest R. Hilgard (1964) mentioned in the beginning of this section. From researchers' viewpoint finding of this study are classified into the following categories for the purpose of elaboration and easiness.

5.2.1 Epistemological Findings

The epistemological findings as a result of this research study started shaping right from the beginning of the study however I can conclude, these findings in no sense be considered final as I realize that there are still other unknown horizons to be explored, at the end of the study by drawing support from Stringer (2007) I found that action research could be rightly regarded as methodical way of examination and applied to help school teachers to discover potential and practicable ways out to problems coming in their routine activities which are related to classroom teaching.

Action research, by its nature, is different from other types of researches in at least two ways; (1) Its procedural ingenuity in terms of applying cyclic method of action and reflection and collecting data through non-conventional means like narrative analysis and grounded theory and (2) analyzing "clashing" ideas obstructing professional growth and then using cyclic method of action and reflection to overcome the obstructing elements.

It is also not the same as other conventional researches, for example experimental research, survey study or comparative analysis etc; which are focused upon studying peoples, objects and phenomena in such a way that researcher and the subject occupies two different positions in research matrix just like a person will have different experience who himself is taking swimming exercise then the person who is observing someone else swimming or observing a weight lifter and lifting a heavy load would result in different experiences. Whereas action research is a type of investigation in which researcher becomes the subject and the subject play the role of the investigator with a mindset to bring improvements in the perceptions, content knowledge, skills and techniques applied by the research subject during his professional practice. Action research is focused on "what am I doing and how can I improve my practice" instead of what other people think, do and what they can do for improvement. (Whitehead, 2008. 1989; McNiff, 2002).Thus action research becomes self-study for self-improvement.

My epistemological understanding of action research is basically derived from its unique methodology which is mainly concerned with the cyclic process initiating with the realization of weaknesses of the current practices then working-out a thoughtful solution and applying the same to resolve the problem and culminating in reflecting upon this experience and hence breeding fresh ideas. Here the experience is unique and precise in nature which is hard to generalize because in doing so its uniqueness and individual identity is lost. Generalization changes the status of experience from unique to common hence the distinctive identity of the facts remains no more valuable. But isolated facts, no matter how important they are, have little worth; the main thing is the effective organization and combination of these facts in action-reflection cycle. Now my understanding of this combination and configuration of the facts is not something rigid or a fixed law but an accommodating and flexible supposition which brings about the desired changes and gives us the intended results in that particular situation to which we are confronted with. As the different elements which constitute any situation vary in their nature from situation to situation therefore any assumption which is successful in one situation may not be effective in the other. Such a situation specific organization and combination of facts is more effective than any pre-established or inductively derived principle because a workable hypothesis is not a remotely pre-tested fact, instead it is a work plan conceived during a situation by the person engaged in that situation leading to a satisfactory solution and making a valuable addition to the experience of the engaged person. An educational experience provides an opportunity for the engaged teacher to interact with different objects, concrete and abstract which constitute the situation in which the teacher lives. During this interaction the engaged teacher do not act upon the constituting elements of the situation but in fact all the constituting elements and the engaged teacher mutually interact with each other. The engaged teacher makes efforts to bring changes in the constituting elements where as these elements also act upon the engaged teacher and produce changes in perceptions, knowledge and skills of the engaged teacher. Thus an experience do not produce an isolated piece of knowledge but develop the insight of

our actions which we take and ability to live in the situation, struggling to control the constituting elements to bring desired outcomes. I do not negate the fact that knowledge is produced but what is important to me is the way how we act without losing our direction constantly observing, reflecting and thinking throughout this process of interactive experience. Conventionally the teaching strategy applied in our (Pakistani–KPK) schools is mechanical, comprising of a fixed set of poor instructions which is far from personality development. Although following certain procedures in educational institution is our limitation but due to unawareness and lack of professionalism on part of teachers, classroom teaching practices have become unnecessarily over formal and un-natural. Through action research our school teachers can easily change their formal and un-natural teaching practice to a lively, non-formal and natural teaching methodology, avoiding broken, compartmentalized and time restricted teaching approach instead bringing coherence, continuity and originality to make teaching-learning experience a complete "*unit*".

More closer look added to my knowledge the following facts;

a) Process of change,

Further analysis of the data and my observation dawned upon me the mechanism of this change process and I realized that the mechanism of this change process, which occurs during a learning experience, could be broken down into the following stages for understanding and communication with engaged teachers:

(1) Realization of a Stumbling Block;

Learning, formal or informal, always starts from a living experience of a learner it rarely initiates from isolated and remote facts and events which has little to do with the present life of the learner (Butler, 1957). Usually the activities of a living experience continue to progress smoothly but occasionally this progress face hindrance, creating a need for revisiting and revising the organization and combinations of the facts to remove that hindrance. This is the stage where the attention of the learner is drawn to think

and act differently giving birth to new patterns of organization of the facts to resolve the problem. Coming across a problem during a learning activity is important in the sense that it turns to be the point when learner starts higher order thinking (analysis and synthesis) and taking real interest in the pursuit of resolving the problem. Interest is not something external but it is entrenched in the level of pressure felt by the learner at this stage. Psychologically pain or any painful state is avoided therefore when a learner is confronted with a problematic situation, he becomes involved and interested because he is facing a painful condition which must be changed into a pleasant condition these repulsive (avoidance of pain) and attractive (finding a solution) forces work together to develop learner's interest which is associated with finding an auspicious solution of the problem.

(2) Thinking differently;

A certain level of pressure, varying from learner to learner, is always built-up during the first stage–realization of the problem. It is very important for the learner, as well as, for the facilitator because under this pressure the learner puts up a negative defense mechanism to release or minimize the pressure. In this attempt the learner needs the best of the guidance which could be provided by the facilitator, as it is the time when a different course of action is adopted by the learner which will determine and affect the entire experience. The role of facilitator at this stage is to keep the learner on track and safe guard him from going astray.

(3) Revisiting the details;

The next stage to which the learner enters in this process is to re-examine all the constituting elements of that particular situation and their relation to the specific problem faced. Commonly all the elements comprising a learning situation fall into three categories of primary, secondary and tertiary elements, with reference to the problem faced. The analysis of these categories shows that primary elements are of two types, backing elements and opposing

elements. The secondary category also contain supporting and non-supporting elements but these are indirectly related to the problem in focus, similarly the elements of tertiary category could also be supporting or non-supporting but their relation with the problem is not easily established. It is evident that sooner the relation of these elements with the problem is realized sooner the experience will proceed in its natural way, as with the appearance of a problem the natural flow of experience stops momentarily.

(4)Formulation of hypothesis;

Sequentially proceeding, the next step is seeking possible alternatives to resolve the problem. Here it is important to note that at this step usually learners try to borrow externally suggested solutions and rush for implementation which culminates into failure generating more problems making the situation complex and out of control of the learner and hence decelerating learning and creating confusion. As a result the "problem" becomes a threat instead of opportunity therefore special attention is needed to concentrate on those alternatives which are indicated during re-examination of the facts regarding the current situation. In the third step (Revisiting the details) careful and systematic examination of the facts re-organize these facts into a unique style, or even more than one style leading to a number of possible solutions of the problem. These possible solutions turn in to potential hypotheses as a way forward. Reaching a potential hypothesis is systematic process and a higher order cognitive activity. These hypotheses are implemented in expectation to resolve the problem satisfactorily.

(5)Trying out the hypotheses;

Once a hypothesis or more are formulated, the same are put to testing. Learner, the engaged teacher decide which hypothesis, if there are more to be picked up for testing. In case the hypothesis gives satisfactory results, the remaining ones become tertiary elements for a future situation. With this the

learner is positively reinforced and the experience becomes a complete learning unit.

b) Complexity of the Process

As researcher it is natural to find one-self surrounded by so many tasks of urgent nature each demanding immediate attention and as a result creating confusion, now acknowledging this state of confusion and mental stress is something which indicates self-reliance of the researcher. As a matter of fact all research studies do pass through a shambolic state which is unavoidable and challenges the researcher to experience it for exploring new patterns to be followed for improved practice. On the other hand its renunciation means that something important was overlooked and hence subjecting the study to be vulnerable (Cook, 2009).

Working with teachers as researcher, I also realized, through my personal observations and teachers' reflective notes, that participating teachers considered action research a complex process for following reasons;

1 Cycle with in a cycle

2 Dual roles

3 Writing reflections

1. Cycle with in a cycle: -

With the reference to our local (Pakistani/KPK) context it is unfortunate that there is no component of research at school level. Also teachers do not have any opportunity to improve their professional competencies. In such an environment when any research activity is conducted bear little effect and bring about changes which fade way as soon as the activity comes to an end, upon this the research activity turn to be complicated and difficult for the teachers who possess little knowledge and experience of research. Particularly action research becomes more complicated when a teacher is involved in using it as a tool for the improvement of his teaching practice because as the activity proceed a number of hidden issues

suddenly become noticeable and the inexperienced teachers become disoriented losing their simple linear step wise approach and entangle in a number of apparently important sub-cycles thus appearance of cycles with in the research cycle make action research a complex activity and teachers give it up and consider it something beyond their competencies.

The next hurdle connected to this difficulty is the lack of ability on part of the researching teachers to set aside those emerging issues for latter investigation which appear as they proceed and focus upon their particular issue and continuing their research. It is also a fact that during the primary research cycle many axillary but related issues appear which have significant importance and bearing upon the primary issue. At this point teachers usually turn their attention to these axillary issues, not only lose their direction but also make action research complex.

2. Dual roles: -

Second main issue highlighted by participating teachers, regarding the complexity of conducting action research in side classroom was performing dual responsibilities as a teacher as well as a researcher simultaneously. It was quite demanding to keep balance between these two roles played by the participating teachers. Majority (83%) of the participating teachers reported that they faced difficulties in maintaining balance between their roles as teacher and a researcher while they conducted research classes. They shared that sometimes they were unable to record data which they considered important and sometimes the teaching component was ignored. Similarly time management was also an element which added to the complexity of conducting research during a regular class. As this study was conducted in the routine schedule of the schools and no especial groups of students were selected, instead all the activities were carried out and data was collected from the regular classroom situation through the regular class/subject teacher therefore this particular setting was another element which made the process further complex especially at the data analysis level. It was

intricate to keep track of all the students for all their interactions and their intellectual progress, for example there were some cases when valuable information was collected as students' response and I hoped for a response from the same student for comparison and analysis to reach a logical conclusion, but may times it happened that the particular students was absent or did not get the opportunity to responded due to large number of students attending the class. This was another issue which made the process of data analysis even more complicated.

3 Writing reflections: -

The third element, mentioned by the participating teachers, which was difficult to manage for them, was taking reflective notes and writing reflections. Looking deeper in to this issue of writing reflections, I noticed that the first thing which mattered was the quality of reflection; second thing was "timing" it was difficult for the teachers to decide when to write reflections. It is agreed to write reflection soon after the class is over as the memories are fresh and it is easy to recall important events, but in our situation due to heavy work load teachers had continuous classes and it was not possible to write down their reflective journal immediately after their research class. The third thing related to reflective writing, on behalf of the teachers to decide what to be taken or ignored while writing reflections. I noticed that teachers lacked the expertise of selection of information which should be included in their reflection.

c) Professional development and concept of reflection

The study of literature (Cochran-Smith and Lytle, 2001; Darling; 1995; Dadds, 2001) support that the process of teachers' professional development, primarily have the following four elements;

1. A minimum qualification to claim eligibility
2. Acquisition of new information and skills
3. Finding fresh instructional principles and practices
4. Developing proficiency

In the context of this study we see that the practicing teachers, as well as trainee teachers possess the required qualifications but the rest of the three elements remain missing. Also we see no organized efforts at individual or departmental level, thus exploring and acquiring additional related information and developing proficiency is never achieved. Here question arise; what should be done in this situation? The study points out two routes, one is small scale efforts managed at; personal or small group level and the other is large scale efforts at organizational level. Planning large scale programs for teachers' professional development being a long term endeavor, could only be hoped for but the small scale efforts seem quite feasible. According to Scribner (1999) and others we find a number of plans and models for professional development of teachers which were considered beneficial, although all these models differ one another but the shared common element of all these models was that these models were contextually designed. Woods (1994) suggested that any program for the professional development of teacher should be designed with in the social, political, cultural and economic perimeters. Drawing support from the above and my own observation I realize that, until a large scale teachers' professional development program at national level is not started, programs of smaller magnitude and personally owned would be a suitable solution.

Now in the absence of any external support how could we manage to achieve the remaining three components i-e exploring and acquiring additional related information and developing proficiency of the teachers regarding their pedagogical knowledge and skills. It is possible through developing strong reflective skills. Moon (1999) perceived reflection as a kind of purposeful intellectual activity of implementing a conceived plan in a complicated situation or to a vague idea in the absence of a clear explanation, with the hope that a desired foreseen result would be a possible solution of the situation or an explanation. As common practice teachers did not reflect on their practice, however in rare cases the level of their reflection hardly goes beyond the descriptive level (Hatton and Smith, 1995). This study holds the evidence that developing the capacity of teachers in better reflective writing had

positive effect upon their professional development. Initially teachers wrote reflections about their research class quite superficially, providing only a descriptive account of theoretic facts and events that occurred during their research class, mostly focusing "what they did" instead "what they learnt from the experience". The participating teachers, however moved towards better reflective writing presentation reasonable capability to analyze their own performance and linking what they learnt new and critically going through a certain issue, problem or an idea; indicating their efforts to investigate that issue, problem, or the idea from several diverse viewpoints. Thus the teachers were practically involved in the process of self-improvement and professional development. As reflecting deeper upon the educative experience in which the teachers were involved seems to me the first step of professional development, therefore setting aside, for a while the rest of the elements of professional development, my argument is that if we could develop the ability of teachers to proficiently reflect upon their teaching practices alone than we can say with confidence that the teachers are well on track to their professional development.

d) Professionally qualified or professionally developed

This study pointed out the issue, whether the teachers working in our (Pakistani-KPK) schools are professionally qualified? The answer is yes because all the teachers working in public schools possess minimum academic as well as professional qualification required for their respective job. Although our teachers are professionally qualified possessing minimum knowledge and training and legally certified by some authentic agency to be eligible for teaching in public schools at different levels but their professional development is doubtful. As mentioned in the preceding section there are four major components of professional development namely basic required qualification, which in our case is at least a certificate, diploma, a bachelor or a master degree; on job acquisition of new knowledge and further development of expertise in the same field (Cochran-Smith and Lytle, 2001; Darling; 1995; Dadds, 2001). Now under the prevalent conditions of this study the serving teachers as well as those intending to join teaching profession only possess the

minimum required qualification (standard of which is debatable) and remain limited to it throughout their professional career. While the remaining three components, gaining new knowledge, exploring fresh instructional principles and then developing expertise in that knowledge and skills, are not paid attention to, thus the journey of professional development which starts with the preliminary academic and professional qualification ends with the graduation ceremony earning a certificate or degree as an evidence. In this situation the routine activities of the school and daily repetitive monotonous classroom practices of the teachers are no guarantee of any significant professional improvement. Thus a person, who, in his whole professional career never has an opportunity to gain in depth knowledge or improve what he is delivering, could in no sense be considered a professionally developed person.

Drawing support from Glatthorn (1995) professional development of teachers is the advancement in professional sphere that a teacher makes due to greater know-how than before and penetrating into his or her own teaching practice critically and systematically. What could be concluded from the above account is the interconnectivity of qualification and development. In the process of professional development the basic required qualification function as the beginning of this incessant process which continue throughout the professional life of teachers and never comes to an end (McWillim, 2002). The incoming certified teachers who join the teaching profession and do nothing for their further professional development gradually their knowledge become obsolete, very well said by Baker, D. that an educated person who stops learning today will be considered uneducated by tomorrow, which is hard to negate, than our teaching force is becoming uneducated day-by-day. In this situation we are left with no other option but to make immediate and deliberate efforts to organize comprehensive professional development programs for teachers at all levels and promote research culture in schools.

d) Economic efficiency of educational services

Economic efficiency being one of the major objectives of education highly valued by all the thinkers belonging to any school of thought, Herbert Spencer (1889) considered economic efficiency as one of the objectives of education. According to Horne (1931) an educated person is the one who is capable of earning a living for himself. Similarly "good life" as the purpose of education according to Broudy (1954) also include economic efficiency as one of the major objectives of education when he says that in our struggle to avoid pain and anxiety and secure self-respect we need recognition, good jobs and high standards of living. In our present situation, especially in Pakistan and KPK building the economic efficiency of students, the consumers of educative services, is an important need of the consumers and society. But the fact remains that the whole system of education is striving to push the consumers in a different direction and compelling them to waste their energies to achieve unrealistic goals in life. Thus in fact the system is not in harmony to achieve universal educational objectives of good life and economic efficiency. As professionals it is the responsibility of teachers not only to deliver quality education but to guide the consumers in the right direction to achieve realistic objectives. It is a professional obligation of all the teachers to cater the realistic demand of students and society to struggle in the right direction to achieve realistic goals in life.

For a productive educational system which is capable of satisfying consumers demands, which in true sense provides an opportunity of "investment" instead of "consumption" of time and resources and could play a leading role in national integrity needs to be aligned with the economic policies and national philosophy. Such an educational system is a perfect match of supply and demand of required education and skills, unfortunately our existing system is provides only college oriented education. Critically analyzing, we find three crucial stages in our educational system, first is the SSC (ten years of education) second is FSc/FA (intermediate education) and the third is BA/BSc (higher education). After completing each level nothing is added to the worth of the students and they have no other option

then to seek admission in a college for further studies. Those candidates who seek admission are considered successful (28 to 37 %) the remaining 70 to 60 % of students either leave the schools become part of the labor force, with no skills or training their formal previous education have no direct impact on their jobs and seems useless. Again on the second stage of FA/FSc those students who fortunately seek admission in the professional colleges (mostly medical or engineering colleges) are considered successful while the rest have no other choice but to study further even majority of the MA/MSc students further study one or two years and try to seek B.Ed or M.Ed degrees because job opportunities are better in education department than any other department. This situation clearly indicates that what our educational system is supplying do not match the needs and demands of the society and labor market.

As a general perception of middle class in our (Pakistani) culture about the purpose of education is to enable young generation to find a good job and ultimately led a prosperous life. In the light of this general perception of parents and students who are the chief consumers and beneficiaries of educational services, if the education system and the professional competencies of the teachers fails to deliver what is demanded than education would hardly play the central role, which is expected, of developing the economy at national and personal level. For this purpose the economic objectives of education in our (Pakistani) system needs to be revisited and the focus of educational services should be shifted from the conventional medical and engineering professions to more market oriented and technical professions in order to satisfy the labor market demands instead of supplying stuff for the previously mentioned two leading professions. Here it should be remembered that the system may produce doctors and engineers but a balance should be maintained and a variety of diverse technical disciplines may be offered so that the general objective of economic efficiency and finding job opportunities may be achieved.

e) MSG Model

Looking back through the different periods in which renowned psychologist and educationists put forward great educational theories which had profound effect upon the educational reforms, for example, John Locke (1632−1704), Pestalozzi(1746–1827), Friedrich Herbart(1776–1841), Friedrich, W. Frobel (1782–1852),Wilhelm Wundt (1832–1920), Sigmund Freud (1856–1939), Thorndike (1874–1949), Jean Piaget (1896–1980), John Dewey(1916), Skinner (1904–1990), and Howard Gardner, did a lot in the field of education and psychology and proposed different educational theories such as classical conditioning(Pavlov) operant conditioning (Skinner) social learning theory (Bandura), social development theory (Vygtosky), stage theory of cognitive development (Piaget), experimental learning (Kolb), Blooms taxonomy (Blooms), Maslow hierarchy of needs(Maslow) and stages of development(Erikson) were studied and experimented with to improve the teaching learning situation.

There is no doubt in the intellectual efforts made by these renowned scholars and the enduring effect of their genuine work the level of professional practices in the field of education and psychology were improved. But it is also a fact that their ideas and theories were most effective until these were implemented within a specific framework in which these scholars took practical action and produced their work. Every frame of work in which a genuine idea develops is based upon three elements of great importance; first is the source of the idea or theory i-e scholar or developer second is the time period and the third is the place. Now in the above mentioned matrix where all the three elements are closely knit together the impact of idea is very strong but when this matrix is expanded and an idea or theory is implemented away from its, source, place and time of birth gradually the impact becomes insignificant as we move further away in these three dimensions until idea is changed to its caricature (Bognar & Zovko, 2008). The other important factor is “context” there is no doubt that a theory or an idea which is developed in a certain context would be fairly effective in that particular context and similar ones and could be implemented easily.

But, also it is no guarantee that all the indeterminate and unspecified elements of a situation veiling a germinating idea or theory would be the same for all like situations. Thus different situations with different indeterminate and unspecified elements would have varying effects on development and propagation of the same idea or theory and it could not be exactly implemented as in its mother situation. Hence the implementation of an idea or theory in a non-maternal situation would need special arrangement and adaptation.

Retrospectively, examining all the valuable and significant scholarly efforts made by the above mentioned educationists and psychologists, we realize that their work produced most significant results when implemented in maternal situation or similar to that. On the other hand departing from the mother situation factors like; physical displacement between the origin of the idea or theory and the place of its implementation, time lapse between the birth of the idea or theory and its implementation and the number and nature of clashing indeterminate and unspecified elements become so active that it is hard or even impossible to implement the idea or theory in a non-maternal situation in its true word and sprit. Where this analysis leads us to? The answer is embedded in this research study which as much obvious as is scattered throughout this study, when we claim that action research could be used as a tool for the professional development (Elliott, 1991; McNiff, 1993, 1997; Foster, 1999; Zeichner, 2003; Somekh, 2006) of practicing teachers then what are the raw material on which this tool is applied to shape up new practices. We come across situations when we need to develop our practice. All demanding situations naturally contain most suitable and appropriate solutions of associated problems, however for the resolution of problems in such situations we have two options; one is to borrow a readymade alien solution from somewhere else, having a different mother situation, of a different origin of birth and belonging to a different time period and apply the same to resolve our problem. The other option is to turn that situation into a mother situation and work through (using action research) it to breed a fresh idea, theory or practice which would be like a real child of that situation. The threats associated with

the first option are many, chief being the uncertainty of the results and contributing nothing towards the professional development of the teachers, while the second option, may be slow, but sure to be effective with a lot of potential for the professional development of the teachers. The second option may be given the name the MSG "Mother-Situation Gravidity" model.

5.2.2 Technical Findings

Data handling and manipulation;

The technical aspect of this study was challenging for me as well as for the participating teachers. As the nature of this study was quite different from the conventional quantitative studies usually carried out in Peshawar University which required a questionnaire for collecting data and then going through an item analysis to draw conclusion. Action research study is typically designed and conducted by practitioners who analyze the data to improve their own practice (McNiff, 2010). Therefore the focus of investigation about teaching shifts from sources external to the classroom (e.g., researchers, textbook publishers, administrators) to sources of practical classroom experience like teachers, classroom instructions or student-teacher social interactions (Johnson, 1993). This shift in the focus of research raised certain technical issues of collection, handling and analyzing soft data. Technically, on average for the three plans (zero plan, plan one & plan two) the capability of participating teachers to recognize an issue and formulate a plan in written form remained less than 56%. Similarly the performance of the participating teachers to collect and analyze data remained 53%. It was observed that teachers did have issues and plans to resolve them but they avoided to write plans and their reflections. The reason behind was lack of technical knowhow of report writing.

Technically this study focused the process of change instead of the magnitude of the change as an end product. This procedural change made most of the participating teachers antagonistic and their initial comments which they passed during orientation workshops reflected their fallaciously perceived typical attitude to

be in the safe zone when having clear and immediate answers to questions. Knowing something and being able to use that knowledge to resolve the issues of life are two different things, unfortunately here in Pakistan/KPK, we the teachers as well as the learners limit ourselves to the level of knowing something and do not try to use that knowledge practically. This study identified two reasons for such attitude; first is "indolence" desire to be in comfort zone and the second is erroneophobia (fear of being wrong) these are discussed in latter part of this chapter.

Among other technical issues which appeared during the course of this study, one was language restricted soft wares which were designed to use English language only. The local teachers who participated in this study used Pashto and Urdu for oral and written communication but the available software could only recognize English language which caused problems and consumed a lot of time. As this study was self-financed by the researcher to fulfill the requirement of PhD degree, hence with limited resources it was not possible to acquire high quality electronic equipment for coding and analyzing soft data. Second technical issue was tool designing as I could not find locally anybody capable of fulfilling the need of this study and guiding and satisfying me to design questionnaires, evaluating rubrics, and checklists. In this situation the study chiefly depended on the tools available on internet with modifications made to address the local needs.

Use of Action Research (AR) as a tool for professional development of teachers;

According to Heron and Reason (1997) the "hands-on-model" of learning offers a chance to experience something which results in learning thus when we come upon something (an event or concept) and turn into a part of that situation, therefore we cannot remain inert and become active by playing our role and move in the natural flow of the experience, as a result we affect the situation and the situation affects us. This mutual interaction of learner and different elements of situation results in a known reality previously screened from the learner. As action research is basically

based upon “hands-on-model” of inquiry makes the experience a source from which knowledge sprouts thus drawing fresh knowledge from practical life experiences produce continuity in learning making it a life-long process. When such a model is applied to a profession the end product is continuous professional development.

No doubt action research could be applied for the professional development of teachers (McNiff, J. 1997) but it is not that simple to apply the cyclic process of action research including planning, executing, observing and reflecting (Kemmis, 1982) and develop professionally. In order to successfully apply action research process for sustained professional development some closely related elements like freedom of conducting self-designed research studies, development of research culture at school level, organized research activities on regular bases and encouragement of use of innovative teaching strategies, somewhat similar characteristics were also suggested by Zeichner (2003).

Technically action research has the potential to improve classroom practices because;

1:- Teacher’s reflective notes, their participation in experience sharing meetings and improvements in lesson plans and implementation skills provided us with signs that teachers developed sound conceptional understanding of action research. However, teacher’s written accounts about each research cycle, did contain element of error (Foster, 1999) subjecting their claim to ambiguity, but as all the teachers who participated in this research study had no previous research experience and they major concern was “how can I improve my practice?” (Whitehead, 1999) rather than “how far is my research valid” and evidence show that there was significant improvement in their classroom practice, hence based on these evidences it may be concluded that action research could be used as a tool for developing teachers professionally at school level.

2:- Even though it is believed that action research is not simple but quite intricate (Cook, 2009; Mohammed, R.F., and R. Kumari. 2009) teachers did understand the central principle of conducting action research at school level. Teachers were able to apply action research to their current teaching practices for improvement and they shared their experiences after each research class which provided them the opportunity to learn from one-an-other's experiences. Experience sharing meetings introduced a sort of collaborative approach for professional development, although it was limited to the participating teachers but in certain schools incidences of participation of other teachers who were not taking part in the research study were also recorded.

Teachers focused on different issues ranging from issues of content to behavioral issues which indicated their creativity and ability to investigate diverse educational issues related to classroom practices. Teachers worked through their plans either individually or in collaboration with their group members and played the role of critical friend giving critical feedback to each other for example one teacher reflected and gave her feedback as;

> *"…it was interesting, students were working and doing small experiments like magnets attracting each other when opposite poles were brought near to each other and they felt the repulsion when like poles were brought near each other. The teacher was giving full attention to all the students and guiding them. However if she had given clear instructions in the start of her lesson then she would have saved her a lot of time which I think was wasted in repeating the instructions again and again." (F322).*

5.2.3 Implicational Findings

As mentioned before all educational experiences provide opportunities for the people who are involved in those experiences to interact with all the constituent elements whether concrete or abstract. During this interaction the engaged persons do

not act upon the constituting elements of the situation alone in a unidirectional way but in fact all the constituting elements and the engaged personnel mutually interact with each other. The interacting professionals make efforts to bring changes in the constituting elements where as these elements also act upon the interacting personnel and produce changes in their perceptions, knowledge and skills. Thus the implications of any experience ultimately result into new learning whereas involvement in action research which according to Stringer (2007) is a methodical way of investigation that empowers people to discover suitable solutions for the problems which they face in their daily lives. He also believed that action research is a means for the upsurge of efficacy of the performance of teachers, administrators, or any other professional person. The current study in this sense was an extraordinary experience for all the participating teachers and me which had a number of implication including;

As a result of this study the first implication which became apparent was "Habit breaking" (Lewin, 1951) and the teachers for the first time realized that it was not necessary that all of our actions are always correct and perfect. They admitted that there is always room for improvement better performance. Teachers' reflections showed this change for example;

> *...personally speaking the last week was really important and exceptional. Because what I learnt during this time and added something valuable to my knowledge which I have not experienced before. Astonishingly, I came to know that I have found the answer to the question why my students are poor performer? The answer was, because I did not try to address their problems and supposed that they learn automatically. Retrospectively I can say that I did not do much practically to improve my students' performance but one thing is certain that I have realized that I must change and improve my own teaching practice to change and improve my students' performance. I am convinced that by changing my teaching the students' performance*

will definitely improve. At the moment, I feel pity for my students and consider myself responsible for their poor performance. I have decided to try my level best to improve my own practice and help my students to perform better. I also found this study an opportunity because it draw my attention to the facts which I mentioned above and which remained hidden from my sight in the past. (Teacher's Reflective Journal─ID.M411)

Similar changes were visible in almost every reflection another teacher wrote;

…[it] made me think, Am I doing justice with my job? Is my earning justified? Am I helping my students to develop their mental abilities? These were the questions which changed my thinking and perception about classroom teaching. I am convinced that teaching is much more than book reading or solving mathematical problems…

After the lesson the students were happy about the coloured cards and the story which I told them in the start of the lesson but I was not satisfied with my lesson. As I still wanted to know what I really intended to teach my students!(Teacher's Reflective journal─ID.F321).

Collectively the participating teacher started to see their classroom teaching with a different angle and came out of the state of self-righteousness. This allowed them to think modestly and they declined to obtrude themselves and they started noticing different aspects of class room teaching like students learning, their involvement in teaching learning process and respect for students opinions and experiences. They diverted from sanctimoniousness to self-effacement. Positive aspect of this change was that teachers started enjoying challenging their own teaching practices and ultimately changed their conventional teaching methodology based upon text book reading; according to one of the participating teacher (ID.F321) *I [participating teacher]am convinced that teaching is much more than book reading*

or solving mathematical problems… they started to use different innovative teaching methods like discussion method and experimentation. One of the teachers used discussion method and loud thinking technique in mathematics class with grade 8th and expressed his feelings about this class as;

> *"…our facilitator and researcher of this study introduced us with discussion method and loud thinking technique which I (M521) used in mathematics class of grade eight to teach "proportion"(exercise 4.2). Discussion made the class active and students solved the problems themselves instead of copying them from black board." (ID.M521)*

Changing the classroom practices and proper lesson planning placed teachers in a better position to control the learning process, they gained time during class and pay attention to other matters, like individualized needs of students, giving proper instructions and assessing their own teaching. As a result students' participation increased and they showed more responsible attitude towards learning. Involvement of students in the teaching-learning process reduced the frequency of incidents of misbehaving. Reflective entry of a teacher highlighted her changed thinking she wrote;

> *I was really surprised to see them working nicely and independently. I asked my self is it the same class? Which is known to be the noisiest? and ill disciplined. It was indeed the same class but they were behaving differently. Their changed behavior lighted up my mind that they behave in the same way as we the teachers behave with them. They were showing interest and taking responsibility because I took interest and responsibility in my work." (F412)*

Once the teachers were practically involved in research and they completed the first research cycle their interest increased and not only had they become more motivated to continue research in their class rooms but there was a general "buzz"

among other teachers of the respective schools about the research classes; they tried to know what's going on? This showed a positive generalized effect of this activity.

In addition to above the more significant impact of this study on teachers was their confidence building which I realized was a more significant effect of this study because during the pre-intervention observation it was observed that the level of confidence of teacher in their own abilities was very low. But as the study proceeded further teachers realized that they had the potential of implementing an inquiry approach for their classroom teaching (Cochran-Smith and Lytle 2001) and hence could improve their existing teaching practices. The following reflective entry of the teacher shows increased confidence in her own abilities to perform more effectively;

> *Now when I recollect the whole process, I can sense the joy and pride to think that I did something valuable by myself which was successful and liked by my students".(F511)*

The higher level of confidence of the teachers was also evident in experience sharing meetings where teachers shared their experiences and presented arguments in support or otherwise, not only the shared their experiences but also gave feedback and suggestions to each other, further more as their confidence level increased they were sometimes engaged in healthy criticism. Their critique revealed their increased understanding of the teaching learning process and increased confidence level.

1. Empowerment and control;

   The epicenter center around which the notion of "empowerment" revolves and found common in the work of (Esposito, J. & Smith, S. 2006; Levin, B. B., & Merritt, S. P. 2006; Finch, A. 2005) is the element of attaining control. In educational context empowerment means enabling the teachers to take responsibility for solving their problems they face during their professional discourse (Short, P. 1994). This ability empowers the teachers to enquire and struggle against the inefficient common teaching practices followed blindly by them and carry out classroom research to *bring about* positive changes not

only in their existing teaching practices for their professional development and growth but act like agents of social change (Zeichner, 2009). In our context the general perception about educational reforms is that it is associated with some external agencies and resources, teachers do not perceive themselves as the agents of change where the reality is that teachers are both the subject and object of change (Villegas-Reimers, 2003). As empowerment is seen as a multi-dimensional process of change (Page, N. & Czuba, C. 1999) the impact of action research on participating teachers to empower them is evaluated according to the six dimensions suggested by Short (1994).

First, there were signs of desire for continuous learning and developing their lesson planning skills and writing reflections. Teachers started preparing lesson plans which they did not previously, they also reflected upon their classroom teaching and gave feedback to each other during experience sharing meetings. Secondly, the teachers took the responsibility and gradually attained autonomy in the sense of freeing themselves from the conventional chalk and talk method and adopting different modernized teaching approaches like active learning and discussion method. Thirdly they started valuing their work and perceived it a prestigious job as other teachers of the same school showed respect to them and consulted the participating teachers about their classroom issues. Finally, they developed the perception that they possessed the abilities and required skills to guide their students perform better, for example the following reflection show that the teacher developed the ability to help students in their learning;

> *"…before this when I used to explain different scientific concepts to the class from text book I felt a gap in students learning, there was something missing. Students seemed to be confused about many points. But our new strategy "experiment first" automatically solved many problems and filled that gap which existed in the absence*

of experiment. In this way students develop conceptual clarification and instead of depending upon rote memorization they comprehend the content". (M232).

2. Insight building;

Conducting action research in regular class setup turned into a rich experience for the teachers and they passed through all the necessary stages which had the potential to improve them professionally. They developed the insight of the research process especially action research and realized fact that this process enable them to identify their own weaknesses and then going through the spiral of action research to try out what they had planned to overcome that specific weaknesses for example the following reflective note from teacher's reflective journal indicate this insight development;

"...the most important and immediate change which I (teacher) personally realized was my own Urdu pronunciation. I (teacher) noticed for the first time that I wrongly pronounce many words although I had been teaching Urdu subject for the last so many years but I did not noticed this before. This study made me notice my weakness. I made a list of the words which I suspected were wrongly pronounced this list included many words; for example I pronounced "کائے" whereas the correct pronunciation was "کھائے" Similarly I used to pronounce "پل" instead of "پھل" my weakness was in pronouncing the sound "ھ". I became more worried when our facilitator pointed out that wrong pronunciation altered the meanings also. Therefore I worked on this problem and corrected this weakness. Now I am happy and can pronounce these words correctly". (Translated from Teacher's Reflective Journal, F122)

This realization was technically important for teachers' professional development because their focus of investigation turned towards themselves instead

of factors external to classroom and beyond their immediate influence. This consciousness led to attitudinal changes which will be discussed latter under the heading of behavioral findings.

3. Impact on students' learning:-

This study investigated the impact of action research on teachers' professional development and as a result it's bearing upon students' learning. Teaching has varying and multifaceted influence on students' learning (Anderson, 2004) and it is difficult to establish one to one relation between different aspects of teachers' professional development and various areas of students learning. However during different stages of this study while conducting action research the participating teachers developed the skill of reflecting on their own classroom practices and ability to resolve day-to-day problems associated with classroom teaching and students learning (Sagor, 2009). With the development of ability to reflect on classroom teaching, teachers became aware and concerned about different aspects of their teaching practices like; proper planning and presentation of lesson, involving students in teaching and learning process and relating content to daily life of the students meaningfully (Sorcinelli, 2006). They took practical steps and did proper lesson planning with the above aspects in mind. The most prominent change in teachers' perception about classroom teaching was shifting from rigid, teacher centered and conventional teaching methodologies to more flexible, learner centered and innovative teaching methodologies (Darling & Bransford, 2005) which was shared in one of the teachers' reflective notes as;

"…before this when I used to explain different scientific concepts to the class from text book I felt a gap in students learning, there was something missing. Students seemed to be confused about many points. But our new strategy "experiment first" automatically solved many problems and filled that gap which existed in the absence of

experiment. In this way students develop conceptual clarification and instead of depending upon rote memorization they comprehend the content". (M232)

This changed attitude and teaching approach of teachers affected students' learning in the following ways;

a. Better Students' Performance:- In order to find the impact of change in teaching methodologies on students' performance a cognitive ability test was administered and 187 students (both male and female) took that test, the difference between their pre and post test scores indicated that their overall performance improved. However the significant improvement was seen for the higher levels of cognitive domains which were 17.23% for analytic ability, 15% for ability of synthesis and 19% for ability of evaluation. Students' better performance was the result of changed teaching methodology, because when the teachers used to apply the conventional teaching strategies the students' performance was limited to the first three levels i-e information, comprehension and application only. They could perform at the lower levels because conventional teaching promoted only mastery of the content information but when teachers used other strategies of active learning like discussion method, inquiry learning or cooperative learning students showed improvement in their higher cognitive levels of analysis, synthesis and evaluation.

b. Involvement of students in teaching learning process: - In the start of the study and input the involvement of students in the teaching learning process was low. Teachers dominated the teaching learning process whereas students remained passive listeners or they copied from the black board and rarely asked question for clarity of mind (on average less than 3% students asked questions). But the situation changed considerably; as a result of the changed perception of teachers about teaching and learning; and the students became

active and participated in the teaching learning process requiring higher order thinking skills which was absent previously. Students discussed, shared ideas and explored the concepts themselves and discovered knowledge instead of just being passive recipient of knowledge.

c. Two wsay active communication: - The communication style changed from "one way" to "two ways" communication. The total time for active communication of students increased from 9% to 41% allowing more time to students to take active part in the teaching learning process, contrary to the conventional prevailing practice where teachers used to talk almost all the time and students were expected to listen to the teachers quietly. Allowing students to play active role in the learning process and communicating with the teachers and among themselves build their confidence and the progressed from poor to better performers.

5.2.4 Behavioral Findings

This study examined the general behavior pattern of teachers and their attitude regarding classroom teaching. It was noted that they had a lethargic and sanctimonious attitude which gradually became relatively active and apprehensive. This change did not take place automatically, but it was the result of careful planning and timely reinforcement. In behavior modification the role of reinforcement is believed to be central (Brophy, 1986; Krumboltz, 1972; O'Leary, 1977) the participating teachers were encouraged and motivated to revisit their own perceptions about teaching and learning and take necessary actions in case they considered it appropriate for personal improvement. The entries of reflective journal of teachers (M312, M411 and F321) showed that they examined and critically observed their own classroom behaviors and realized that there was room for improvements. Similarly the non-formal conversation between teachers (ID- F211, F212, F221, and F222) reflected their inner feelings about their classroom practices and the insight which they developed while conducting action research in their own classroom setting. The

teachers were encouraged to be apprehensive about their classroom teaching and think realistically. As common attitude teachers were subjected to self-righteousness but research opportunity helped them to think objectively and sincerely, seeing teaching from students' point of view and measuring their efficacy in terms of students' performance. One teacher reflected that;

> *…I came to know that I have found the answer to the question why my students are poor performer? The answer was, because I did not try to address their problems and supposed that they learn automatically. Retrospectively I can say that I did not do much practically to improve my students' performance but one thing is certain that I have realized that I must change and improve my own teaching practice to change and improve my students' performance. I am convinced that by changing my teaching the students' performance will definitely improve (Teacher's Reflective Journal─ID.M411).*

This deviation from complacency to realistic thinking based on self-analysis was a major step in behavioral change which resulted from involvement of teachers in research activity. Not only change in their thinking was observable but that change was also reflected in their classroom practices. The practical steps taken in this regard could be noticed in the lesson plans prepared by the participating teachers, for example teachers planned different innovative techniques like using flash cards (M321, M322/ PS- M3) experimentation (F211) discussion method (M521) and role play (F121 & F122). Progressive change in teachers' thinking was observed, their initial attitude was quite pessimistic they thought little could be done to bring any positive change and if change was possible they thought it was possible only by some external agency. They were not ready to accept themselves as the real change agents rather they considered themselves as executing agents with the task to carry out the orders and completing the courses in required time. Their activities seemed devoid any enthusiasm and vigor required to produce the same in students. All educational

activities carried out in the classrooms observed were completed in an automatic lifeless and robotic manner. But gradually with the change in teachers' thinking they realized that students' behaved in the same way as they were treated;

> *I was really surprised to see them working nicely and independently. I asked my self is it the same class? Which is known to be the noisiest? and ill disciplined. It was indeed the same class but they were behaving differently. Their changed behavior lighted up my mind that they behave in the same way as we the teachers behave with them. They were showing interest and taking responsibility because I took interest and responsibility in my work." (F412)*

This turn in teachers' thinking made them realistic and they admitted that we the teachers were responsible for students' low achievements and do nothing to improve the conditions;

> "*Actually we as teachers usually teach to read textual content and do very little to promote the basic language learning skills. Reading with comprehension is neglected at all levels therefore we do not produce good readers or book lovers. I realized this situation but to be frank did nothing to help my students" (M512).*

Next the teachers stepped into practical stage they carefully planned and designed activities themselves and tried to help out their students to overcome learning problems and to facilitate them in the learning process. Their designed activities were simple but highly motivational and demanded higher order thinking;

> *Students of grade VIII worked in small groups for preparing a summary of the English lesson "A dream" page 39. The approach of the activity was "active learning" and the students were allowed to read the lesson in small groups discuss it and mark the major and minor ideas of the lesson. Students were engaged in an academic and*

constructive discussion they explained their understanding of the lesson to each other and listened to other students as well and at the end they wrote a brief summary themselves. This practice was totally different from the conventional summary writing where teacher used to write the summary on the board and students copied it and memorized it.(Lesson one M321).

The practical steps taken by the teachers and trying out their designed activities in their regular classes increased their confidence and made them optimistic. With these changes in teachers' behavior towards teaching the classroom environment changed to more friendly and open environment, boredom was replaced with interest, inactivity with activity and coldness with warmth. Teachers started to manage their teaching time more effectively they had control over teaching learning process and could relate subject matter with students' daily life thus the classroom teaching became more effective (Campbell, 2004) than before.

5.2.5 Statistical Findings

Statistical analysis of the data showed that teachers' professional competencies were improved and their professional development of teachers was positively correlated with students' performance. This study focused lesson planning as one of the fundamental element regarding classroom teaching and teachers' professional competency. Ability to plan effective lessons is central to further development. As a matter of fact generally teachers do not prepare lesson plans at all therefore preparation of lesson plans was given priority and its effects on further development of teachers was investigated. Teachers started their research cycle with a "zero plan" and using Kemmis (1982) action research model to improve its quality and effectiveness in next two cycles. Each lesson plan was evaluated for its effectiveness and the following results, based on group averages, were obtained;

Table 5.1

Improvements in Lesson Planning Skills (Group Average)

Average Score		
	Cycle One	Cycle Two
Zero Plan	11.1	27.12
Plan One	16.05	31.01
Plan Two	25.01	32.13

These results show vertical and horizontal improvements in the average scores for three lesson plans prepared by participating teachers in two research cycles. According to the assessment rubric used “zero plan” for cycle one with average score of 11.1 marginally fall into partially satisfactory category but the next two plans were categorized satisfactory. Similarly the average score for “zero plan” of cycle two was more than the average score of plan two of cycle one. Although the average score of lesson plan two of cycle two was 32.13 and categorized as satisfactory but more close to the proficient level. Deeper analysis of lesson plans at individual level showed that some teachers performed at proficient level. The overall performance regarding lesson planning skills of the participating teachers also improved and on the whole they moved on to the satisfactory level which was a significant change because the results showed that more than fifty percent of the teachers performance was unsatisfactory but for plan one the average reduced to only 12% whereas no female teacher performance was unsatisfactory. The detailed information is given the following table;

Table 5.2

Improvements in Lesson Planning Skills (Category wise)

	Female			Male		
	Zero Plan	Plan One	Plan two	Zero Plan	Plan One	Plan two
Category	percentage	percentage	percentage	percentage	percentage	percentage
Exemplary	0	0	0	0	0	0
Proficient	0	0	31.58	0	4.17	16.67
Satisfactory	15.79	52.63	52.63	12.5	37.5	50.00
Partially Satisfactory	31.58	47.37	15.79	25	50	33.33
Unsatisfactory	52.63	0.00	0	62.5	12.5	0

In the above table an upward mobility is a positive sign we see progress of male teachers in plan one 4% of them performed at proficient which increased to 17% for plan two. On the other hand female teachers collectively progressed towards satisfactory level, although we do not see any female teacher performing at proficient level for plan one but a significant increase of 31.58% is seen for plan two. That was a positive trend and it is hoped that if similar input through a permanent program was provided the teachers could perform even better.

Teaching methodology

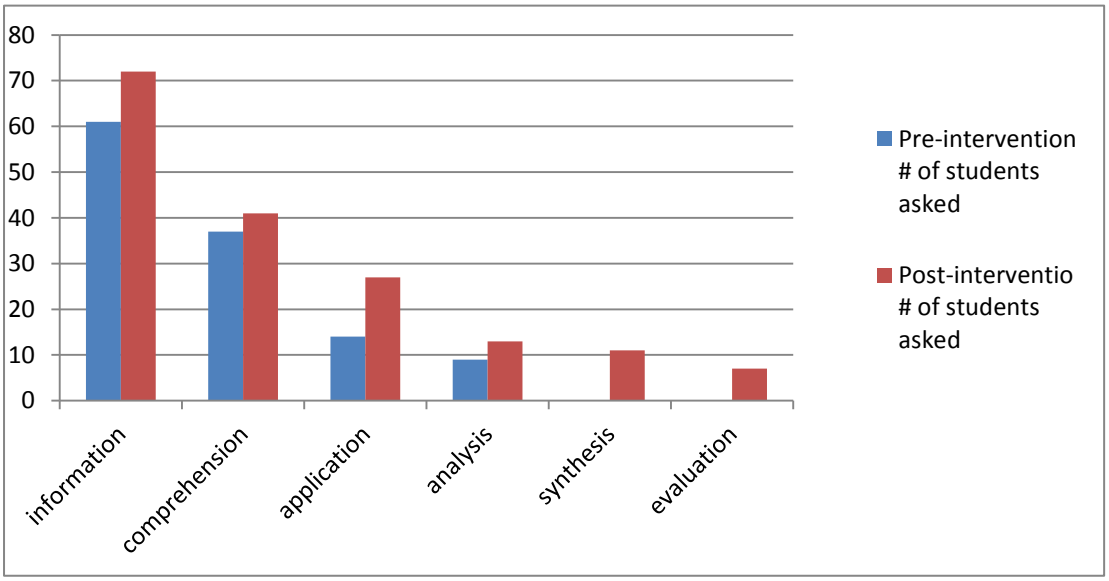
During the pre-intervention phase it was observed that teaching methodology of majority of the participating teachers (72%) was memory oriented all teaching activities in one way or the other involved only memorization of the textual material. The teaching learning process was reduced to dissemination and recording of information, where the role of teachers was no more than orator but a decline was observed in this trend and the percentage dropped to 48.34%. Percentage of teachers using teaching methodology to develop comprehension increased from 21% to 38.54% and the percentage of teachers working to promote the ability of critical think among students increased from 7% to 13.12% almost double of the initial figure.

Students' involvement in learning process

Students' involvement in learning process not only increased in magnitude but also converted from passive to active participation. Quality of this participation also enhanced they gradually became more critical than mere recipient of information. Observations showed that during pre-intervention stage students asked relatively lower order questions ranging from factual knowledge to analytical nature. However the concentration of questions was higher at information level which was 61, number of questions involving understanding and comprehension were 37. Fourteen questions were asked about the applicability of the concept under discussion and only nine questions regarding analytical understanding of the concept were asked. The situation changed after the intervention was made and the range of questions asked by the students extended from level of information to the level of evaluation. The detailed comparison of students' involvement in the learning process through questions before and after intervention is given in the following table;

Figure 5.3

Pre/Post Intervention analysis of Students' involvement in TLP



This is note able that during pre-intervention phase comparatively lessor number of students asked questions and the level of questions asked focused only first four levels of cognitive domain. No questions were asked which touched the levels of

synthesis or evaluation. During post-intervention phase questions for all levels were asked although fewer questions were asked at synthesis and evaluation level but questions asked at these levels indicated that students were mentally engaged at higher levels of thinking. This stimulated students to ask higher order questions.

Table 4.19(a) reveals students participation in the learning process from perspective other than asking questions including activities like experimenting, investigating, discussing and sharing ideas.

According to Marzano (2003) professional development of teachers is related with students' achievement. For this study the two phases of action research process i-e planning and reflection were analyzed to see their relation with students' achievements. For each cycle any change in planning skills and skill in writing reflection for individual teachers was recorded and then the students were tested to measure their achievements, each time class averages were calculated to relate them with the change in the respective skills of the related teachers. Data analysis showed the following results;

	x	y	z
x	1		
y	0.903809	1	
z	0.865948	0.895193	1

In the above table "X" represents teachers' skills in writing reflections, "Y" represents planning skills of the participating teachers where as "Z" represents class averages for the test scores of the students. The corresponding values in this table show that variables X and Z are positively correlated (0.87). Variables X and Y are positively correlated (0.90). Variables Y and Z are also positively correlated (0.89). Apparently we see a positive relation among the three variables but other factors like teachers academic and professional qualifications; content and students intellect could not be ignored and more controlled investigation illuminating the effect of those factors could further prove the validity of the above results.

However the common thread found all the way through the entire study and among the individual teacher's professional development process was the fact that better the teacher was in critically reflecting upon his or her lesson delivered better they were in planning effective and efficient lessons and as a result students' achievements boosted up. The results presented in the above table although reflect the whole group of 43 teachers but the same could be generalized to the individual teachers also because those teachers who were good at writing reflections were also better at planning lessons and the average performance of their students was better than those teachers who were not as good as they were in writing reflections or planning lessons.

5.2.6 Contextual Findings

Carrying out educational research in public sector schools of Khyber Pakhtoonkhawa led me to develop understanding of certain contextual aspects of Pathan culture regarding education and teacher's professional development.

Although teaching is regarded as one of the noblest professions," *mualim"* (the teacher) is supposed to be the "*naib"* descendant of the holy prophet supported by his saying;

"إنما بعثت معلما"

But on the other hand it is also a fact that for young educated people teaching, as a career, remains the lowest priority; they usually prefer other disciplines like medicine, engineering, business and agriculture. Becoming a teacher remains the last choice of these young educated people, for which there are many reasons, therefore all activities associated with teaching remain at the lowest level of importance. This attitude and the sanctimoniousness of teachers keep them away from any professional development activity as a whole. High self-esteem combined with complacency reflects typical Pathan nature which makes it difficult to convince teachers that there is always room for development and perfection. Low social status attached with

teaching profession and weak academic and professional profile of teachers' further muddles up the situation, thus the role of the researcher becomes more important and multifaceted.

Poverty, the root cause of retardation of all developmental activities, put education at the bottom of priority list for individuals and government as well. Percent of population living below poverty line in KP is 38.1% which is higher than the percentage average (34.0%) for the whole country (KP-white paper 2011-12 Finance Department). The higher percentage of poverty has dual affects upon teachers' professional development; on one side it blocks the progress in teachers' professional development in the sense that veteran teachers as well as the novice teachers are not ready to make any investment in individual capacity for their skill development and enhancement of professional competencies, also no officially organized recurrent activities providing opportunity for teachers' professional development is available due to nonexistence of any budgetary allocation from government side. Poverty and problems attached with it are more significant in public sector schools, majority of the students belong to the families who live in conditions which are below or close to the poverty line; powerless and marginalized therefore no one takes the trouble to address real issues of their education. For this reason poverty and quality are inversely linked, more the poverty level increases more the quality decreases. In the long run this relation of poverty and quality further contribute to negatively affect quality of education because only those candidates (with the exception of few) opt for teaching as profession who are at the lowest extreme of merit. Thus for every fresh batch of teachers joining teaching as profession the quality of their own education and the education which they impart becomes questionable and gradually; despite of efforts; the standard of education is falling day by day. In this situation mushroomed efforts of teachers' professional development seems of little worth.

In Pathan culture the role of men and women is distinctly defined. The foremost responsibility of a man is to protect and safeguard his family; especially

women folk and children and secondly to earn bread and butter for the family, while women are supposed to take care of all the activities related to the household, although this division is not strictly followed any more for the last few decades but still the same could be observed in one form or the other varying in intensity for different regions of the province. The study of Pathan culture as a whole and at the level of basic social unit of individual family I understand that it is a misconception that the above division of work is a forced one, rather it is based upon compassionate and caring grounds. Women are considered delicate and are assigned less demanding tasks of daily life, which is wrongly perceived as gender disparity. Pathan society has strong cultural norms which are respected and followed by the members of the society willingly. One of these norms restricts the unnecessary mixing up of men and women therefore separate schools for boys and girls are functional where it is difficult for men other than members of the staff of same school to intervene. It caused difficulties to conduct this study hence especial departmental permission was obtained to conduct research study in the selected sample schools. Even in the presence of departmental permission it was difficult to convince female teachers to participate in this research study. In the initial stages some female teachers pointed out that they were not allowed by their families to participate in activities other than regular school programs. In such circumstances teachers professional development activities, especially in female schools become difficult unless such programs are carried out by female facilitators. This situation is also an indicator of the contradictory approach adopted for female education because the fact remains that female teachers were taught by male teachers at university level. But taking part in some research led by male research is not very commendable. This segregation is more strict and prominent as we move down words from higher education to intermediate and secondary levels of education. As this study was conducted in secondary and higher secondary schools this gender consciousness was stronger and teachers (female) although participated actively remained hesitant to contact researcher to discuss their problems and issues faced by them during the course of this study at times other than school timings, while

male teachers freely approached the researcher and shared their problems directly or through telephone at times even other than school timings. This restraining attitude was the result of gender consciousness, which I think had a negative effect upon professional development of female teachers.

Understanding the gender issues generally and Pathan customs especially is critical for developing any significant program for teachers' professional development in Khyber Pakhtunkhwa otherwise the impact of such activity may lead to resistance and the situation may become antagonistic.

Perception about social status of teachers remains another important factor of the contextual findings which show it impact on activities of professional development of teachers. Many surveys had been done to rate teachers' status (1967, 2003 and 2006) but I would like to share one incidence occurred during this study which reflect the general perception about teachers' status in society. One of our participating teachers (M412); who were three brothers one of them was a businessman and the other was a medical technician working in a local hospital; happened to be absent during an experience sharing meeting. On inquiring, " he told that someone died in their neighborhood and all the three decided that the said teacher (M412) will take leave and attend the funeral as none of the other two brothers could spare their duty." This story clearly unveils how the job of a teacher is perceived in our society. In this particular incidence the job of a health technician is seen more important than teaching job, similarly the brother who was a businessman; perhaps owned a shop of pesticide in a local market; also perceived his business more important than teaching in a school.

Similar trend was found in a survey in 2006 which showed a ranking of 2.6 on five point rating scale regarding teaching as a profession. Another survey in 1967 showed a ranking of 4.3 for this profession. This falling in ranking on one hand and induction of more qualified teachers in present period , compared with past, show that young people join teaching profession as a last option and against their will. This is

also supported by the fact that “education” is not included as a major subject at secondary or higher secondary level, only in BA it is included in the list of optional subjects and practically not offered anywhere as a regular subject. This show that young people rarely have in their minds that they will become teachers in future, unless their requests for admission are turndown by medical or engineering universities after FSc. And then after doing bachelor or master degree in different subjects they apply for jobs in departments other than education, at this stage again when they are disappointed to seek a job they turn towards teaching and decide to have some certificate or degree in education. When such people join teaching profession, in their initial period of service, they still try their best to join other professions if they had a chance, only those remain in the field that never get a chance to join professions other than teaching.

In such a situation having teaching as profession is not something to be proud of or to mention publically with much pride rather comments like “never mind” “something is better than nothing” and “ salaries are good nowadays” are heard in situation when someone mention that he or she has joined teaching as profession. In this way a low social status is assigned to this profession, therefor it becomes very difficult to pull out teachers from this social dip and expect them to do miracles.

Lower social status of teachers develop a sense of powerlessness which promote compliance and apathy in place of self-assurance and enthusiasm, thus with the passage of time the performance of teachers reach to zero level. Further; in the absence of any real professional developmental activities led by education department; teachers are generally labeled as “slouch” and become marginalized members of society. Although the term marginalization is not very much clear and usually rests on a particular social setting. School teachers in the social setting of Pakistan and Khyber Pakhtunkhwa are marginalized when compared with other social groups formed on the bases of professions and the status which these social groups enjoy in society. Marginalization, with in the teachers community, has varying effect

on different tiers of teachers as it occurs on a kind of scale. The degree of marginalization depends upon ones' position on that scale which changes with time and changes in the social conditions of the marginalized person. Whatever may be the position and the degree of marginalization, one thing remains common among all these marginalized teachers that they are being criticized and denounced.

The marginalized people in general and teachers specifically are criticized and overlooked. As mentioned earlier that those people are more likely to become marginalized who have weaknesses and hold powerless positions in the society. They are considered inferior and blamed for every damaging act (Goffman, 1963). Marginalization also happens when someone rejects, disagrees and resists the prevailing dogmatic plan of action, as these people put resistance which indicates their strength but in our case the teachers in our society are the weakest people and it is difficult to put resistance therefore teachers have a retreating approach. In any case, either resisting or retreating, it strongly affects the academic actives and the school programs; teachers become indifferent, passive and unwilling to pool resources and team up, eventually the possibility of bringing a constructive scholastic change is minimized. Therefore I believe that marginalization procreate discouragement among teachers which appears to be the chief cause of failure of most of the educational reforms and generating any continual significant change, as the ground realities do not support most of the reports highlighting the educational reforms made in the near past, because still the goal of universal primary education is a dream and because the quality education is still a target to be achieved.

5.2.7 Miscellaneous Findings

Social activities are deeply rooted in the prevailing social setup and there are many factors and events which have their effects on the particular social activity. The current research study was also a social activity and was affected by some factors which although, were not directly related with this study but had profound effect on the social setup of Khyber Pakhtunkhwa; and indirectly effected this study. The

following two factors, which I believe had strong connections with this study and indirectly affected the study are;

a) War against militancy.
b) Role of school administration

The war against militancy affected the scheduled program of research in the sense that many times school visits and program of experience sharing meetings were changed which had a negative effect upon teachers' enthusiasm. The unexpected closing of schools due to bomb blasts and threats by militants caused unexpected delays and problems of regularity on part of participating teachers and the students of the schools which took part in this study, parents were reluctant to send their children to schools. Although the quantitative measure regarding students' performance and their involvement in the learning were calculated as class averages but many times when a class teacher was focusing a particular students especially a shy students who hesitated to participate in classroom and was expecting any significant change in the performance of that particular student but unfortunately the same student remained absent during the next research class, in this way many times it became difficult to obtain significant and relevant data.

The other major factor was the role of school administration. Regarding this particular study the role of school administration varied to a great extant. In some schools the administration played a very positive and supporting role which facilitated all the activity undertaken under this research. Such attitude encouraged the participating teachers to carry out the research in their respective classroom and their efforts were duly recognized. In this way other non-participating teachers of that school showed interest in the research process and took part in experience sharing meetings as silent observers and also replicated some of the teaching strategies experimented by the participating teachers in their own classes. This originated an indigenous program of involving the whole school in the professional development activities. On the other hand in certain schools administration responded in an

unfriendly way and discouraged the research activities by involving the participating teachers in other tasks and burdened them with irrelevant activities like assigning tasks to attend the district education office for non-academic activities. Thus the school administration could affect teachers' professional development activities in both the ways i-e positive as well as negative.

5.3 CONCLUSION

In the pursuit of the basic research question of this study of finding out those practical efforts which could help us to improve our professional capabilities, this research study provided me with the opportunity to closely observe some important aspects of teachers' professional development and helped to develop deeper understanding of the process of "change" and its underpinning principles in the context of Pathan culture.

The very basic assumption of education rests upon the concept of "change" and we find consensus among the educationists that through planned and organized efforts desired changes could be produced. Thus whatever; may be the; efforts leading to professional development should be planned and organized. However the planning and organization of these efforts is neither easy nor simple. The most important and critical element in these efforts is the creation on an inner desire to change. The study showed that this inner desire was difficult to create but at the same time evidence supported that it was not at all impossible to do so. "Good teachers maintain a positive feeling for learning; great teachers create this feeling". (Bain. 2011). To create such an inner desire which could serve as a motive for enhancing professional competencies a "stimulating" environment is necessary. The "stimulating" environment basically serves two purposes; first it sensitizes the people working in that environment and second it also contains all the necessities required for their professional development. The scope and range of a "stimulating" environment varies from situation to situation, it could extend from a simple miniature setting affecting at least three people to a large complex setting involving hundreds of people.

For the current study I believe that the environment which was created at each school mainly depended upon the researchers' effective role to gain "trust" of the participating teachers and ensuring them that the purpose of study was to find out effective strategies (action research) through their efforts; to enable teachers for continuous professional development throughout their professional career. On completion of the study and based upon the work of the participating teachers it may be concluded that;

1. *Teachers possesses a natural urge for learning:-*

Although all human beings have an inborn ability for learning but the urge for learning which I felt among the participating teachers was different in the sense that it remained suppressed and un-addressed for such a long period of time (since their childhood and student life) that they showed two extreme behaviors for learning, for some it seemed that they desired to learn almost everything in minimum of time while others seemed to have accepted that learning something new was beyond their abilities. This prolonged neglect of professional development of teachers resulted in development of idiosyncratic behavior in teachers. However, I believe that establishment of relationships with the participating teachers based on mutual respect and candidness encouraged them and they accepted their responsibility for their professional development (subjected to variation regarding individual differences) and instigated action research cycle to improve their classroom practices. However conducting action research inside their classrooms along with their regular function of teaching was not an easy task therefore; time and again; they needed spontaneous professional guidance and support thus as research facilitator I came in direct personal contact with the participating teachers enabling them to overcome their own weaknesses. The professional support was extended to participating teachers with the spirit of working in collaboration with them to enable them to turn threats and challenges in to opportunities instead of changing and recreating the teachers to suit different situations. Such relationship was beneficial for both the researcher and the participating teachers and the role of facilitation became more effective.

The study provided a learning opportunity for the teachers; in form of action research; to extend their capabilities above the present level and at the same time for me to further deepen my understanding how teachers could be supported to become professionally developed teachers. Here in facilitator play the central role because the development of advanced professional functions, especially behavior modification, is possible only when it is understood inside the social context where the major players, teachers, students and parents interact and help in each other's social and professional development.

To fully understand this it should be kept in mind that our educational system generally promote learning in isolation whereas cooperative learning takes place in group or through mutual interactions thus many related abilities become functional, which are difficult to develop in isolation. Or simply it could be inferred that learning can best take place through activities which are contextually bounded, have definite meanings and which are completed through interaction with the persons present in the immediate environment in which the learning activity takes place.

Conducting action research was a real challenge for the participating teachers, demanding something more than what they were used to do in their routine activities hence their participation in this study turned into an actual learning opportunity. This was evident from the interest and excitement which teachers showed at all stages of development like, doing preparations for their research class, planning lessons, designing activities, collecting materials and sharing their experiences. All the efforts, mental and physical which the teachers made throughout their action research were evidence that those teachers had the potential to develop professionally.

2. *Action research does have positive effect on teachers' professional development:* - Studying about action research and conducting action research; although highly interrelated; appeared two different things to me. Being a part of this research study various aspects of carrying out action research and applying it in the classroom setting by the actual players (practicing teachers) were disclosed and became mentally visible. As far as my believe that action

research is an effectual and evergreen strategy for the professional development of teachers, is concerned, I found it similar to what O'Hanlon (1996) describes, for example;

1. Action research is a kind of investigation that takes place in "actual" instead of controlled conditions and provides an opportunity for teachers to explore their own classroom practices.
2. It takes in self-appraisal aiming at improving ones' own pedagogical knowledge and skills.
3. Develops insight to prepare a logical, effective and efficient plan to facilitate students' learning
4. Augments existing knowledge when some innovative tactics prove to be effective.

The approach followed in the current study for action research was mainly based on teachers' reflection upon their classroom practice while the members of the working group extended support to each other in various stages of the research cycle. This format was quite similar to one of the three formats mentioned by Day (1998) and considered effective for teachers' professional development. The process of assessing classroom practice by the concerned teachers enabled them to improve their current practices and built-up their confidence to assume the role of reflective practitioners (Stokes, 2001) along with their regular function of teaching, as well.

They started seeing things differently and faced up to the prevailing common tenet that teachers' role was no more than just passing on the knowledge created by specialists but realized that their role was much more than that and they were the primary explorer of pedagogical knowledge. The participating teachers conducted action research and carried out all the required steps under actual working conditions like; heavy workload (33 periods and attending 2164 students per week); diversity of grades and subjects taught and overcrowded classes (on average 87 students per class). The analysis of physical facilities provided in the sample schools also showed

that teachers' working environment was unfavorable and nonconductive (Male $0< 0.08 < 1$ and Female $0< 0.44 < 1$). Despite all these factors significant changes in teachers' performance was observed. However, in general teachers react abjectly and shrink back from taking part or doing research on their own, for which there are, reasons;

1. Absence of research aptitude and culture in schools.
2. Heavy workload and over occupied schedule of teachers draw all their strength and sparing no time for conducting research in their classes.
3. Lack of departmental support and confidence of teachers.
4. Low profile, social status and marginalization of teachers.
5. Autocratic administrative setup.

3. *Holistic view of action research and challenges of complexity: -*

The methodology of all the modern action research designs is somewhat scientific in its nature. It is believed that explanation of intricate things and phenomena could be given by if they are analyzed and examined as combination of simple integral parts. It is assumed that cause and effect have a linear association and it is possible to find out the results of sequential and orderly interventions. However the classroom proceedings are neither simple nor linear in their nature making an allowance for a variety of unforeseen elements. This know-how of the classroom proceedings as an intricate process which unlike pure sciences is not quite foreseeable because it involves human behavior instead of chemicals is used as reactants and predicting the nature of products is easy to deal with. In contrast with physical science the intervening elements in social science experimentation are not as much manageable hence their study as a whole is more significant rather than as distinct parts. It may not be assumed that classroom practices could not be systematically studied but the fact is that their study is more meaningful and significant if these are

examined in the broader context following an all-inclusive approach. The vibrant nature of interactions, taking place inside a classroom during teaching-learning process, is central as compared with the interacting variables themselves. The skill of interacting different variables instinctively and spontaneously is like an act of art rather than a scientific procedure to be followed. Thus the classroom instructions should be illustrative and evocative in nature requiring careful judgment of the situation (Elliott, 2004).

4. Strategies for applying action research to improve classroom instructions:-

In the course of this study I found that one cannot apply any "particular" strategy for the implementation of action research to improve the quality of teaching-learning process in every classroom without modifying to suite the particular situation. Each situation has its specific components and indeterminacies varying from situation to situation therefore a fixed plan without flexibility could not serve the purpose. However, all the effective strategies have certain common steps which are usually taken.

Although many teacher training institutes in America, Europe and Australia offer action research as a major component of teachers training programs but in Pakistan, most of the leading universities and teachers training institutes; with the exception of AKU- IED. Karachi; do not offer research as a major course at graduate level. However general research techniques and a research project are included at master's level but specifically action research is not a part of teacher education curriculum. This situation affects any strategy adopted for the implementation of action research in schools to improve the teaching-learning process.

Inclusion of action research as a major course in pre-service teachers training programs and acquaintance of trainee teachers with this technique, before taking on teaching responsibilities, enable them to practice it during the discharge of their professional responsibilities. But this not being the situation here in Pakistan, making the use of action research inside the class a bit difficult for our teachers. This shortage

of the formal initial knowledge of action research was overcome by conducting orientation workshops with the purpose in mind to enable the participating teachers to reflect on their own practice and do self-assessment.

The general plan adopted in this study for implementation of action research had five phases;

The first phase comprised of orientation workshop to introduce the research participants with the purpose of the study, provide necessary skills and theoretical knowledge about action research.

Second phase served motivational purpose through model lessons and setting benchmark for the performance of participating teachers regarding this study. In this phase the participating teachers observed model lessons and developed skills like; critically observing the teaching methodology and making comparison of their own teaching methodology and the methodology adopted in the model lessons. They also reflected upon the possibilities of implementing innovative teaching methods in their regular classes.

Phase three provided an opportunity for the participating teachers to plan different activities to be carried out during research classes in guidance of researcher; co-teaching was also done to equip the participating teachers to keep a balance between their role as teacher and a researcher at the same time (Halai, N. 2010). This phase enabled the teachers to select an area of class room teaching which they valued and wanted to be improved. Majority of the teachers mentioned that they wanted their students to perform well in their studies particularly in the subject they taught. This desire led the research participants to develop "Zero Plan" focusing upon the question; "how can I help my students to perform well in the subject I teach". It enabled the participating teachers to concentrate on developing an understanding of the gap between their teaching and learning of their students. This understanding led them to make efforts to minimize the gap between teaching and learning and help their students to learn and perform better in the existing educational setup. In the

process of improvement of their own practice they created, shaped up and implemented their own educational theories instead of applying or adopting someone else's thoughts and ideas. Hence the ability to; find the most appropriate way to achieve what they intended, we are struggling for, performing better and be in control of themselves made them self-reliant and confident, thus they started to rely on their own potentials rather than relying upon others to solve their problems.

Phase four and phase five were broken down in parts, a, b and c and carried out in the sequence that phase five (a) followed the phase four (a) and phase four (b) was followed by phase five (b) same was the case of part (c) of the two phases. During Phase four and five teachers got the opportunity to reflect deeply upon their teaching practices and detect the insufficiencies of their current practice. This self-evaluation further helped them to define the aspect of their teaching which they considered for improvement (Nevill, 2001). Phase five also provided a platform for the teachers at school level to share their class problems, issues, experiences and successes. The experience sharing meetings not only the participating teachers discussed their plans and techniques of putting their plan in to practice (Elliott, 1991).

5. *Use of action research was beneficial for teachers:-*

The use of action research by school teachers in the regular setup of their schools without any controlled conditions triggered quite a few changes in different aspects of teaching learning process which directly benefited the practicing teachers. Most significantly teachers' sanctimonious and complacent attitude melted and they became apprehensive about their teaching for example one of the teachers expressed in his reflective journal;

> *…one thing is certain that I have realized that I must change and improve my own teaching practice to change and improve my students' performance. I am convinced that by changing my teaching the students' performance will definitely improve. (M411)*

This shows the change in teachers' attitude they seemed repentant and remorseful rather than complacent. This shift removed the very basic hurdle in the way of teachers' professional development and brought into the notice of teachers many other aspects of teaching learning process as a social endeavor. Conversational analysis of a non-formal talk among teachers showed that they recognized individualized learning style of students, their involvement in teaching learning process and issues related to classroom discipline. For example the teacher (F212) realized that the frequency of incidences of misbehavior could be minimized if the classroom teaching methodology is interesting and students realize that it is contributing to their learning, as she mentioned;

F212 → I think they miss behaved because they ↑don't <u>l</u>ike the ↑way I have been teaching↓.

Classroom teaching became student centered instead of teacher centered. As a result of this research study teachers instead of imposing their own view point started to give importance to students' point of view also. For example one of the teachers mentioned that;

> *...I was annoyed first, when students were unable to follow my instructions. Then I realized that it was not their fault, actually we were not on the same side of the card, it reminded me the simple activity of our facilitator who asked us to read a number "six" 6↑written on a card, the same number was read "nine" 9↓from other side of the card. The situation was exactly the same like the above activity. Me and my class were on opposite sides of the card hence both were perceiving different meanings from the same thing. (M312)*

This realization was an indicator of the focus shift of teaching learning process from "teacher" to "students".

Teachers started paying attention to their own mistakes which they rarely noticed before and made practical attempts to improve them. It is a fact that those

teachers who belong to families where Pashto is spoken as first language face difficulties in Urdu pronunciation for example the following extract indicates the teacher's attention was drawn to this basic problem of "Urdu" pronunciation as she mentioned;

> "*I (teacher) noticed for the first time that I wrongly pronounce many words although I had been teaching Urdu subject for the last so many years but I did not noticed this before. This study made me notice my weakness. I made a list of the words which I suspected were wrongly pronounced this list included many words; for example I pronounced "کائے" whereas the correct pronunciation was "کھائے" Similarly I used to pronounce "پل" instead of "پھل" my weakness was in pronouncing the sound "ھ". I became more worried when our facilitator pointed out that wrong pronunciation altered the meanings also. Therefore I worked on this problem and corrected this weakness"*(F122).

However it was a good sign that teachers tried to improve themselves. However it was considered the first level of professional development (Ponte, 2007).

Following is another excerpt indicating enhanced understanding of the course content. This teacher used to teach mathematics to grade 6 but only used instrumental approach and followed procedures in a mechanical way. He did not try to attend the innocent "why" which was always there in students' minds. The teacher reflected upon this issue as;

> *"... I (teacher) thought I was a good mathematics teacher but in today's class when I was asked "why! We take LCM to solve frictions?" and I told "to solve the question... I─ I mean to say that it is the procedure" but I was sure that I haven't answer the question, at least the boy did not want this answer. Then I asked myself "why we do so?" many answers came to my mind, "because these are the*

steps" or perhaps "to simplify the fractions" but I rejected them all the only conceiving answer was "that how we are told to". At this point I felt the same confusion like the young boy and it was a turning point for me. I searched for the answer and thanks to our facilitator who guided me and helped me to find the answer. I learned that there was the concept of equivalent fraction behind this LCM procedure. Now I get prepared for the innocent "whys" before going to my class and this preparation have forced me to learn mathematics a fresh". (M412)

Teacher's reflection draws attention to the fact that he never thought about the questions which arise in the minds of students and remain their unanswered. Teacher used to teach from the text book and solved questions from the exercise and did not paid attention why we follow set procedures? What is the logic behind these set principles? Actually the teacher himself did not have the correct answer so in search of answer his learning and understanding of the course content increased.

Apart from the above there were many other incidents of teachers improving their understanding of the course contents; they practically first learnt how to handle the science equipment (micro scope) and then taught their class to perform practical, they improved their English/Urdu pronunciation and writing skills, they first developed their own scientific and mathematical concepts (*"پودوں کی د نیا" and "عالم حیوانات" from science grade VIII book. Venn diagrams*) and then entered their classrooms to teach their students the same concepts. These incidents provide the evidence and support the concept of improved understanding of teachers regarding course contents which they had been teaching in their respective classes. The teachers' narratives revealed that they started analysing their teaching which they hardly did before, and found many areas in content of the study which needed deeper understanding on their part in order to improve teaching in the class. When this situation was analytically reviewed a change in the teacher's attitude was observed, as all the teachers had the

experience of teaching the same above mentioned subjects in the near past but they went through the topics without noticing their short comings. Conduction of action research in their regular classes to examine their own teaching practices draw their attention towards these short comings and they took practical steps to make up these deficiencies and improve their practice.

6. Use of action research makes a difference in classroom teaching

Pre intervention observation of the participating schools informed this study that the conditions under which teachers worked were not conducive in the sense that they find less or no opportunities for their personal growth and professional development. This research study proved to be the only opportunity for professional development, teachers expressed their views as; *it was a rich experience for us, the good thing was our new learning through research and bad thing is that this activity will end very soon* (M221, M312, M421, F121, F322, F511) teachers considered this research study fruitful but at the same time they also knew that it was "once in a life time" activity and as soon as the study was completed they will be once again engaged most of the time in routine activities focusing on course completion. However during the study period teachers showed significant improvement in; lesson planning skills, teaching methodology, use of appropriate teaching aids and questioning techniques. The results showed that for cycle one, on average teachers scored 11.1 for "zero plan" and their lesson plans and planning skills were rated as partially satisfactory. For "plan one" the average score was 16.05 and rated as satisfactory while this score for "plan two" was 25.01 above satisfactory level. The improvement in these scores was the result of the engagement of the teachers in this research study. The results of cycle two were even more encouraging i-e average score for "plan zero" was 27.12, it rose higher to 31.01and 32.13 for "plan one" and "plan two" respectively. Apart from average scores we see much higher scores. Ten (23%) teachers scored 38 points to 47 points their lesson plans were rated at the level of proficient and above. Twenty two (51%) teachers performed at satisfactory or above level and eleven (25%) teachers performance was partially satisfactory.

Improvement in teaching methodology was tested against three categories i-e memory focused teaching, teaching for comprehension and developing critical thinking. The results showed that memory focused teaching reduced from 72% to 48%. Teaching for comprehension improved from 21% to 38.54% similarly teaching for developing critical thinking improved from 7% to 13%. To make teaching more effective the use of nonconventional teaching aids was also promoted among the teachers. In language classes printed material other than text books were used by the teachers. Teachers reported that they used science labs for regular science lessons for all grades, against the previous practice of demonstrating few science practical to grade 9th and 10th only. For the clarification geometrical and mathematical concepts solid objects and shapes were used during the lesson where previously these concepts were taught only theoretically without the use of any appropriate teaching aids.

Before participating in this research study teachers used to ask direct and close ended questions. Questions were usually asked by the teachers at the end of the lesson as a formality, mostly teachers asked; "did you understand?" and the students would say "yes sir/miss". Students seldom raised questions during the lesson and if at all they asked anything they would inquire about writing errors or isolated facts. Students seldom asked critical higher order questions. However the pattern changed and teachers started asking questions throughout the lesson their questions became probing and open ended. Similarly students also raised higher order questions. After involving in research teachers encouraged students to raise question, as result the number of students asking comprehension question increased from 37 to 41. During pre-intervention phase only 14 students asked question of application type this number raised to 27. Number of analytical type questions increased from 09 to 13, similarly synthetic and evaluation kind of questions increased in number from zero to eleven and zero to seven respectively.

Another major shift recorded resulting from this research was students active participation in the learning process. Previously students remained active only for

limited activities for minimum of the class time; students took only three minutes for oral interaction, twelve minutes for copying from writing board and listened passively for almost thirty minutes but as a result of the research study students enjoyed more opportunities to actively participate in teaching-learning process through activities like; reading, discussing, sharing, experimenting, exploring, recording and explaining the concepts, in comparison with their previous limited involvement in the classroom activities only through listening and mechanical copying from the writing board.

The increased involvement of the students in the teaching-learning process was actually due to improved communicational skills of the teachers. They allowed and encouraged students to ask questions, instead of "one way" communication teachers preferred bilateral communication. This change in the classroom environment increased the level of students' participation. As a result, "active engaged time" of students in the learning process increased from 9 to 41 percent. Another important change regarding teachers' communicational skills was their selection of vocabulary and economy of words. It was noted that teachers had the perception that talking more and providing maximum amount of verbal explanation will help students to develop understanding and clarity of mind but actually the things were other way round students reported that they got confused instead of developing clarity of concepts. Teachers focused on this issue and improved the situation by giving simple and necessary instructions. Their economy of words improved and the average score increased from 38 to 49 (30%). Also the frequency of using wrong words reduced to 38.57%.

Finally to find out any change in the development of students' cognitive abilities as the result of teachers' professional development randomly selected students (both male and female) from different participating schools were tested for their cognitive abilities through especially designed tool consisting of six items, covering all the six levels of cognitive domain (Blooms, 1986) was administered and the students were asked to complete all the items. The results showed there were

improvements in students' performance. The increases in % age scores of students for different cognitive level differ in magnitude, for example the increase for the first three levels remained below 10% however the improvement in the scores for the upper three levels was more significant which was 50%.

7. The challenges faced in implementing action research at school level:-

The challenges faced while carrying out this research study had their own significance which could not be denied. These varied in their nature and magnitude and could be broadly categorized in two types;

i. Procedural administrative challenges
ii. Technical challenges.
iii. Social and cultural challenges.

i. *Procedural and administrative challenges:*

From the very beginning since the proposal development of this study challenges were faced. The first challenge which I encountered was to convince the university authorities to conduct this qualitative study based on action research methodology instead of the popular quantitative research methods usually preferred in university of Peshawar. However adjusting the sample size (50 participants) according to the university requirements disregarding the nature of action research favoring much less number of research participants, the final approval for conducting this study was granted by the university authorities.

The second layer of procedural and administrative challenges appeared when district education office was requested for permission in order to select schools and engage teachers for participating in the study. After many visits and remainders permission was granted to conduct research in the selected schools. Same kind of issues was faced with the administration of each school. It was once again quite challenging to convince the principals that this research study will directly and readily benefit the teachers of their schools without disturbing their schedule. All these challenges were the living realities and which I think come across due to the fact that education department at all levels is unaware of educational research and its

importance, the second reason was lack of official coordination among universities, education department and schools.

ii. *Technical challenges.*

The work of many renowned researchers (Elliott, J. 1991; Foster, P. 1999; McNiff, J. 1997) show action research as an effective methodology for professional development which could be easily applied to improve ones' own practices and for self-learning. Realizing this promising potential of action research to improve the common teaching practices in classroom and bring change at the proletarian level this study was conducted to examine the possibilities of applying action research at school level in Khyber Pakhtunkhwa (Pakistan) to develop professional expertise of the practicing teachers. However in the process of practically implementing action research inside the classroom of our selected schools was not that simple and many technical challenges were faced.

The common problem for almost majority of the teachers was the early development of understanding of the cyclic nature of the action research process. It was also difficult for the teachers to integrate all four phases to focus upon any particular issue. Complexity of the process increased when mini cycles within the major cycle appeared and teachers felt that they lost control of the research process.

Performing two roles i-e teaching and researching at the same time was a challenge for the teachers to face, in the start they were not able to maintain balance between the two roles and often got involved too much in one that the other remained ignored. Maintaining balance in teaching and research remained an issue till very last. I believe this problem could only be overcome with practice and time.

Collection of soft data and studying one's own self was difficult for the teachers. They were more active in experience sharing meetings giving "good suggestions" but bringing innovative ideas was little difficult for the teachers. Availability and access to computers and other statistical software was also an issue which made it difficult for the teachers to record and analyze the data.

Writing reflection was also an issue because teachers usually wrote a kind of description of what happened in their classroom incorporating many unnecessary details. Furthermore due to heavy work load teachers did not find time to write reflection immediately after the research class. They wrote their reflections after longer period of time and it is assumed that they lost valuable information.

iii. *Social and cultural challenges.*

In the broader social and cultural setup it was quite difficult to carry out this research study in female schools. Especially classroom observation in female schools was a problem. In some areas PTC was also taken in to confidence because local community had reservations, therefore through PTC the local community was informed about the purpose of research. Personal influence was also used to convince the parents and local community members about the long term benefits of the research study.

In the narrower sense the culture of each school differ in their reaction about the research study, however the common reaction of the teachers who did not participate in the research study was not very conducive. They behaved mischievously and passed on funny comments in insolent and discouraging tone. It seemed they felt threatened by the expected change and did not want their colleagues to continue this practice for the reason that they might also be asked to adopt and change accordingly.

5.4 RECOMMENDATIONS

The findings of the study and the conclusion drawn strengthen my believe that the efficacy of public schools in Khyber Pakhtunkhwa could be augmented through teachers' professional by applying action research at school level. Any model for the professional development of teachers operating in perimeters of time and space other than those where the actual living opportunities for professional development dwell would not be effective enough to provide the living experiences to the teachers. The only place to getting firsthand professional development experience for teachers is the classroom. Hence separating teachers' professional development from teaching

learning process and accumulating professional development opportunities somewhere else (teachers' professional development courses offered at universities and teachers' training institutions) would not be effective and bring no change. Therefore professional development of teachers is possible if they are provided such opportunities right in their own schools and within their regular classroom environment.

Holding the above believe I am also convinced that it would be more convenient to organize and conduct action research in schools if the following recommendations were taken into consideration.

1. Inclusion of action research in pre-service teachers education programs:

For conducting a smooth research activity basic knowledge and techniques of research, especially action research were needed on behalf of the teachers, but unfortunately teachers possessing bachelor and even master degrees in education lag behind in the per requisite skills and knowledge of research. Therefore for having the prior knowledge and skill to carryout research activities for teachers' continuous professional development (Hubbard and Levy, 2006) action research should be introduced at bachelor level programs of teacher education to equip the prospective teachers with practical skill and knowledge to implement action research independently for their professional growth and development in future.

2. Developing research culture in schools:

In the course of current study it was observed that although occasionally researchers did visit the schools to gather their required data and information but it was the first time that school teachers themselves were practically involved as researchers who carried out all the necessary steps of action research and improved their existing practices. But in the absence of regular research activities the participating teachers did face social problems and resistance while completing their research projects. Also professional development cannot take place in piecemeal rather it is a collective venture therefore creation of a research culture is desirable.

School program should include regular research activities either independent or in collaboration with other educational institution. At least with in a school there should be a research cell to provide professional and technical support to teachers to carry out small scale research activities with in the regular setup of school.

3. Integration of research and teaching:

Every educative process has its own distinctive time and space perimeters which make it an inimitable one. Furthermore the individuality of learners adds to the uniqueness of this process and makes it less predictable therefore generalization seems unsuitable. The generalizations of experimental research studies made in different perimeters of time and space; are unable to address all the variables involved in a particular learning situation taking place within a different set of time and space perimeters, therefore application of such generalizations may lead to failure rather than promoting and facilitating the learning process.

The distinctive and intricate nature of learning process demand that it should be dealt in such a way that its unique needs are fully addressed which is only possible if research is integrated with teaching. The integration of research should be for students as well as for the teachers too. Teaching-learning process should be research based i-e students should learn and acquire knowledge through inquiry method and the teacher should continuously improve his/her classroom instructions through action research.

4. Minimizing the work load:

The creative and demanding nature of research base teaching needs time and flexibility but under the present working conditions teachers have heavy work load and they remained engaged in class room teaching for more than six periods out of eight periods per day. The duration of one period was recorded to be 40 mins. The engaged time of the participating teachers extend to more than four hours per day. The teachers were left with only 60 to 70 mins. for activities other than classroom teaching, more over all the teachers were responsible for teaching at least three

different subjects in three to four different grades levels. This situation added to the complexity of pre-planning for classroom teaching. Under the circumstances when teachers are over loaded with scholastic activities and having minimum research experience and basic knowledge they would need more time to apply action research to improve their classroom instruction. This is possible if teachers' work load was reduced to reasonable level so as to enable them to have time for research activities.

5. *Coordination among universities and education department for conducting research:*

Close coordination between universities and schools is the need of the prevailing situation. The two institutions have their own distinctive features but there exist the common element of "learning" between the two institutes. Universities being the sites of producing new knowledge through research while the schools possess the actual teach-learning problems and issues to be explored hence both the institutes could work in coordination to address the actual teaching-learning problems faced by the teachers and improve the quality of education in general. The gulf between universities and schools gulp down precious resources leaving many living classroom problems unaddressed. If the universities and schools are put together in a symbiotic relationship the two institutes would benefit from one another. Expertise of universities should be brought inside the schools to explore and resolve the real issues of quality of education and quality of teachers instead of researching those areas which have no link with the real issues of quality of educational services.

6. *Linking research experiences with promotion of teachers:*

The criteria for teachers' promotion is only their "seniority" and nothing else is considered in assessing teachers for promotion, but if teachers' research experience is also included in assessment for their promotion, it will have multiple positive effects on the prevailing situation of teachers' current practices. Teachers will continuously keep a check up on their teaching practice and will strive for its improvement thus a program for continuous professional development for teachers will automatically start with a personalized effect in the sense that doing research and

producing their work at local and international level through research journals would be the teachers need to fulfill the requirement for their promotion. On the other hand the collective effect would be the overall improvement of the quality of educational services provided by the education department. Introducing research at school level will create a sense of professionalism among teachers and thus enabling them to find "voice" (McDonald, 1986) about the issues and problems they face and the circumstances under which teachers work and carry out the teaching-learning process.

7. Development of Urdu software for analyzing qualitative data:

During the data analysis phase it was realized that there was no software available which could recognize Urdu language for example software available for conversational analysis could only recognize English language but not Urdu language. Similarly software for narrative analysis, analyzing transcripts and coding of themes all needed English as the medium communication with computer. Now the majority of the participating teachers were not competent enough to express themselves in English therefore manually coding of themes, analyzing conversations and examining the reflective journals of the teachers was difficult and time consuming and intense need for software sensitive for Urdu was felt. It is recommended that if such software was developed and made available will make the task of qualitative data analysis easier for the teachers to carry on research activities on their own in future. This computer assisted data analysis would save time and energies of the teachers and enable them to conduct research activities side by side with their regular classroom teaching.

8. Three layered change agenda:-

Working with school teachers in this research study I realized that teachers are unduly criticized and overlooked however the situation is not that pessimistic, the teachers are qualified, hardworking, and have the potential to change and bring change. But there is a common public perception that teachers hold a powerless position and have professional weaknesses therefore they remain marginalized. They

are considered inferior and blamed for the poor quality of education but the teachers alone are not responsible for poor quality and sluggishness of education, in fact multiple factors like; teacher professional competency; organization of schools; the functional procedures of educational management and administration and above all the prioritization of education at the time of policy making at governmental level, are responsible for the present conditions and poor standards of our educational system. Under such circumstances any attempt of "change" is perceived as challenging and threatening to the authoritative hierarchy hence a hidden defensive mechanism is adopted against the "change" but apparently supportive attitude is shown. This result in artificial and a temporary "change" which is rolled back as soon as the active forces pulls out.

In the light of above it is recommended that teachers should be given incentives to attract them to be engaged in research for development of their professional competencies and professional growth. They need to be encouraged and facilitated to do research at school level to enhance their professional competence, their efforts should be acknowledge and disseminated through local and international educational journals. Those teachers who really desire to improve and transform their teaching practices should be facilitated officially and the procedures for obtaining departmental permission for conducting educational research be made simple and easy. To promote research activities in schools financial support should also be granted to those teachers who are involved in research activities.

9. School based research program (SBRP):

As pointed out in the above section there are at least three factors responsible for "making" or "breaking" of educational standards; first are the teachers, the second is the school administration and the third is the governmental officials making policies and setting goals. Here I shell suggest and make recommendations for the second factor; school administration; to promote a culture of teachers' professional development and research at school level.

For integrating research activities and involving whole school in research process, at least high schools should be bounded to publish a mandatory annual research report to publicize its research findings and its effect on students' learning. The school based research program (SBRP) will provide a shared vision for the schools and the teachers to carry out research activities because doing research will become a common goal for the teachers as well as for the school. Leaving teachers to themselves and making research the basic criteria for their promotion would put teachers under extra pressure and vulnerable to administrative duress but in case of SBRP a symbiotic relationship will establish between teachers and school administration regarding research activities at school level. Teachers in individual capacity and school as an organization would be struggling to achieve a common goal of research based education and developing a research culture in schools. In this way school administration will also become actively involved in research activities. Teachers and school administration working in cooperation with each other would mean helping one another to fulfill their needs. School administration would need teachers' research findings to publish its annual research report thus creating an opportunity for teachers to disseminate their unique work based on classroom research studies. On the other hand teachers' research findings would furnish raw material for the school annual research report mandatory for school administration to promote school ranking and its academic and scholastic position in society restoring parental trust in public schools once more.

10. Involvement of educational management at district and school level in research activities

The third party of our trio responsible for providing quality education and raising educational standards is the government officials who are responsible for decision making and providing policy guide lines. Under 18th amendment education is provincial affair which could be further subdivided to district level, considering district as the fundamental organizational unit should be made responsible for improvement of educational services within the district. All decision making process

at district level should be in harmony with the research activities carried out in schools by the individual teachers. In the trio of teacher, school and educational management teachers occupy the central position having all the creative autonomy, flexibility of designing research proposals and freedom of conducting research in their respective classrooms individually or in groups. The other two prongs of this trio would play facilitating role at their own levels. The function of school administration and educational management would be to organize and disseminate the work of teachers, keeping records and arranging resources for research activities at the gross root level. Both the school administration and educational management at their own levels, would make future planning in the light of the research studies conducted at school level and make necessary adjustments in the curriculum and teaching methodology, they would also arrange for propagating and promoting the best practices in their own jurisdiction ensuring teachers professional autonomy and creativity.

ANNEXURES

ANNEXURE 1

Consent Form

Date_____

"Impact of conducting action research by secondary school teachers on their professional development"

Dear Mr. / Ms._____

Your good self is requested to take part in this research study title cited above. This research is carried out as a part of fulfillment of the requirement for doctoral degree in education. The purpose of this study is to find the impact of conducting action research by school teachers on their professional development.

This research will provide firsthand experience of improving pedagogical skill of participating teachers and carrying out action research in real classroom situation. However your participation will be purely on voluntary basis and you can withdraw at any stage without any penalty or justification.

As a research requisite data collection strategies would include; classroom observation, writing reflections, document analysis and group discussion. The data will be used solely for research purpose and anonymity of the research participants will be ensured through code. Further, only researcher and the supervisor will have access to the data.

All your queries about any aspect of this study will be answered happily. If you are willing to participate in this study, please sign the consent form attached.

Thank you for considering participating in this study.

Muhammad Asif Khan
PhD Scholar, IER. Peshawar University
Khyber Pakhtunkhwa.
Cell# 03329420879
E-mail:- asifkhan6719@yahoo.com

Consent Form

I have read and understood the information on the form and I consent to volunteer to be a participant in this study. I understand that my participation and the generated data will be completely confidential and that I have the right to withdraw at any time and stage of the study.

As a participant of this study, I assure my full support and cooperation. I give my consent for classroom observation, document analysis and recording discussions, with the understanding that only the researcher/ supervisor will have access to this information.

I understand that the confidentiality of the information provided would be maintained and that the data will not be used for any other purpose without my consent. I am aware that the findings will be reported as partial fulfillment of requirement of doctoral degree in education; and that is such documents, no mention will be made to the specific

_____

Respondent's Name and Signature

Date _____

ANNEXURE 2

List of Participating Schools & Codes

S.#	Name of the School	Gender	Assigned Code
1	GHSS # 1 Peshawar Cantt.	Male	PS-M1
2	GHS # 2 Peshawar City	Male	PS-M2
3	GHS # 4 Peshawar Cantt.	Male	PS-M3
4	GHS S Mathra.	Male	PS-M4
5	GHS Nahaqi	Male	PS-M5
6	GGHS # 2 Peshawar Cantt	Female	PS-F1
7	GGHSS. BSD. Peshawar City	Female	PS-F2
8	GGHS Jogiwara Peshawar City	Female	PS-F3
9	GGHS Mathra	Female	PS-F4
10	GGHS Nahaqi	Female	PS-F5

ANNEXURE 3

I have read and understood the information on the form and I consent to volunteer to be a participant in this study. I understand that my responses will be completely confidential and that I have the right to withdraw at any time.

As a participant of this study, I assure my full support and cooperation by giving time for meeting and interviews, and share any further information in form of documents, with my prior permission and negotiation of date, time and venue.

I give my consent for tape recording of the interview, with the understanding that only the researcher will hear the tape and that transcripts will be fully anonymous.

I understand that the confidentiality of the information provided would be maintained and that the data will not be used for any other purpose without my consent. In addition, I have also the right to disagree to the findings of the study. However, I am aware that the findings will be submitted as course assignment; and that in such documents, no mention will be made to the specific organization / office or any specific person.

Sajid Ahmad

Respondent's Name and signature

Date: 25/05/2013

I have read and understood the information on the form and I consent to volunteer to be a participant in this study. I understand that my responses will be completely confidential and that I have the right to withdraw at any time.

As a participant of this study, I assure my full support and cooperation by giving time for meeting and interviews, and share any further information in form of documents, with my prior permission and negotiation of date, time and venue.

I give my consent for tape recording of the interview, with the understanding that only the researcher will hear the tape and that transcripts will be fully anonymous.

I understand that the confidentiality of the information provided would be maintained and that the data will not be used for any other purpose without my consent. In addition, I have also the right to disagree to the findings of the study. However, I am aware that the findings will be submitted as course assignment; and that in such documents, no mention will be made to the specific organization / office or any specific person.

SALMA FARID

Respondent's Name and signature

Date: 16/5/2013.

I have read and understood the information on the form and I consent to volunteer to be a participant in this study. I understand that my responses will be completely confidential and that I have the right to withdraw at any time.

As a participant of this study, I assure my full support and cooperation by giving time for meeting and interviews, and share any further information in form of documents, with my prior permission and negotiation of date, time and venue.

I give my consent for tape recording of the interview, with the understanding that only the researcher will hear the tape and that transcripts will be fully anonymous.

I understand that the confidentiality of the information provided would be maintained and that the data will not be used for any other purpose without my consent. In addition, I have also the right to disagree to the findings of the study. However, I am aware that the findings will be submitted as course assignment; and that in such documents, no mention will be made to the specific organization / office or any specific person.

Syed Shahin Shah

Respondent's Name and signature

Date: 25/5/13

I have read and understood the information on the form and I consent to volunteer to be a participant in this study. I understand that my responses will be completely confidential and that I have the right to withdraw at any time.

As a participant of this study, I assure my full support and cooperation by giving time for meeting and interviews, and share any further information in form of documents, with my prior permission and negotiation of date, time and venue.

I give my consent for tape recording of the interview, with the understanding that only the researcher will hear the tape and that transcripts will be fully anonymous.

I understand that the confidentiality of the information provided would be maintained and that the data will not be used for any other purpose without my consent. In addition, I have also the right to disagree to the findings of the study. However, I am aware that the findings will be submitted as course assignment; and that in such documents, no mention will be made to the specific organization / office or any specific person.

RIFAQAT ULLAH

Respondent's Name and signature

Date: 18/5/2013

I have read and understood the information on the form and I consent to volunteer to be a participant in this study. I understand that my responses will be completely confidential and that I have the right to withdraw at any time.

As a participant of this study, I assure my full support and cooperation by giving time for meeting and interviews, and share any further information in form of documents, with my prior permission and negotiation of date, time and venue.

I give my consent for tape recording of the interview, with the understanding that only the researcher will hear the tape and that transcripts will be fully anonymous.

I understand that the confidentiality of the information provided would be maintained and that the data will not be used for any other purpose without my consent. In addition, I have also the right to disagree to the findings of the study. However, I am aware that the findings will be submitted as course assignment; and that in such documents, no mention will be made to the specific organization / office or any specific person.

MRS SHAHIDA ANDLEEB.

Respondent's Name and signature

Date: 24th May 2013.

I have read and understood the information on the form and I consent to volunteer to be a participant in this study. I understand that my responses will be completely confidential and that I have the right to withdraw at any time.

As a participant of this study, I assure my full support and cooperation by giving time for meeting and interviews, and share any further information in form of documents, with my prior permission and negotiation of date, time and venue.

I give my consent for tape recording of the interview, with the understanding that only the researcher will hear the tape and that transcripts will be fully anonymous.

I understand that the confidentiality of the information provided would be maintained and that the data will not be used for any other purpose without my consent. In addition, I have also the right to disagree to the findings of the study. However, I am aware that the findings will be submitted as course assignment; and that in such documents, no mention will be made to the specific organization / office or any specific person.

Ghazala Yasmin

Respondent's Name and signature

Date: 17/05/2013

I have read and understood the information on the form and I consent to volunteer to be a participant in this study. I understand that my responses will be completely confidential and that I have the right to withdraw at any time.

As a participant of this study, I assure my full support and cooperation by giving time for meeting and interviews, and share any further information in form of documents, with my prior permission and negotiation of date, time and venue.

I give my consent for tape recording of the interview, with the understanding that only the researcher will hear the tape and that transcripts will be fully anonymous.

I understand that the confidentiality of the information provided would be maintained and that the data will not be used for any other purpose without my consent. In addition, I have also the right to disagree to the findings of the study. However, I am aware that the findings will be submitted as course assignment; and that in such documents, no mention will be made to the specific organization / office or any specific person.

Awais Muhammad Khan

Respondent's Name and signature

Date: 25-05-13

I have read and understood the information on the form and I consent to volunteer to be a participant in this study. I understand that my responses will be completely confidential and that I have the right to withdraw at any time.

As a participant of this study, I assure my full support and cooperation by giving time for meeting and interviews, and share any further information in form of documents, with my prior permission and negotiation of date, time and venue.

I give my consent for tape recording of the interview, with the understanding that only the researcher will hear the tape and that transcripts will be fully anonymous.

I understand that the confidentiality of the information provided would be maintained and that the data will not be used for any other purpose without my consent. In addition, I have also the right to disagree to the findings of the study. However, I am aware that the findings will be submitted as course assignment; and that in such documents, no mention will be made to the specific organization / office or any specific person.

Saima Imran (SAIMA IMRAN)

Respondent's Name and signature

Date: 16/5/2013.

ANNEXURE 4

Classroom Observation Check List

Name of the Teacher_____Teacher's ID Code_____

Name of the School _____ School's ID Code_____

1. Lesson Plan Development(LPD):

Is lesson plan available and followed during classroom teaching?

Not Available ☐

Available but not Followed ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Are lesson objectives clearly stated?

No Written Objectives ☐

Ambiguous ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Are learning activities effective?

No Activities ☐

Ineffective ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

2. Selection and use of Teaching Learning Materials (TLM):

Is the teaching learning material effective and purposeful?

Not Available ☐

Ineffective ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Is the required teaching learning material in sufficient and appropriate?

Insufficient ☐

Sufficient but Inappropriate ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Is the learning material used by all the students?

Only by the Teacher ☐

Some of the Students ☐

Shared by the Students ☐

Used by Students individually ☐

3. Classroom and Learning Environment (CLE):

Is the CLE participative and friendly?

Non Participative ☐

Partially Participative ☐

Participative but Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Is communication a two way process?

Not Observed ☐

One man show ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher call students by their names?

Not Observed ☐

Only few ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher apply questioning techniques to make teaching-learning effective?

Not Observed ☐

Off and on ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher encourage students to raise questions?

Not Observed ☐

Off and on ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Dose the teacher have eye contact with students?

Not Observed ☐

Off and on ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

4. Applied Instructional Methodology(AIM):

The dominating teaching methodology of the teacher is?

Lecture method ☐

Active learning ☐

Inquiry method ☐

Lecture Demonstration Method ☐

Grammar Translation Method ☐

Did the teacher try to gain attention of the class?

Did no*t Try* ☐

Tried but Failed ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher introduce topic, write lesson objectives, and make effective presentation?

Not Observed ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Were main points of the lesson emphasized?

Not Observed ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Was the lesson provocative and interesting?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

During the lesson teacher was engaged most of the time in;

Asking Questions. ☐

Directing ☐

Discussing. ☐

Dictating notes. ☐

Explaining. ☐

Giving Instructions. ☐

Reading. ☐

Replacing words. ☐

Speaking. ☐

Simplifying text. ☐

Solving exercises. ☐

Translating. ☐

Writing. ☐

5. Student's Participation and Learning Opportunities(SPLOs):
During the lesson students were engaged most of the time in;

Asking Questions. ☐

Copying. ☐

Comparing. ☐

Discussing. ☐

Experimenting. ☐

Explaining. ☐

Exploring. ☐

Investigating. ☐

Listening. ☐

Reading. ☐

Recording. ☐

Reproducing. ☐

Speaking. ☐

Summarizing ☐

Solving exercises. ☐

Writing. ☐

6. Responsiveness to Student Feedback(RSF):
Does the teacher responsive to students' tediousness and slipups?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher allow students to share learning problems in class?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher provide individual attention to students?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher do formative assessment of the students?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher relate concepts with real life situation?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher pay attention to students' needs (emotional, physical, and intellectual)?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher encourage students' to share their experience/ prior knowledge?

Discourage ☐

Does not Encourage ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

7. Reflection On Teaching:

Does the teacher take end of class notes or reflect upon teaching?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher discuss/ share classroom teaching with colleagues?

Not at All ☐

Lightly ☐

Slightly Seriously ☐

Seriously ☐

Exemplary ☐

Does the teacher maintain reflective journal?

Not at All ☐

In Raw Form ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher take responsibility for deficiencies in teaching?

Not at All ☐

Blames Other ☐

To Some Extent ☐

Acceptable ☐

Exemplary ☐

Does the teacher make efforts to improve teaching?

Not at All ☐

To Some extent ☐

Needs Guidance ☐

Acceptable ☐

Exemplary ☐

Observer

Name and Signature

_____

ANNEXURE 5

Hand out 1

Writing a Quality Lesson Plan:

A lesson plan is a helping tool for the teachers to make their classroom teaching more effective and efficient compared with their teaching in the absence of a lesson plan. It is always commendable to have a written lesson plan rather than just a mental sketch of different routine practices and a bundle of isolated and disjoint activities to be carried out during the lesson. Developing a quality lesson plan need proper attention and skill, this could be developed, through regular practice, over a period of time. However the following guiding principles could be helpful for the novice as well as experienced teachers. These guiding principles would be helpful in providing a sound theoretical base for you and then developing your own lesson plans.

1. Developing a Conceptual Frame Work

The first principle of lesson planning is to make a conceptual frame work based upon three mainstays; what, who, how. It is usually of great importance to know in advance what we are going to teach in the class, which age group our students belong to and what our approach would be for the transfer of knowledge. Defining the topic help you to fix the range of your lesson and allowing you to include all the required and related information in the lesson which could turn the lesson into a self-sufficient unit. The information about the students' age, mental capabilities and their existing level of understanding about the topic enable the teachers to design effective learning activities and follow suitable strategy for the transfer of knowledge.

2. Setting Objectives

The next step is to write down lesson objectives clearly showing the terminal behavior of students. The lesson objectives should be written using specific action words like, define, draw, explain or compare etc. this enable you to measure the level of achievement of students. More position to decide clearly, whether or not the objectives were achieved. It should also be remembered that the objectives must be the learning out comes of the tasks performed during the lesson and not the tasks themselves. Another important factor which must be considered while writing lesson objectives is their association with the different levels of cognition i-e sharing mere factual knowledge, development of comprehension, ability to apply knowledge practically or the development of analytical and synthetic abilities of the students, better objectives are usually linked with higher levels of cognition instead of just imparting the factual information.

3. Alignment of Lesson Objectives with the Educational Standards

The lesson objectives should be aligned with the educational standards mentioned in the curriculum. It is a good a practice to mention in written the level of association of any lesson objective with a particular educational standard. A comprehensive document; "National Professional Standards for Teachers in Pakistan; Policy and

Planning Wing MoE Government of Pakistan Islamabad February 2009" could be studied and used for the alignment of lesson objectives with these standards.

4. Lesson Starter Activity

A relevant, short, purposeful and motivating activity in which all students can participate and enjoy could be used as "Lesson Starter". Special attention should be given to the lesson starter activities because these serve as trend setter for the whole lesson an enjoyable motivating lesson starter would certainly reduce your labor and save a lot of energy that you would use to drag the students to keep up with you during the lesson, otherwise. Use of such lesson starters will make you a popular and endearing teacher and you will easily handle even some boring topics of course contents.

5. Learning Activities and Sequential Instructions

The lesson starter should immediately be followed by the main learning activities. The learning activities may vary in number depending upon the scope and complexity of the topic. The age of students and class preparedness also determine the number of learning activities. However a normal period of 40 min. may accommodate 2 to 3 learning activities easily. For younger children it's more fruitful to arrange more activities of shorter duration. Splitting the topic into two or three sub topics and designing activities for them help students to work out independently and make small achievements reinforcing their attempts positively, to develop understanding of the concepts or mastering some skill. In this way students gradually become self-reliant and confident learners instead of depending upon teachers for their learning. Furthermore the classroom activities changes into a continuous spiral of exploration and learning. The learning activities should have the following characteristics;

- Purposeful
- Linear
- Simple
- Enjoyable

All the activities performed during the class should have some learning objective and serve some purpose carrying out activities just for fun are not commendable. Secondly all the activities should be interlinked. Success in one should serve a base for the next activity and so on. The activities should be simple to design for the teachers and simple to perform for the students and above all these should be interesting, encouraging and enjoyable.

6. Arranging the teaching material

Now you would better list all the relevant material that is required to carry out the learning activities you have designed. Listing of teaching material would help you to prearrange the material according to the number of students in the class; it would also indicate whether or not the required material is low cost-no cost. The teaching material should be simple and easy to handle. The purpose of using teaching learning material is to fill the gaps which may creep in while performing activities or when

you are trying to elicit something instead of telling. Proper use of teaching learning material not only makes the teacher's task easy but is also helpful for permanence of learning.

7. Time Division

Proper allocation of time for different activities of the lesson and its observance make the lesson an effective one. Efficient distribution of time empowers the teachers to control the teaching-learning process and achieve lesson objective with in the time limits. Time management is important in the sense that it saves time which is usually wasted in repetition of instruction or consumption of time in unnecessary explanations. Time management also bound students to become organized and complete their assigned task with in the given time limits. Managing time provides a balance between following procedures and independent practice.

8. Closure Activity

Similar to lesson starters all well planned lessons include closure activities in one form or the other. The purpose of lesson closure activities is to draw attention of class to decide whether they were able to achieve their objectives or they still need some additional input or independent practice. Closure activities tell apart the fast average and slow learners for further planning on individualized bases. However the ending activities may also be encouraging and finish up in a win-win situation for all the students showing their level of achievement compared with their own performance instead of comparing their achievements with each other.

9. Adaptation and Flexibility

Adaptation and flexibility is a unique characteristic of a well-planned lesson. Human beings are not like laboratory instruments or chemical reactants whose behavior could be predicted completely. Students have likes and dislikes; they respond differently in different situations and have different sophistic thrush hold levels, therefore a good lesson plan is flexible enough to accommodate un-foreseen responses and quires of students. Flexibility creates room for individual differences and all the three types of students' i-e fast, average and slow learners find the lesson interesting and challenging according to their own level of competency. A rigid lesson plan with no flexibility results in pleasant ending for few students while rest of the students are negatively reinforced through being labeled as non-accomplishers, eventually losing interest in the subject and developing dislike for the teacher also.

10. Creating Linkages

It is always appreciated that a lesson plan may take account of integration of the current topic with other subjects also. Establishing linkages among different subjects would present the concept in a broader perspective which could be understood and retained easily. Integration of subjects through worked out and deliberate efforts make isolated concepts meaningful related to daily life. Different concepts taught as isolated

fact bear little meanings and are presented in more theoretical form which has little connection with the students' life and their present needs. Any concept related to the daily life of students is easy to teach and understand. Association and integration of ideas with in the same subject and between different subjects changes a lesson into complete unit.

11. Evaluation

Taking notes during the lesson regarding it implementation and students' responses facilitate the teacher to make realistic evaluation for improvement and development of planning skills. A well planned lesson includes evaluation of students learning and evaluation of the teaching strategy adapted during the lesson. Teachers must be critical to reflect upon their teaching methodology and should point out the strengths as well as its weaknesses. Further they should make efforts to overcome their weaknesses and try to further polish the effective strategies.

Following these instructions you may improve your lessoning planning skills and be able to write good lesson plans. It is better to have a poor lesson plan and gradually improve it rather than having none.

Hand out 2

Reflective Writing and Keeping Reflective Journal

Introducing Reflection

A simple definition of reflection is;

> '…it is a form of mental processing with a purpose and/or anticipated outcome that is applied to relatively complex or unstructured ideas for which there is not an obvious solution'. (Moon 1999)

We reflect in order to:

1. Consider the process of our own learning – a process of metacognition
2. Critically review something - our own behavior, that of others or the product of behavior (e.g. an essay, book, painting etc.)
3. Build theory from observations: we draw theory from generalizations - sometimes in practical situations, sometimes in thoughts or a mixture of the two
4. Engage in personal or self-development
5. Make decisions or resolve uncertainty
   …
6. Empower or emancipate ourselves as individuals (and then it is close to self-development) or to empower/emancipate ourselves within the context of our social groups.'

It is not sufficient simply to have an experience in order to learn. Without reflecting upon this experience it may quickly be forgotten, or its learning potential lost. It is from the feelings and thoughts emerging from this reflection that generalizations or concepts can be generated. And it is generalizations that allow new situations to be tackled effectively.' (Gibbs 1988)

Reflective writing provides an opportunity for you to gain further insights from your work through deeper reflection on your experiences, and through further consideration of other perspectives from people and theory. Through reflection we can we can deepen the learning from work.

Deepening Reflection – Three Models of reflection

When assessing your reflective writing your tutor will be expecting more than a superficial review of your experience, they will be seeking evidence of deeper reflection. This means moving beyond the descriptive, and subjecting your experience

to greater scrutiny.

In Learning by Doing, Gibbs (1988) outlines the stages for a 'Structured Debriefing', which are based on Kolb's (1984) Experiential Learning Cycle and which encourage deeper reflection:

Description:	What is the stimulant for reflection? (incident, event, theoretical idea) What are you going to reflect on?
Feelings:	What were your reactions and feelings?
Evaluation:	What was good and bad about the experience? Make value judgements.
Analysis:	What sense can you make of the situation? Bring in ideas from outside the experience to help you. What was really going on?
Conclusions (general):	What can be concluded, in a general sense, from these experiences and the analyses you have undertaken?
Conclusions (specific):	What can be concluded about your own specific, unique, personal situation or ways of working?
Personal Action plans:	What are you going to do differently in this type of situation next time? What steps are you going to take on the basis of what you have learnt?

Hatton and Smith (1995) identified four levels in the development of teacher reflection from teaching practice. In your reflective writing your tutor will be looking for evidence of reflecting at the higher levels.

Descriptive writing: This is a description of events or literature reports. There is no discussion beyond description. The writing is considered not to show evidence of reflection

Descriptive reflective: There is basically description of events, but shows some evidence of deeper consideration in relatively descriptive language. There is no real evidence of the notion of alternative viewpoints in use.

Dialogic reflection: This writing suggests there is a 'stepping back' from the events and actions which leads to different level of discourse. There is a sense of 'mulling about', discourse with self and an exploration of the role of self in events and actions. There is consideration of the qualities of judgments and possible alternatives for explaining and hypothesizing. The reflection is analytical or integrative, linking factors and perspectives.

Critical reflection: This form of reflection, in addition, shows evidence that the learner is aware that actions and events may be 'located within and explicable by multiple perspectives, but are located in and influenced by multiple and socio– political contexts'

Bloom (1964) identified different levels of thinking processes, which he presented in a hierarchy (figure 1); these can also be used as a framework for more thorough reflection. They move from knowing, evidenced through recalling information, through to evaluating, evidenced through making systematic judgments of value. In writing reflections evidence of these higher level processes may also be provided.

There are other models that can help you to structure your reflective writing and which you may find more helpful. These can be accessed through library and web research. The search engine www.google.com is very useful.

Hand Out 3

The Concept of Action Research:

All though the discussion regarding the origin of AC is misty however around 1940 Kurt Lewin proposed action research theory. According to which action research is an inquiry or research in the context of focused efforts to improve the quality of an organization and its performance. It typically is designed and conducted by practitioners who analyze the data to improve their own practice (McNiff, 2010). Action research can be done by individuals or by teams of colleagues. The team approach is called collaborative inquiry (Kemmis and McTaggart, 2005). It gives teachers new opportunities to reflect on and assess their teaching; to explore and test new ideas, methods, and materials; to assess how effective the new approaches are; to share feedback with fellow team members; and to make decisions about which new approaches to include in the curriculum, instruction, and assessment plans. Teacher researchers may work alone or collaboratively with other teachers, students, or educational managers. McKay (1992) describes action research as a six-step cyclical process: (1) identifying an issue or problem to study; (2) gathering and reviewing related information; (3) developing a plan of action; (4) implementing the plan; (5) evaluating results; and (6) repeating the cycle with a revised problem or strategy derived from what was learned in the first cycle, until the question is answered.

Patterson and Shannon (1993) describe action research as "inquiry in which practicing teachers try to understand the particular individuals, actions, policies, and events that make up their work environment in order to make professional decisions" (p. 8). Garner (1996) defines action research more specifically as a systematic, reflective, collaborative process that examines a situation for the purpose of planning, implementing, and evaluating change.

Action research provides teachers with the opportunity to gain knowledge and skill in research methods and applications and to become more aware of the options and possibilities for change. Teachers participating in action research become more critical and reflective about their own practice (Oja & Pine, 1989; Street, 1986). “Action research" is a term used to describe professionals studying their own practice in order to improve it. Applied to teaching, it involves gathering and interpreting "data" to better understand an aspect of ones’ own teaching that interests or concerns that individual personally.

McCutcheon and Jung (1990) identify the core components of action research as systematic inquiry, reflexivity, and focus on the practical. It seeks to answer questions and solve problems that arise from the daily life of the classroom and to put findings into immediate practice (McKay, 1992; Twine & Martinek, 1992). Teacher researchers may work alone or collaboratively with other teachers, student teachers, or university researchers.

Action research is done by teachers who are encouraged and supported in the study of their own teaching. Miller and Pine (1990) suggest that when teachers become agents of inquiry, the locus of knowledge about teaching shifts from sources external to the classroom (e.g., researchers, textbook publishers, administrators) to sources of practical classroom experience (i.e., teachers). This shift enhances the

professional status of teaching because teachers, through this knowledge-construction, actively help to shape the knowledge base of their own profession (Johnson, 1993). Generally, teacher research is driven by the practitioner's desire to improve his or her own practice with respect to a specific problem and a specific set of students. Thus, students reap immediate benefits from the teacher's learning (Shalaway, 1990; Williamson, 1992).

Historical Background: There is no clear evidence regarding the start of action research. We have a blurred picture about the beginning of action research. By its mechanism action research is nothing but "Learning by Doing". This concept is advocated by John Dewey in early twentieth century. However, according to, many writers such as; Schwartz-Barcott (1993), Zuber-Skerrit (1992) and Kemmis & McTaggert (1990)) credit goes to Kurt Lewin, an expert of social psychology, for introducing this expression in one of his papers in 1946. Initially this technique of action research was implemented in social context. But according to McKernan (1991) its application in the field of education started in late nineteenth century, with the emerging concept of research based teaching and the idea of connecting action and understanding was acknowledged by Stephen Corey (1949 and 1953) and successfully used this method of research in many research studies involving teachers as researchers at teachers College, University of Columbia. This started the use of action research in the field of education. Its implementation was further supported by Teacher Research Movement UK where John Elliott and Clem Adelman employed this technique as a foundation to support school teachers to promote inquiry learning in classrooms (Elliot and Adelman, 1973, Elliot, 1978). The extensive application of action research in the context of school based curriculum development and teachers' professional development is common in Australia, where action research is used to help school teachers find new methods of teaching, evaluating their practices and remodeling them (Kemmis and McTaggart, 1988). Near the end of twentieth century in 1993 with the establishment of Aga Khan University Institute for Educational Development (AKU-IED) in Karachi Action Research methodology was introduced in Pakistan. The role of AKU-IED in promoting action research culture in Pakistan is quite obvious.

In start action research was restricted to schools only and teachers used it to study the outcomes of certain teaching tactics or some amendments made to their current classroom practices. But gradually action research was extended to and implemented at all stages of professional development programs, with an expended scope making it a wide-reaching movement. Regarding function of action research, it concurrently serves professionals to find suitable solutions to urgent tricky conditions in the short run and to the objectives of social science in the long run. Currently action research is used in-particular, for school development program, teachers' professional development, investigating new teaching learning approaches and curriculum improvement (Kemmis & McTaggart. 2004).

Action research: Its beginning and growth.

The existing action research process is carved out through series of developmental stages grounded in its origin and built on logical frame work of evolution. For our conceptual understanding a detailed account of the work produced by some of the key

figures in the growth of action research for the last few decades is given, which will help us to draw our frame work of this study.

As mentioned earlier Kurt Lewin, the founder of the new form of research methodology (action research), was a social psychologist who was concerned to improve the public association of clusters and groups of people (Lewin, 1946). He perceived action research as an alternative to the traditional research methodologies. As an alternative to the formal research techniques like surveys and statistically analyzing quantitative data, action research was applied to improve communal configurations by engaging partakers in a repeated procedure of, searching realities, probing accomplishments and evaluation (Lewin, 1948, 202–6). As time passed the basic character of Lewin's work was over and done. However the main purpose of Lewin was to improve the lives of ordinary people assuming that human beings have the capability of supporting one another in the learning process (Stetsenko, 2008). Following the basic assumptions that man has the ability to shape their own learning from their experiences Stephen Corey, (1953) along with his associates promoted action research in the field of education in United States. They carried out many studies to investigate different problems related to schools and classroom teaching. Corey elaborated in his book "Action research and improved school practices" and discussed what cooperative action research is, teachers working together in teams and conducting research on common problems to find solutions in their specific context (Corey 1953).

In late 80s Stephen Kemmis and Wilf Carr developed the theoretical aspect of action research and shaped its methodology by linking action research with the Habermasian school of thought of egalitarianism regarding power disparity in community groups and organizations (Carr and Kemmis 1986).

John Elliott, while investigating the Ford Teaching Project and Teacher–Pupil Interaction and the Quality of Learning developed the idea of multi-stage action research (Elliott 1991) thus expanding and changing the concept of teacher-researcher. Over a period of thirty years Elliott developed a complete assumption of teacher specialized awareness and teacher skill improvement with the help of action research (Elliott 2007). Elliott's speculation of teaching as an experimental science is based upon the Aristotle custom of experimental philosophy (Elliot, 2007). Elliott stressed two main aspects of teachers professional development, first the ability to understand the prevailing situation and analyze it, secondly the development of ethical outfit of teachers. To meet these ends improvement of education is obligatory and improvement of education is possible through action research. He believed that the first part of this developmental process could be achieved by putting our own practices to serious experimentation and critical analyses. The second half of teachers' professional development focuses the ethical aspect which could be internally comprehended rather than as the result of some ethical belief that we hold (Elliot, 2007).

Action research: Its definitions and meanings.

To understand the meanings of action research a few definitions of different writers are given so that in the light of these definitions we could build our own working definition of action research.

Stringer (2007) defines action research as, “a systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives.” This definition shows that action research is an orderly process of inquiring various issues which are related to our daily life situation. The purpose of this inquiry is to improve the current situation and to have better control over the conditions under which people work and live.

According to Mills (2003), "Action research is any systematic inquiry conducted by teachers to gather information about the ways that their particular school operates, how they teach, and how well their students learn," this definition is more focused on school teachers and highlights their role as researchers. Teachers are not seen as the implementers only but they are considered as the evaluators of their own work thus giving them more power and authority.

Frost (2002) define action research as, “ a process of systematic reflection, enquiry and action carried out by individuals about their own professional practice” (p. 25).

Hopkins (2002) says that action research is, “action disciplined by enquiry and a personal attempt at understanding while engaged in a process of improvement and reform.”(p. 42)

Still another definition of action research says, “action research is a flexible spiral process which allows action (change, improvement) and research(understanding, knowledge) to be achieved at the same time”(Dick, 2002).

In the view of Bogdan &Biklen (1992) action research is a,” systematic collection of information that is designed to bring about social change.” This definition is closer to the view point of Kurt Lewin (1946), who believed that action research could be used to improve the lives of ordinary people assuming that human beings have the capability of supporting one another in the learning process

Action research is also defined as,” the systematic process of studying real school or classroom situations for the purposes of improving the qualities of services and pedagogy (Dinkelman, 1997; McTaggart, 1997; Stringer, 1996). Here too action research is perceived as means to improve the school system and the existing teaching practices.

Calhoun (1994) considered action research somewhat stress free mechanism of brining improvements to present conditions. This definition clearly show that action research not meant for fault finding. It is rather concerned with improvements we all know that there is always room for improvements.

It is clear that action research throughout the world varies, in shape, its use and application, technique of implementation, and its outcomes. (Hollingsworth, 1997)

However these definitions do share some components which are similar:

Action research is deliberate attempt teachers to develop their professional knowledge and teaching practice. The procedure of action research is cyclic in nature, usually comprising four levels of plan, act, observe and reflect (Kemmis, 2005). In this process attempts are made to collect data concerning the practice under study and teachers make attempt to observe the consequences of the designed modification in their routine work. The whole procedure is carried out in a very orderly manner.

Action research: Its nature and purpose.

Regarding the nature of action research, it is versatile and may be hypothetical and applied in a number of ways (McNiff 2002; Tilloston 2000). In an effort to know the numerous perceptions of action research, a three dimensional structure was developed by Rearick and Feldman (1999). These three dimensions are; the hypothetical point of reference, the rationale of action research, and the types of evidence at hand. In terms of the first aspect they explain three hypothetical points of references: technological, empirical, and emancipator. The technological orientation is tilted towards power. The outsider investigators or persons with unique know-how resolve the research query; the focal point is result oriented and on shaping effectual performance. The empirical point of reference to action research concentrates on comprehending meticulously the background, such as school environment and classroom proceedings, from observation and feedback and translating them into meaningful ideas.

Emancipator point of reference to action research is apprehensive to set free the individuals from the restrictions faced by them either socially, professionally or politically. The same is fretful with problems of authority and discovering the solutions through investigations to authorize persons and organizations to achieve social revolution.

Action research serves three purposes, first personal growth, second professional knowledge and third political empowerment (Rearick and Feldman.1999). The purpose of personal growth is of individual nature where a person makes efforts to develop better understanding of his or her personal professional awareness and how this professional awareness is applied in the actual situation. The second part of professional development is somewhat general in which instead of individual development stress is on general teachers' development and creation of fresh and up to the minute knowledge in the field education and wisdom. Political empowerment as a purpose of action research enables individuals and organizations to become conscious of financial, social and cultural discriminations and inequalities. It also intends that individuals and organizations after developing awareness guide societal efforts to trounce social evils and injustice (Noffke, 1997). In addition, action research possibly would hold diverse type of reflections. Autographical reflections make investigator the subject of the investigation. And encourage introspection regarding convictions, actions and viewpoints.

Shared reflections guide to realize the work of other individuals of organization and their mutual relationship this realization lead towards professional growth and development. Shared reflection subsequently places the person in relation to the larger society and social subject like social justice. Although, the different aspects of action research, mentioned earlier seem distinct. In fact they are not actually are linked and fused together (Karen Goodnough, 2011). According to Kemmis and McTaggart (2005) action research frequently entails practitioners in self-sufficient phases that include planning, implementation, observation, and reflection on the results of intervention. To expose some new facts this cycle possibly would be replicated a number of times.

Action research: Its types and applications.

Action research by its nature is a kind of investigation which involves systematic critical reflection upon the action taken for the purpose of improvement. However the

study of literature shows diverse kinds of action research, different scholars classified action research with somewhat different viewpoint. No matter action research might be labeled differently on account of its utility and the situation in which a particular kind of action research is undertaken, its nature remains the same (Blaxter, 1996). Some commonly applied types of action research with the reference of their supporters are listed below:

- Kemmis & McTaggert (1988)
  - Technical action research
  - Practical (participatory) action research
  - Emancipatory(critical) action research
- McKernan (1991)
  - Scientific - technical
  - Practical – deliberative
  - Critical – Emancipatory
- Holter & Schwartz-Barcott (1993)
  - Technical collaborative
  - Mutual collaborative
  - Enhancement approach
- Emily (1993)
  - Individual teacher research
  - Collaborative action research
  - School-wide action research
  - District-wide action research

Comparing these types of action research we come up with five basic types- technical, practical (participatory), emancipatory, collaborative, and individual teacher research. A detailed study of these kinds of action research show great similarities and almost all forms of action research are transposable with relatively akin central intention of action research. However these forms of action research vary in the nature of problems and questions they normally deal with, the type of situation wherein they happen, and the sort of community concerned (Kemmis, 2009). We can further sub divide the above five kinds of action research into two groups;

3. Functional group
4. Organizational or Structural group

Functional group includes technical, practical (participatory), and emancipatory type of action research this sub division is based on the theory concerning Knowledge & Human Interest (Habermas, 1972).

Technical action research: it is directed by the importance of gaining better hold upon the results and consequences of the current practices. In this form of action research, the investigator intends to develop the product of his or her current performance. All our efforts are not ends in themselves but we make efforts to achieve some purpose which is the ultimate objective of our efforts. These efforts could be modified and refined for attaining the expected outcome in more proficient manner. Technical action research the investigator is supposed to improve his or her own performance so that he or she could achieve those intended outcomes which were pre-planned (Kemmis, 2009).

Practical action research: it is directed by the importance of refining or helping practitioners, following the common cyclic process of action research (Mash & Meulenberg-Buskens, 2001) so they can take action more sensibly and carefully. It attempt to improve learning through self-reflection, exploring the current situation and problem solving techniques (McNiff, 1988).The researcher intends to proceed more intelligently and cautiously, so the results and enduring effects of the efforts made will be for the greatest. Such a standpoint call for taking care of the others who are involved in research study as subject, who are competent of dialogue and accomplishment, and as individuals who will experience the effects of what had happened. In practical action research, not only the ways how efforts are made, serve as objects of alteration and development but the outcomes are also studied the researcher investigates the outcomes and enduring effects of the planed efforts to find out the kinds of norm by which the planed efforts ought to be assessed. In practical action research researcher is ready and willing to consider the observation and reaction of others, and the effects that other people feel as an outcome of the action taken. The investigator plays the role of launch pad and research participants or any other people involved turn into learning partners of the investigation; no one is treated as the authority (Walker, 1993). Hence in Practical action research the researcher establishes a dual, joint association with the others caught up in and affected by the planed efforts.

Critical action research: it is directed by the desire to emancipate people as individuals and social groups from absurdity, inequality, impairment and distress. Critical action research is carried out by people working together in a group. It is jointly decided with mutual agreement about what to be investigated and what to be modified. The emancipatory aspect of critical action research focus on freeing self and society from all sorts of dependencies. Hegel (1900) stated that independence is the primary requirement. He says, "*...for if I am dependent my being is referred to something else which I am not...*". If we depend on elements external to self, it makes us depended which in turn limits our freedom. But to be free our being should depend upon our self. Hegel further says, "*…I am free, on the contrary, when my existence depends upon myself..."*the emancipatory aspect of critical action research help us out to become free. Critical action research provide the opportunity to become self-reliable and become free.(Hegel, 1900).

The other group (Organizational) includes collaborative and individual teacher research. These two types are separated from the rest for their collective or individual nature.

Individual teacher research: In this type of action research an attempt is made to make modifications only in one classroom. Central to individual teacher research is the idea of modifying the teaching learning situation in a particular classroom to help the class participants to develop their practices. Results or the findings of such study are significant for the researcher only. The scope of these findings is very limited usually the findings are valid for that particular class.

Action Research: Cycle and its models.

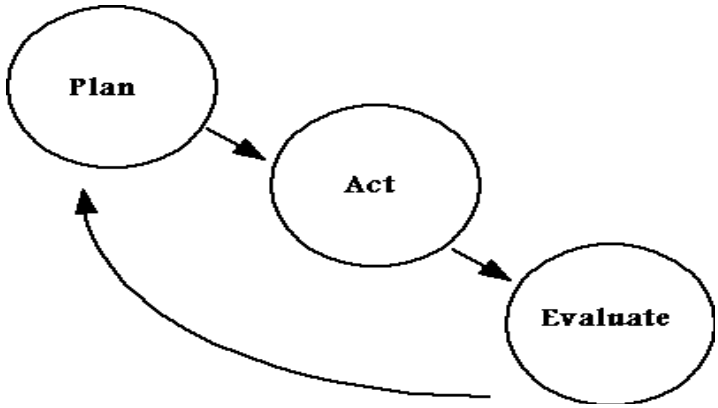
The ample analysis of written text regarding major characteristics and methods of action research show that Action research is a recurring procedure of studying social incidents for amendment (Glanz, 2003). This procedure of amendment; generally

agreed upon, consists of three phases including, problem knowledge, mediation, and output. Glanz,(2003) suggested that the phases might be, recognition of a problem, planned response, execution response, data collection and analysis, repetition of the cycle with fresh adjustments. Action research pursues a several-step recurring process which involves planning, taking action, monitoring and reflection as major steps. This chain of steps supports the systematic proceeding of the investigation. This fundamental arrangement has been explained in many ways (Kemmis and McTaggart, 2004., McKernan, 1988). Other authors also endorse more or less the same Act-Reflect model. Theoretically all action research designs are simple and crude but in actuality life is not simple it is rather intricate and things hardly ever go according to plan. Without a doubt, action research may possibly begin with a vigilantly designed act but the temperament of the procedure makes the ending vague. While proceeding with action research cycle secondary off shoots related to the issue under consideration may appear that were not expected. This may lead investigation to move away from its novel course as these off shoots are discovered McNiff (1988, p 45). This adds to the intricacy of action research and makes it messy (Cook, T. 2009).

In order to understand the functioning of action research we will consider some action research models in common practice.

2. Kurt Lewin's Action research model: Lewin's model can be represented as;

Plan → Act → Evaluate

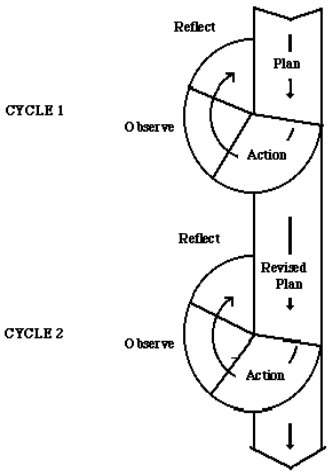


Kurt Lewin's Action research model

Lewin explain action research as arranged in a stepwise cyclic manner, each cycle is made up of three steps, starting with planning followed by implementation of planning or action taken and then evaluating the results of the action taken. However the very nature of this model demand some flexibility as social context are always intricate therefore making it very difficult to foresee the whole lot of events in advance. Hence we can see a purposeful overlaying to permit alterations in the proposed plan (Kemmis, 2004).

3. Kemmis' action research model: Kemmis' model can be represented as;

Plan → Act → Observe → Reflect



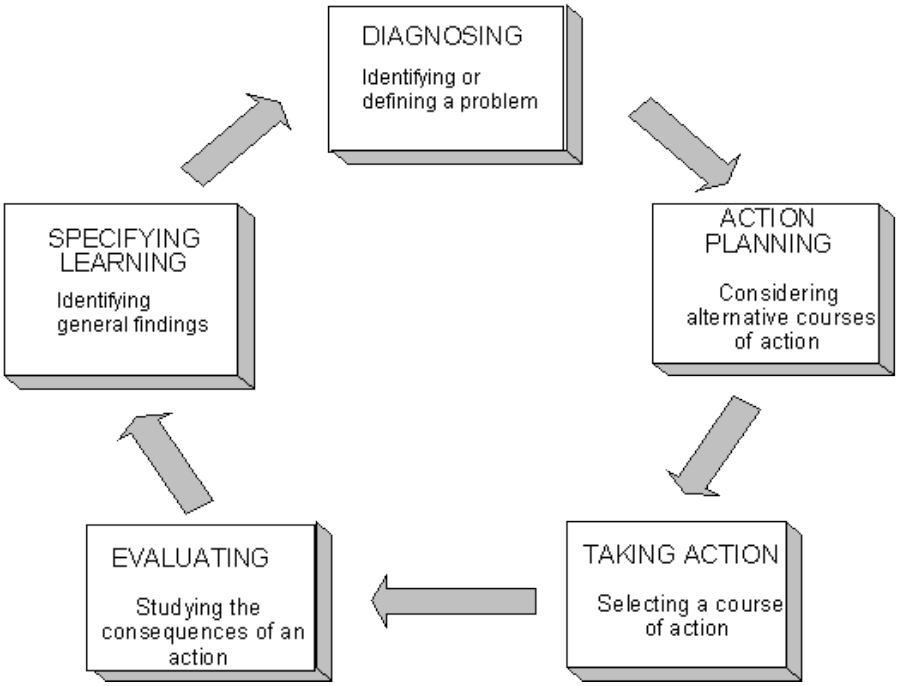
Kemmis Action Research model (cited in Hopkins, 1985)

This is quite similar to the Lewin's model with addition of one step of observation. Kemmis model is applied in educational setting. Although the cycle starts with the planning step but actually a problem is identified first than comes the planning to overcome the problem. To find a solution the best alternative available is tried out and the changes are observed. Critically analyzing and reflecting upon observations the researcher moves on to the next cycle which is also composed of the same four steps. Completing cycle after cycle until the problem is set on.

4. Gerald Susman action research model: Gerald Susman model can be represented as;

Action → Taking → Evaluating → Specifying → Diagnosing

planning action learning



Gerald Susman action research model

Gerald's model provides rather more detailed steps. He differentiates five stages to be carried out inside every phase. To begin with, an issue is selected. Than a number of alternatives are selected and hypothesis is formulated, out of these alternatives a particular alternative is chosen and plan is made to implement that particular alternative. Data is than collected during the experiment. The data so obtained is analyzed and the results are understood in view of how fruitful the intervention has been. At this time, the problem is revisited and a new phase starts, the process begins another cycle. This process goes on s until a suitable solution is not reached (Gerald, 1983& McKay, 1992).

Action Research: Its principles and standards.

To support the frame work of the current study, that is to investigate how action research could be used as a tool for the professional development of school teachers in Pakistan, we shell examine the principles that governs any action research. Bargal (2006) mentioned eight fundamental and basic principles of conducting action research. These basic principles are labeled with some suitable title for the purpose of clarity:

> First principle: *studying and solving*: Action research tries to unite a logical study of certain social issue which is investigational in nature, with the attempts to resolve the issue.

The principle of *studying and solving* deals with the mutual reliance of methodical inquiry of a social crisis and the attempts next to its way out. It links the questions, what we want to find? With the question, what would be the possible answer to the investigated problem? This means that studying any problem and finding its solution take place in one set of time and place perimeters.

> Second principle: *spiral approach*: Action research incorporates a spiral procedure regarding different steps such as, data collection, setting goals; trying out plan, and appraisal of the findings of the input.

The principle of *spiral approach* guides us to understand the continuous nature of action research where all the different steps are followed systematically. It can be identified easily that this principle holds a meta-theoretical belief of field theory (Lewin, 1942/1951). The 'constructive in opposition to the classificatory approach' advocates the construction of the situation instead of depending up on an automatically categorizing the state as a category of conducts which is not supported by valid information. Although in other traditional types of researches many like steps are followed but the difference is that in other setting the spiral nature is not very dominant.

> Third principle: *feedback mechanism*: Action research requires opinion and views everyone who is concerned in the study about the outcome of the input.

The principle of feedback mechanism leaves no event and no individual who is connected with the research study unnoticed. It is ensured that people reflect and share very minute details which might have some effect upon the study or its results. This principle stresses equality of the research procedure, and ensure that every individual engaged in research contribute to bring in facts.

Fourth principle: *cooperation and teamwork*: Action research demands constant collaboration among investigators and research participants.

Action research is based upon cooperation and teamwork as almost all the action research studies are carried out under some dominating social context therefore cooperation and working together to reach a common destination is the fundamental requirement. This principle demands cooperation between canvassers and people involved in the study. It demand cooperation and comments from people as individuals or in groups and demand mutual regard and egalitarianism. This approach prevails amongst person in charges and the team members in a free society. This attitude promotes autonomy of communication and room to act freely.

Fifth principle: *group dynamics*: Action research depends on the theories of vibrant group activities and has its roots in the assumption of their modification.

This principle necessitates the creation of pleasant relationship among the members of the diverse, free society. What we understand of the principle of *group dynamics* is that all human beings are capable of improving because it is embedded in their very nature. However individuals and groups pass through three major phases of change. These are thawing, activating, and molding. In the first phase people need to be relieved off their inertia then they become active and ready to take action. Once people are ready for change than they may be smoothly filled in to the desired mold (Lewin, K.1947/1951 p 229).

Sixth Principle: *emancipation*: Action research addresses the power related problems, ethical concerns, control and empowerment needs of those who are the subject of the study.

The emancipatory aspect of action research holds the claim that people could be liberated from such conditions in which they feel powerless and handicapped to bring any change in their existing situation. Action research provides opportunities and enables people to exercise control over the conditions under which they work and practice. This principle demands balance and equality among all the partakers regarding their views, beliefs and authority. Practically speaking it means that all sort of decisions like, adaptation of methodology; type of interference and justification for interference and its realization are made in democratic manner.

Seventh principle: *creation of knowledge*: Action research helps to; generate new knowledge, devise codes of intrusion and develop tools for positive intrusion and appraisal.

As time passes two things definitely change one is the time and other is the norms and standards. For example once in the history someone spread his coat on a small pool of rain water for a lady to pass over, which was considered a good deed. It was right for those times. But the same would be considered foolish now a days. What makes the same action noble or foolish is the contextual perimeter. Same is the case with our practices as teachers. Any approach or way once effective may not be effective now. The seventh principle center on development, invention and codification of information, action research guides us to develop new strategies to be tested and practiced.

> Eighth Principle: *supporting the change agents*: Action research serves as a tool of growth, instruction, and scaffoldings for the teachers as change agents. (p. 383).

When we expect teacher to play the role of change agents and we expect them to change the society in a positive direction then they deserve to be equipped with some gadget to help the curve and shape the society in the desired form. Action research serves as that gadget. This principle deals with the process of choice, training, and helping teachers as change agents helping in the action research venture.

ANNEXURE 6

Extracts from teachers reflective journals

Following are some extracts from teachers reflective journals;

> *Reflection writing is confusing for me or it is difficult for me to express myself in writing however the option to write reflection in Urdu solved the problem to some extent. I think our colleague (F321) is much better and she can guide us to write reflection, I liked her reflection which she shared with us in the meeting. One thing is clear that my reflection writing skill is not satisfactory. (Teacher's Reflective Journal─ID.F312)*

This written account for sure tells us that the teacher realized one of her weakness and had a desire to improve it. She also had a rough plan how to improve and from whom she could get support. Her next reflection supported the above thinking as she wrote;

> *I realized that my writing skill was not good so I started discussing about research with my group-mate especially after the class and noted important points. But soon I felt that those were her points which did not reflect my thinking. But I liked her advice to organize my reflection around the following questions these were;*
>
> *What I wanted from my students to do?*
> *Did they get what I planned?*
> *What else I could do to improve my teaching*
>
> *Apart from these questions I tried to write a page or two to improve my writing skills. This practice improved my ability to express myself in writing. As a result my reflective journal now presents a better picture of my teaching.*

This account tells us how teacher planned to improve her writing abilities and could reflect in a better way. Here is another portion from her reflective journal which provides evidence of her progress and improved writing skills;

> *"…use of maps and paper boats for teaching Urdu lesson "* تۂ آب غازی *" was very good, lesson became lively and girls took interest they moved paper boats like real ones and considered themselves the commanders of those boats and imagined destroying enemy base. The words became meaningful for them. They learned difficult words more easily and more girls took turn to read the lesson. I noticed that the lesson was read out by eight girls whereas usually three or four girls repeated the lesson. I think I was successful in creating interest and developing reading skills of students. (F312)*

The teacher seemed optimistic but her reflective narration had improved and she had tried to grab the essence of writing reflection

"Today when I entered sixth grade with my plan and activities and saw them making noise and moving all around as usual, I thought they will never pay attention and behave so that I could follow my plan. I asked them to sit down as I have something interesting for them, gradually they settled down and I started my introductory activity as planned. It was a simple addition activity in which the students responded in two different ways, verbally and symbolically. In case of incorrect answer the students was considered out and the new child joined in. They enjoyed it very much and seemed active and ready for the new task this time I distributed sets of cards (self-prepared) carrying a mathematical questions and instructions. Students were required to pic one card and answer it without using pen and paper, in case of correct answer 5 points were credited to the students' score, otherwise no credit was given. This was done in groups of 8 to 10 students and score of each student was recorded. On completion of round the sets of cards were exchanged among the groups. Sooner the students were working smoothly occasionally they required my help as a judge to decide whether the answer was correct or incorrect. I was really surprised to see them working nicely and independently. I asked my self is it the same class? Which is known to be the noisiest? and ill disciplined. It was indeed the same class but they were behaving differently. Their changed behavior lighted up my mind that they behave in the same way as we the teachers behave with them. They were showing interest and taking responsibility because I took interest and responsibility in my work." (F412)

"Before this, I had no experience about doing research and teaching in class in this way was a totally new experience for me. I did not remember any of my own teachers who had helped us learn this way. Nor I have any previous knowledge about activity designing or the researcher gave us any readymade stuff to implement but he helped us to realize that it was our duty as professional teachers to have some solution for students' problems and think something to offer to the students to follow it and overcome their difficulties. It was quiet difficult when I had to work out for myself how to design and implement an activity which could serve the purpose. Many times I wished to get some prepared activity or the researcher may tell me what to do, but he didn't. Now when I recollect the whole process, I can sense the joy and pride to think that I did something valuable by myself which was successful and liked by my students".(F511)

"I found that for majority of the students replacement of targeted words by synonyms was quite difficult because most of the times there is a slight difference among the meanings of words and students did not made the correct replacement. Therefore the students needed my (teacher's) help to make a correct replacement. They depended on me to first, tell apart those words and illustrate, only then they could use the words correctly. But my plan was that they will work independently and search their meanings and decide themselves which word to be selected for replacement. However only 8 students could do the task properly and rest of the students totally depended on my help. This situation turned this exercise into a "cut paste" exercise. In the end I praised those students who used correct words and encouraged the others that they could also do the same if they concentrate and make careful selection". (M211)

"…before this when I used to explain different scientific concepts to the class from text book I felt a gap in students learning, there was something missing. Students seemed to be confused about many points. But our new strategy "experiment first" automatically solved many problems and filled that gap which existed in the absence of experiment. In this way students develop conceptual clarification and instead of depending upon rote memorization they comprehend the content". (M232)

ANNEXURE 7

Assessment Tool (test for students)

Q1. Mark True or False by putting (√) for each statement

i) The largest province of Pakistan by area is Sindh.
True/False

ii) The opposite of "Evil" is "Good".
True/False

iii) The Prophet Muhammad (SAWS) migrated from Madina to Makkah.
True/False

iv) In Pakistan Monsoon Season starts in the month of July.
True/False

v) Mirza Ghalib is famous for his poetry.
True/False

Q2. Select the correct answer from the given choices.

i) The product of three positive consecutive numbers is "zero" the largest among these numbers is;
a) 1.
b) 2.
c) 3.
d) 4.

ii) The teacher was so _____ that the students became _____
a) Friendly…… nervous
b) Inspiring….. enthusiastic
c) Strict….. relaxed
d) Stirring……lazy

iii) Which is the smallest particle in size among the following;
a) Atom
b) Electron
c) Nucleus
d) Proton

iv) Read the following passage and answer the questions given at the end.

"Once there was a boy named Jan who lived nearby woodland. He used to stop while going to school with his friends to watch birds and other small animals like squirrels with great interest. Sometimes even they could have a glimpse of a monkey too. Jan usually thought about

these birds and animals and tried to learn more about them, especially to peep inside their nests".

a) What is the meaning of woodland?
b) What kind of boy Jan was?
c) What did he try to do to learn about birds?
d) Do you think the area was safe or dangerous for the children?

Q3. 2/3 of a plot of land is cultivated half of which is covered with sweet peas. What fraction of plot is covered with sweet peas?

a) 1/3
b) 1/6
c) 1/12

Q4. Recall the story "A lion and the mouse" and compare it with real life what could not happen in real life situation?

_____
_____
_____
_____
_____

Q5. Propose how the story "A lion and the mouse" would be different if it was "A cat and the mouse"

_____
_____
_____
_____
_____
_____

Q6. How would you explain why the lion let little mouse go free?

_____
_____
_____
_____
_____
_____
_____
_____

ANNEXURE 8

Test for Teachers to find out their understanding regarding "Assessment"

Give brief answer of the following questions. You can use extra sheet if required

Q1. Define assessment?

Q2. Name different types of assessment used by teachers?

Q3. What are different models of assessment used by teachers in schools?

Q4. Discuss different assessment methods used by school teachers?

ANNEXURE 9

Agenda for workshop

Day	Session One		Session Two
One	Concept of Action Research and Professional Development	Break	Formulating Instructional Objectives and Lesson Planning Skills
Two	Teachers as Reflective Practitioners	Break	Assessment and Learning

S. No.	Agenda Item.
1.	Recitation of Holy Quran.
2.	Introduction and Purpose of the study.
3.	Participants' Role in Research study.
4.	The Concept of TPD.
5.	What is Action Research? Understanding Kemmis' Action Research Model.
6.	Action research as a Tool for TPD.
7.	Teachers as Reflective Practitioners.
8.	Reflective Writing and keeping Reflective Journal.
9.	Setting Instructional Objectives and Effective Lesson Planning.
10.	What is Assessment? Role of Self-Assessment and TPD.
11.	Assessment as an integrated component of learning.
12.	Formative Assessment and students' academic growth.

(The above items were covered in the orientation workshops as per convenience of the participating teachers in two or three days.)

ANNEXURE 10

Model lesson observation check list

Model Lesson # _____ Date of Observation_____

1. **Lesson Plan Development(LPD):**

Is lesson plan available and followed during classroom teaching?

Not Available ☐

Available but not Followed ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Are lesson objectives clearly stated?

No Written Objectives ☐

Ambiguous ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Are learning activities effective?

No Activities ☐

Ineffective ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Any other comments_____
_____
_____
_____
_____

2. **Selection and use of Teaching Learning Materials (TLM):**

Is the teaching learning material effective and purposeful?

Not Available ☐

Ineffective ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Is the required teaching learning material in sufficient and appropriate?

Insufficient ☐

Sufficient but Inappropriate ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Is the learning material used by all the students?

Only by the Teacher ☐

Some of the Students ☐

Shared by the Students ☐

Used by all the Students individually ☐

Any other comments_____

_____

_____

_____

_____

3. Classroom and Learning Environment (CLE):

Is the CLE participative and friendly?

Non Participative ☐

Partially Participative ☐

Participative but Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Is communication a two way process?

Not Observed ☐

One man show ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher call students by their names?

Not Observed ☐

Only few ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher apply questioning techniques to make teaching-learning effective?

Not Observed ☐

Off and on ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher encourage students to raise questions?

Not Observed ☐

Off and on ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Dose the teacher have eye contact with students?

Not Observed ☐

Off and on ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Any other comments_____
_____
_____
_____
_____

4. Applied Instructional Methodology(AIM):

The dominating teaching methodology of the teacher is?

Lecture method ☐

Active learning ☐

Inquiry method ☐

Lecture Demonstration Method ☐

Grammar Translation Method ☐

Did the teacher try to gain attention of the class?

Did no*t Try* ☐

Tried but Failed ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher introduce topic, write lesson objectives, and make effective presentation?

Not Observed ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Were main points of the lesson emphasized?

Not Observed ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Was the lesson provocative and interesting?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

During the lesson teacher was engaged most of the time in;

Asking Questions. ☐

Directing ☐

Discussing. ☐

Dictating notes. ☐

Explaining. ☐

Giving Instructions. ☐

Reading. ☐

Replacing words. ☐

Speaking. ☐

Simplifying text. ☐

Solving exercises. ☐

Translating. ☐

Writing. ☐

Any other comments_____
_____
_____
_____
_____

5. Student's Participation and Learning Opportunities(SPLOs):

During the lesson students were engaged most of the time in;

Asking Questions. ☐

Copying. ☐

Comparing. ☐

Discussing. ☐

Experimenting. ☐

Explaining. ☐

Exploring. ☐

Investigating. ☐

Listening. ☐

Reading. ☐

Recording. ☐

Reproducing. ☐

Speaking. ☐

Summarizing ☐

Solving exercises. ☐

Writing. ☐

Any other comments_____
_____
_____
_____
_____

6. Responsiveness to Student Feedback(RSF):

Does the teacher responsive to students' tediousness and slipups?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher allow students to share learning problems in class?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher provide individual attention to students?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher do formative assessment of the students?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher relate concepts with real life situation?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher pay attention to students' needs (emotional, physical, and intellectual)?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher encourage students' to share their experience/ prior knowledge?

Discourage ☐

Does not Encourage ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Any other comments_____
_____
_____
_____
_____

7. Reflection On Teaching:

Does the teacher take end of class notes or reflect upon teaching?

Not at All ☐

To Some extent ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher discuss/ share classroom teaching with colleagues?

Not at All ☐

Lightly ☐

Slightly Seriously ☐

Seriously ☐

Exemplary ☐

Does the teacher maintain reflective journal?

Not at All ☐

In Raw Form ☐

Needs Improvement ☐

Acceptable ☐

Exemplary ☐

Does the teacher take responsibility for deficiencies in teaching?

Not at All ☐

Blames Other ☐

To Some Extent ☐

Acceptable ☐

Exemplary ☐

Does the teacher make efforts to improve teaching?

Not at All ☐

To Some extent ☐

Needs Guidance ☐

Acceptable ☐

Exemplary ☐

Any other comments_____
_____
_____
_____
_____

Observer Name and Signature

_____

ANNEXURE 11

Lesson Plan Evaluation Rubric

Area for evaluation	Exemplary	Proficient	Satisfactory	Partially satisfactory	Unsatisfactory	Missing
	50	38	16	11	9	0
Availability of QLP	SMART objectives in written form aligned with learning activities showing students terminal behavior. Simple innovative thought provoking and highly focused learning activities demanding higher order thinking according to Bloom's taxonomy were designed for each objective and efficiently executed. Student centered active learning approach was used giving opportunitie	Specific objectives using action verbs like "define, draw, explain" were written showing students terminal behavior. Non-conventional teaching learning activities using discussion and problem solving methods were designed. Majority of the students were involved in teaching learning process through activities and sharing responsibilities. Students were assigned active roles predication, explaining and experimentation. Students'	Lesson plan was written following conventional template showing learning objectives using terms like "know, understand" Conventional teaching learning activities showing some degree of students' cognitive development through questions asked by the teacher. Few students showed involvement in TLP Teacher summarized the lesson.	Lesson plan was written following conventional template showing three distinct parts, teaching objectives, learning activities and recapitulation. Objective did not match students' learning outcomes. Learning activities comprised the conventional book reading use of white board and copying of important points or solved questions. No ECV.	One page written account of different steps taken by the teacher during class showing what the teacher was supposed to do. Lesson plan did not have any break down in objectives, learning activities and recapitulation.	Lesson Plan not available in any form

	s to students for discussion, question answers, playing active and dominating role in TLP Students' assessment and learning were integrated together.	learning was assessed at the end of lesson.				
Command over Pedagogical and Content knowledge	Horizontal and vertical alignment of the learning objectives with the subject matter and its integration with other subjects indicated teachers' in depth understanding and command over the subject. Includes practical demonstration of examples from daily life. Students existing knowledge was linked with the new	Focused specified technical terms and selection of vocabulary with reference indicate teachers command over the subject matter. Concrete examples of the concepts from daily life of the students were mentioned. Students existing level of information regarding the concept under discussion was determined through method other than PK questions. Interesting lesson starter	Terms and vocabulary used show teachers knowledge of the subject. More than one relevant example was mentioned. Students' previous knowledge was determined through conventional PK questions. Teaching methods other than lecture method were also used.	No conceptual grammatical or spelling errors. Students' previous knowledge was judged through PK questions. Provide relevant examples. Provides too many explanations with repetition. Lecture method was used only.	Teacher makes conceptual errors Does not relate students' previous knowledge with the new knowledge. Provides erroneous not related examples	Conceptual Grammatical and spelling mistakes.

	concepts through Modern and innovative techniques. Interesting motivating and challenging lesson starter was used to introduce the new concepts. Mixed teaching methods were applied to help students achieve their learning objectives. Concepts and all the details were elicited through guided question rather than told.	activity was used to link students' previous knowledge with new information. More than one teaching method was followed in the lesson plan.				
Involvement of students in TLP	All the students take active part in classroom teaching learning activities. Students develop	Most of the students take active part in classroom teaching learning activities. Teacher help and guide students to	Students ask questions during the lesson for clarification. Students follow teachers Instructions and work	Students were allowed to ask questions. Students follow teachers' instructions and work in isolation under his/her supervision.	Students remain silent during the class. Listen to teacher's instructions and answer teacher's questions	Students were instructed to remain silent and not to ask questions.

	conceptual understanding through collaborative learning. Students identify issues and gaps related to their conceptual understanding of the topic and find logical solutions. Students are self-motivated, responsible and take initiative to learn. Students make critical analysis and present their understanding in creative ways.	work collaboratively. Students find solution to the problems and share with each other and the teacher. Students listen, predict, discuss, perform experiments and give arguments to support what they understood. Students critically analyze the concepts from different angles.	individually teacher monitor and guide the students. Students are inspired to share their understanding, give explanation and examples from daily life. Students read, discuss and explain different concepts. They respond to the questions raised by teacher and other students.	Students rarely share their understanding in class. Students note important points from white board.	when asked. Questions were individually asked and answered. Students copy from white board in verbatim.	
Use of TLM	Teaching material involved different senses of the students. The material was innovative and could be used for more than	TLM was simple and relevant. TLM was in appropriate and enough for the students to use. TLM was effective and helpful for the clarity of mind.	Teaching learning material other than white board was also used. TLM was prepared by the teacher in advance. TLM was used	Writing board and pictures from the text books were used as TLM. Already prepared charts previously pasted in the class were also used as TLM.	White board was used as the only teaching learning material. Some examples were explained and hypothetical teaching	No teaching learning material was used.

	concepts. Use of learning material helped visualize the abstract concepts and brought clarity of mind.		only for demonstration purpose.		learning material was mentioned.	
Communicational Skills	Lesson is based on two ways communication students communicate free with teacher and other students. Teacher asks open ended questions to involve all the students. Teacher is conscious about economy of words and their selection. Use simple vocabulary and avoid repetition. Teacher communicate with all the students by their names Teacher's	Lesson is based on two ways communication restricted to teacher & students only. Almost all the students raise questions and do not hesitate to communicate. Teacher use simple words to explain the concepts. Teacher knows all most all the students by their names. Teacher could be heard clearly. Teacher maintains eye contact with students most of the time.	Two ways communication takes place which is limited up to few students only majority of the students rarely communicate. Teacher tries to involve other students as well. Teacher communicates with selected students by their names. Teacher tries to be focused and use simple words. Students shy to ask questions.	One way communication is followed and teacher talk almost all the time during the lesson. Most of the time communication between teacher and the students take place as class and not on individual bases. Teacher rarely use students names. Very few students ask minor questions.	One way communication. Teacher talks explain and read. Teacher writes on white board and gives instructions while students listen and follow teacher's instructions. Students fear asking questions	Teacher communicates with class through textual material only.

	voice is loud and clear. Strong eye contact is maintained throughout the lesson using gadgets like charts posters. Body language of teacher shows his/her availability for the students. Teacher establish a mental bond with class.	Teacher move around the class.				
Classroom Environment	Classroom environment is friendly teacher entered the room with a smiling face and children wait eagerly for the teacher. All classroom activities take place in a democratic atmosphere students are confident enough to share their ideas and explain their view point; everyone	Conducive learning environment is tried level best to be maintained. Maintaining discipline and observance of class rules is the top most priority. Students are engaged in academic activities for most of the time the busy schedule keeps students away from misbehavior.	Classroom environment is authoritative and teacher plays the dominating role. All the activities inside the classroom are properly controlled by the teacher students are not allowed to leave their place without permission. Observance of rules is strictly followed.	Classroom environment is autocratic students not allowed to talk with each other nor can they leave their seats. Teacher's attitude is stern and has a frowning face which creates pressure on the students. Set rules are followed but incidences of misbehavior are observed. There is coldness	Classroom environment is a lazes faire teacher takes no responsibility for students learning or interest. Unpromising and discouraging environment holds in the classroom. Scolding and admonishment is common. No set rules are followed	Classroom environment is threatening. Students feel harassed. Abusive and insulting language is used in the classroom. Classroom is noisy and unorganized showing a picture of a fish market.

	has the right to be listened. Students and teacher show caring attitude and respect for each other. Students are encouraged to participate in all sort of learning activities without the fear of being wrong students are allowed to make errors and learn. Teacher inspires students and focus on signs of improvement in their learning instead of fault finding. Student teacher relations are cordial and warm as a whole teacher and students interact and learn in a lively atmosphere. Gen-rich environment is created through material, learning activities,	Students are cooperative and support one another in their efforts to learn and develop. Students are active and remain engaged in learning activities throughout the lesson. Print-rich environment is visible in the class; there are charts and posters for all the necessary and relevant topics available in the class.	The teacher is helpful and solves all the problems faced by the students in the classroom. Silence prevail throughout the lesson except when the teacher is giving the instructions or students have a query Few handmade charts are pasted on the walls.	instead of warmth in student teacher relationship. Students are supposed to sit quietly when through with their academic tasks.	in the class. Classroom activities are disorganized teaching learning process is broken and discontinuous due to irrelevant talk during the lesson.	

	thought provoking questions and scholarly discussion.					
ECV & Summary	Teacher and the students have developed an understanding that lesson will have a logical ending and they keep their questions to be discussed at the end. Teacher evaluates his performance and takes notes. Summary of the lesson is the most interesting and inspiring part of the lesson creating curiosity for further learning. All the important points of the lesson are covered in the summary.	Lesson is properly closed and students are invited for questions which are answered and necessary explanation is provided. Teacher not only evaluates students' learning but also the teaching methodology. The lesson is summarized in an interesting and comprehensive way. Most of the important points of the lesson are covered in the summary.	Teacher manages the time to recap the important points of the lesson with in the scheduled time. The lesson is evaluated at the end by asking few questions. Students ask questions for their clarity.	Recapitulation or summary is not planed. Teacher hurriedly sums up the lesson and gives a brief summary taking few minutes from the next period after hearing the bell.	No proper summing up of the lesson by the teacher. No time is allocated for recapitulation or summary of the lesson.	No end of class evaluation or summary.

Abbreviations used:

QLP Quality Lesson Plan

TLP Teaching Learning Process

TLM Teaching Learning Material

ECV End of Class Evaluation

ANNEXURE 12

Worksheet for activity

1. Who made a phone call to Bilal?

_____

_____

2. To whom Bilal was talking?

_____

_____

3. Who was coming along with Tariq?

_____

_____

4. Where did Sohail and Bilal live?

_____

_____

5. Who were coming to Karichi?

_____

_____

6. What did Sohail think about Clifton?

_____

_____

7. Which places they planned to visit?

_____

_____

8. When did the friends meet the last time?

_____

_____

9. Why did Sohail feel strange when Bilal proposed to visit the zoo?

_____

_____

10. Who might take all the friends to Sehwan?

_____

_____

11. How did Bilal and Sohail intend to inform their friends about the program?

_____

_____

12. Guess in which class Bilal and Sohail studied?

_____

_____

13. What was the good news for Sohail?

_____

_____

14. What is the theme of this conversation?

_____

_____

15. Why Bilal and Sohail went to bed early?

_____

_____

ANNEXURE 13

Rubric for reflections

	Excellent	Proficient	Average	Poor
Reflections: Ability to integrate learning into real-world experiences and analyze issues with a critical attitude	Ability to proficiently demonstrate reflection and deep thinking of acquired knowledge and concepts, and integrate them into different issues from wide range of perspectives (e.g. different contexts, cultures, disciplines etc.); creative solutions and critical thinking skills demonstrated in the writing	Showing satisfactory ability to relate acquired knowledge to previous experiences; demonstrating attempt to analyze the issues from a number of different perspectives	Includes description of events, and a little further consideration behind the events using a relatively descriptive style of language; no evidence of using multiple perspectives in analyzing the issues	Only includes mere descriptions of theoretical knowledge; no reflection is demonstrated beyond the descriptions
Presentation: Articulation and organization of ideas and perspectives	Writing is well-focused; arguments or perspectives are precisely defined and explained; coherent flow in developing an insightful idea demonstrated	Arguments or perspectives are clearly stated; organized flow in writing but not deep enough to be very insightful	Arguments or perspectives are vaguely mentioned; the writing lacked an organized flow and the ideas were hard to follow	Do not show any original thinking or perspectives; chaotic in organization and presentation of ideas
Completeness: Incorporation of the journal entries into a whole, demonstration of the learning process	Concrete connections between journal entries into a whole; demonstrating clear steps in the developmental learning process	Journal entries can be generally connected; still able to observe how the student develops during the learning process	Weak connections between journal entries; development gained from the learning process is hardly observed	No connections between journal entries; The entries are mere descriptions of events rather than showing a sequence of learning steps

ANNEXURE 14

Pre-test/Post test

Q1. Explain the concept of Professional development of teachers?

Q2. What is Action Research explain its different steps?

Q3. Explain the role of action research in teachers' professional development?

Q4 Why is Lesson Planning important for effective teaching?

Q5. Make a Lesson Plan for grade seven to improve reading skill of students?

Q6. What is Activity Based learning how it facilitate learning?

Q7. Explain the concept of writing reflections at the end of a lesson

Q8. What is Assessment how its different types are applied to assess students learning?

Q9. Explain the Process of Assessment in the classroom?

Q10. What is Questioning Technique discuss its application in our schools?

ANNEXURE 15

To

The Director
Elementary & Secondary Education,
Khyber Pakhtunkhwa.
Peshawar

Through: Proper Channel

Subject: **Data Collection for PhD studies**

Sir,

With due respect it is submitted that I am doing my PhD (Education) from University of Peshawar. The topic of research is **"Impact of Conducting Action Research by Secondary School Teacher on Their Professional Development"**. The topic has been approved by **Advance Studies & Research Board (ASRB) University of Peshawar.**

Your good self is requested to allow me to collect Data & conduct workshops in the following ten Government Higher/High Schools (M/F) in District Peshawar for the said purpose.

Male	Female
✓ Govt. Higher Secondary School # 1 Peshawar Cantt.	✓ Govt. Girls High School # 2 Peshswar Cantt
✓ Govt. High School # 2 Peshawar City.	✓ Govt. Girls Higher Secondary School BSD, Peshawar City.
✓ Govt. High School # 4 Peshawar Cantt.	✓ Govt Girls High School Jogiwara Peshawar City.
✓ Govt. Higher Secondary School Mathra.	✓ Govt. Girls High School Mathra.
✓ Govt. High School Nahaqi.	✓ Govt. Girls High School Nahaqi.

Thanking you in anticipation.

Date: - 13/05/2013

Yours Sincerely,

(Muhammad Asif Khan)
PhD Scholar
Instructor PITE, Peshawar
Cell # 0332-9240879

Pl. allow and extend help as all possible requested.
13/5/13
Director PITE

Directorate of Elementary & Secondary Education
Khyber Pakhtunkhwa, Peshawar

No. 1219 /STD/P&D/ Phd
Dated: 14/5 /2013.

To

The District Education Officers
(M/F) Peshawar

Subject: - **DATA COLLECTION FOR PhD STUDIES.**
Memo:

I am directed to enclose herewith an application received from Muhammad Asif Khan Instt: PITE Peshawar (PhD Scholar) dated 13-05-2013 on the subject cited above.

It is requested that the above named Officer may be allowed for Data Collection and conducting workshops in the targeted schools (Male & Female) of your district please.

Deputy Director (P&D)
14/5/13

Endst: No.
Copy forwarded to the:

1. P.A. to Director (E&SE) Khyber Pakhtunkhwa, Peshawar.

Deputy Director (P&D)

OFFICE OF THE DISTRICT EDUCATION OFFICER (MALE) PESHAWAR.

Endst:No 3376-78 / Dated Peshawar the 15/5 /2013

Copy of the above is forwarded to the:-

1) Principal GHSS, No.1 Cantt.
2) Principal GHS Mathar Peshawar
3) Principal GHSS-Wahaqi Peshawar
4) Principal GHS No.2 City
5) Principal GCMHS No.4 Cantt

With the request to extedd all passible help as request please.

Deputy District Officer
(Male) Peshawar.

Endst:No 3379

1) Director Emementary & Secondary Education Khyber Pakhtunkhwa Peshawar for information Please.

Deputy District Officer
(Male) Peshawar.

REFERENCES

Adler-Collins, J. P. (2008). Creating new forms of living educational theories through collaborative educational research from Eastern and Western contexts: A response to Jack Whitehead. Research Intelligence, 104, 17–18.

Adomaitienė, J., Zubrickienė, I., & Teresevičienė, M. (2008). Professional Teacher Development in Performing Action Research. *Vocational Education: Research & Reality*, (15).

Airasian, P. W. 2001. *Classroom assessment: Concepts and applications*, 4th ed.

Boston: McGraw-Hill.

Alavi, H. R. (2007). Al-Ghazāli on moral education. *Journal of Moral Education*, *36*(3), 309-319.

Ali, T. (2011). Understanding how Practices of Teacher Education in Pakistan Compare with the Popular Theories and Narrative of Reforms of Teacher Education in International Context. *International Journal of Humanities and Social Science Vol. 1 No. 8.* Aga Khan University-Institute for Educational Development PDC-IED

Aliaga, M., & Gunderson, B. (2002). Interactive statistics. Virginia. *America: Pearson Education*.

Allan, G. (2003). A critique of using grounded theory as a research method. Electronic Journal of business Research Methods, 2(1), 1- 10.

Anderson, L. W. (2004). *Increasing teacher effectiveness* (2nd ed.). Paris: UNESCO, International Institute for Educational Planning (IIEP).

Ashraf, D.,Numan, M. & Waqae, K. (2012). Learning from Research in Teacher Education Institutions. In A. Bashiruddin; Z. Bana and Khan, A.K (Eds.) Education in Pakistan learning from Research Partnerships. Pakistan: Oxford university press.

Ax, J., Ponte, P., & Brouwer, N. (2008). Action research in initial teacher education: An explorative study. *Educational Action Research*, *16*(1), 55-72.

Babchuk, W. A. (1997). The rediscovery of grounded theory: Strategies for qualitative research in adult education.

Bain, K. (2011). *What the best college teachers do*. Harvard University Press.

Baird, F. E., & Kaufmann, W. A. (Eds.). (2003). *Philosophic Classics: Modern philosophy* (Vol. 3). Prentice Hall.

Bamberg, M., & Cooper, I. H. (2012). Narrative analysis. *APA handbook of research methods in psychology*, *2*, 77-94.

Bandura, A. (1989). Social cognitive theory. *Annuals of child development*. *6*, 1-60.

Bandura, A. (2001). Social cognitive theory: An agentic perspective.*Annual Review of Psychology*. *52*, 1-26.

Bandura, A., & Walters, R. H. (1963). Social learning and personality development.

Bandura, A. (1961). Psychotherapy as a learning process. *Psychological Bulletin*, *58*(2), 143.

Bandura, A., & Walters, R. H. (1959). Adolescent aggression: A study of the influence of child-training practices and family interrelationships.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall, Inc.

Bandura, A. (2008). Toward an agentic theory of the self. *Advances in self-research*, *3*, 15-49.

Bargal, D. (2006). Personal and intellectual influences leading to Lewin's paradigm of action research: Towards the 60th anniversary of Lewins Action research and minority problems' (1946). *Action Research*, 4,367-388.

Bassey, M. (2001) A solution to the problem of generalization in educational research: fuzzy

prediction, Oxford Review of Education, 27(1), 5–22.

Bassey, M. (1998). Action research for improving educational practice. *Teacher research and school improvement: Opening doors from the inside*, 93-108.

Bates, T., Swennen, A., & Jones, K. (2014). The professional development of teacher seducators. Routledge.

Baxter, L., Hughes, C., & Tight, M. (1998). *Academic Career Handbook*. McGraw-Hill Education (UK).

Bell, E. T. (1937). Men of Mathematics. *Simon and Schuster, New York, NY*,*1*, 937.

Berk, L. E. (2001). Trends in human development. *The many faces of psychological research in the 21st century. The Society for the Teaching of Psychology.*

Beyer, B. K. (1971). *Inquiry in the social studies classroom: A strategy for teaching*. Columbus, OH: Merrill.

Bloom, B. S., Engelhart, M. D., Furst, F. J., Hill, W. H., & Krathwohl, D. R. (1956). Handbook I: cognitive domain. *Taxonomy of Educational Obiectives: The Classification of Education Goals. New York: Longman*.

Bloom, B. S. (Ed.). (1972). *Taxonomy of Education Objectives Book 1-Cognitive Domain*. David McKay Company.

Bogdan, R. C. & Biklen, S. K. (1992) *Qualitative research for education: an introduction to theory and methods* (2nd edn) (Boston, MA, Allyn & Bacon). *Contextualizing critical action research* 237

Bognar, B. & Zovko, K. (2008). Educational Journal of Living Theories Pupils as action researchers: improving something important in our lives. Volume 1(1): 1-49

Bogoslovaky, B.B. 1936, The Ideal School. New York: The Macmillan Company.

Bolton, G. (2010). *Reflective practice: Writing and professional development*. Sage publications.

Boone, R. G. (1904). *Science of education*. C. Scribner's sons.

Borg, W. R. (1965). Ability Grouping in the Public Schools. A Field Study.*The Journal of Experimental Educational*, 1-97.

Bransford, Darling-Hammond & LePage (2005). Introduction. In Darling-Hammond, L. & Bransford, J. (Eds.) *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able To Do*. Jossey-Bass.

Briar-Lawson, K., Lawson, H. A., Collier, C., & Joseph, A. (1997). School-linked comprehensive services: Promising beginnings, lessons learned, and future challenges. *Children & Schools*, *19*(3), 136-148.

Broad, K., & Evans, M. (2006). *A review of literature on professional development content and delivery modes for experienced teachers*. University of Toronto, Ontario Institute for Studies in Education.

Broko, H., Putnam, R.T. (1995). Expending a Teacher's Knowledge Base: A cognitive psychological Perspective on Professional Development". In T.R. Guskey and M. Huberman (Eds.) Professional Development in Education: New Paradigms and Practices, PP. 35–66. New York: Teachers College Press.

Brophy, J., & Good, T. L. (1986). *Teacher behavior and student achievement*. In M. C. Wittrock (Ed.), Handbook of research and teaching. New York: Macmillan.

Broudy, H. S. 1954. Building a Philosophy of Education. New York Prentice-Hall, Inc.

Brown, S. C., Stevenson, R. A., Troiano, P. F. & Schneider, M. K. (2002). Exploring complex phenomena: Grounded theory in students affairs research. *Journal of College Student Development*, 43(2), 173-183.

Bruner, J. S., & Goodman, C. C. (1947). Value and need as organizing factors in perception. *The journal of abnormal and social psychology*, *42*(1), 33.

Bruner, J. S. (1977). Early social interaction and language acquisition.*Studies in mother-infant interaction*, 271-289.

Bruner, J. S., & Olson, D. R. (1974). *Learning through experience and learning through media*.

Bruner, J. S. (1990). *Acts of meaning*. Harvard University Press.

Buckingham, B. R. (1926). *Research for teachers*. Silver, Burdette and company.

Butler J. Donald, Four Philosophies and their practices in Education and Religion. New York, USA: Harper & Row.

Caina, T. and Milovicb, S. (2010) Action research as a tool of professional development of advisers and teachers in Croatia; *European Journal of Teacher Education.* Association for Teacher Education in Europe.

Calhoun, E. 1994. *How to use action research in the self-renewing school.* Alexandria, VA: Association for Supervision and Curriculum Development.

Campbell, J., Kyriakides, L., Muijs, D., & Robinson, W. (2004). *Assessing teacher effectiveness: Developing a differentiated model*. London: RoutledgeFalmer.

Caprara, G. V., Fida, R., Vecchione, M., Del Bove, G., Vecchio, G. M., Barbaranelli, C., & Bandura, A. (2008). Longitudinal analysis of the role of perceived self-efficacy for self-regulated learning in academic continuance and achievement. *Journal of Educational Psychology*, *100*(3), 525.

Carr, W. & Kemmis, S. (1986) Becoming critical (London, RoutledgeFalmer).

Carr, W., and S. Kemmis. 2005. Staying critical. *Educational Action Research* 13, no. 3: 347–58.

Charmaz, K. (2000). Constructivist and objectivist grounded theory.*Handbook of qualitative research*, *2*, 509-535.

Cochran-Smith, M. & Lytle, S. (1999). Relationships of knowledge and practice: Teacher learning in communities. *Review of Research in Education*, 24, 249-306.

Washington, DC: American Educational Research Association.

Cohen, L. & Manion, L. (1994) Research methods in education (London, Croom Helm).

Action research and the challenge of complexity 277.

Cook, T. 2009. The purpose of mess in action research: Building rigour through a messy turn.

Educational Action Research 17, no. 2: 277–91.

Corey, S. M. (1953). *Action research to improve school practices*. New York: Teachers College

Bureau of Publications, Columbia University.

Corey, S.M. 1949. *Action research to improve school practices*. New York: Teachers College,

Columbia University Bureau of Publications.

Costello, Patrick. J. (2003). *Action research*. A&C Black.

Creswell, J. W. (2009). Research design: Qualitative, quantitative, and mixed methods approaches (3rd ed.). Los Angeles: Sage.

Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Merrill/Prentice Hall.

Creswell, J. W. (2010). Mapping the developing landscape of mixed methods research. *SAGE handbook of mixed methods in social & behavioral research*, *2*, 45-68.

Creswell, J. W. (1998). Qualitative inquiry and research design: Choosing among five designs.

Dadds, M. and Hart, S. (2001) Doing Practitioner Research Differently. London: Routledge Falmer.

Darling-Hammond, L. & Sykes, G. (Eds.) (1999). *Teaching as the Learning Profession.* San Francisco: Jossey-Bass.

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. Educational Policy Analysis Archives . 8 (1).

Darling-Hammond, L. (1995). Changing Conceptions of Teaching and Teacher Development. Teacher Education Quarterly.

Darling-Hammond, L. (2001). Standard setting in teaching: Changes in licensing, certification, and assessment, Handbook of Research on Teaching (4th ed., pp. 751-776). Washington DC: American Educational Research Association.

Day, C. (1998). Working with the different selves of teachers: beyond comfortable collaboration [1]. *Educational Action Research*, *6*(2), 255-275.

Day, C. (1999). *Developing Teachers: The Challenges of Lifelong Learning*. London: Falmer Press.

Dean, B. 2009. Action research: In search of an effective teacher professional development

strategy. In *Schools and schooling practices in Pakistan: Lessons for policy and practice,*

ed. R. Qureshi and F. Shamim, 87–110. Karachi: Oxford University Press.

Dewey, J. (1930). *Individualism old and new*. Prometheus Books.

Dewey, J. (1930). From absolutism to experimentalism. *Contemporary american philosophy*, *2*, 13-27.

Dewey, J. 1938. Experience and Education. New York: Collier.

Dewey, J. 1916. *Education and democracy.* New York: Macmillan.

Dick, B. (2002) Action research: action and research. [online] http://www.scu.edu.au/schools/gcm/ar/arp/aandr.html 2004.

Dillon, J. T. (1994). *Using discussion in classrooms*. Open University.

Dillon, J., Sissling, S., Watson, R., & Duschl, R. (2002). Science teachers as researchers- a model for professional development. *School Science Review, 84*(307), 43-46.

Dinkelman, T, (1997), The promise of action research for critically reflective teacher education.

The Teacher Educator, 32{A), 250-257.

Doyle, W. 1990. Themes in teacher education research. In *Handbook of research on teacher education*, ed. W. R. Houston, M. Haberman, and J. Sikula, 3–24. New York: Macmillan.

Drew, P. (2005). Conversation analysis. *Handbook of language and social interaction*, 71-102.

Duke, D. L. (1984). *Teaching-The imperiled profession*. SUNY Press.

Elliot, J., & Adelman, C. (1973). Developing awareness and perception: The methodology of teacher development'. In *Paper for the Study of Curriculum Conference, University of Sussex*.

Elliott, J. (1991). *Action research for educational change*. Philadelphia: Open University Press.

Elliott, J. (2004). Using research to improve practice: the notion of evidence-based practice:

International handbook on the continuing professional development of teachers, Maidenhead: Open University Press.

Elliott, J. 2007. *Reflecting where the action is: The selected works of John Elliott.* London:

Routledge.

Elmore, R. F. (2002). Bridging the gap between standards and achievement: The imperative for professional development in education. *Secondary lenses on learning participant book: Team leadership for mathematics in middle and high schools*, 313À344.

Emily C. (1993). Action research: Three Approaches, Educational Leadership, 51(2), 62

Gerald I. S. (1983). Action Research: *A sociotechnical systems perspective.* Edited by G. Morgan, Sage publications, London. Page No.102.

Esposito, J. & Smith, S. (2006) From reluctant teacher to empowered teacher-researcher: one teacher's journey toward action research, *Teacher Education Quarterly,* 33(3), 45–60.

Evans, L. (2008). "What is teacher development and how is it achieved? Ontological and processual models". Paper presented within the symposium, Issues in European Teacher Development: linking theory and practice, at the European Conference on Educational Research, Gothenburg, Sweden, September 10-12

Falk, B. E. (2001). Professional learning through assessment. *Teachers caught in the action: Professional development that matters*, 118-140.

Fandiño, Y. J. (2010). Research as a means of empowering teachers in the 21st century. *Educación y Educadores*, *13*(1), 109-124.

Farooqi, S.R., M. Memon, R.A. Khan, and R. Salem. 2009. Analytical study of existing preservice teacher education programmes: Provincial report Sindh. Paper presented at the

meeting of Pre-service Teacher Education Program (Pre-STEP), October 20, in Karachi,

Pakistan.

Feldman, A. 2007. Validity and quality in action research. *Educational Action Research* 15, no. 1: 5–21.

Ferguson, R. F., Ladd, H. F., & Ladd, H. (1996). Holding schools accountable: Performance-based reform in education. *Washington, DC: Brookings Institution*.

Finch, A. (2005). "Action Research: Empowering the Teachers." *Pleiades: Journal of Teaching Young Learners of English,*1(1), 30-48.

Fischer, J. C. (2001). Action research rationale and planning: Developing a framework for teacher inquiry. *Teachers doing research*, 29-48.

Flick, U. (2006). Coding and categorizing. *An introduction to qualitative research*, 295-319.

Foster, P. 1999. 'Never mind the quality, feel the impact': A methodological assessment of teacher research sponsored by the teacher training agency. *British Journal of Educational*

Studies 47, no. 4: 380–98.

Fraser, H. (2004). Doing narrative research analysing personal stories line by line. *Qualitative Social Work*, *3*(2), 179-201.

Frost, P. (2002) 'Principles of the action research cycle', Action Research: A Guide for Teachers. Burning Issues in Primary Education, Issue No. 3, Birmingham: National Primary Trust, pp. 24-32.

Fuller, R., & Petch, A. (1995). *Practitioner Research: The reflexive social worker*. Open University Press.

Furlong, J., and J. Salisbury. 2005. Best practice research scholarships: An evaluation.

Research Papers in Education 20, no. 1: 45–83.

Ganser, T. 2000. "An ambitious vision of professional development for teachers". In: NASSP Bulletin, 84(618), 6-12.

Gardner, H. (1993) Multiple Intelligence: Theory in practice. New York: Basic Books.

Gardner, H. (1999). *The disciplined mind*; New York: Simon & Schuster.

Garner, R. (1996). Contemporary Movements and Ideologies. McGraw-Hill Publishers.

Gay, G. (2000). *Culturally responsive teaching: theory, research, & practice* (New York, Teachers College Press).

Gay, G.; Howard, T.C. 2000. "Multicultural teacher education for the 21st century". In: *The Teacher Educator*, *36*(1), 1-16.

Gerald I. S. (1983). Action Research: *A sociotechnical systems perspective*. Edited by G. Morgan, Sage publications, London. Page No.102.

Ghosh, S.C, (2007) ―History of Education in India, New Delhi: Rawat Publications.

Gibbs, G. (1992). *Teaching large classes in higher education: How to maintain quality with reduced resources*. Psychology Press.

Ginsburg, M. (2010). Improving educational quality through active-learning pedagogies: A comparison of five case studies. Educational Research 1(3), 62–74.

Glanz, J. 1998. *Action research: An educational leader's guide to school*

improvement. Norwood, MA: Christopher-Gordon.

Glanz, J. (2003). Action research: An educational leader's guide to school improvement. Norwood, MA: Christopher-Gordon Publishers, Inc.

Glaser, B. G. & Strauss, A. L. (1967). *The discovery of grounded theory.* Chicago: Aldine Publishing Company.

Glaser, B. G. (1992). *Basics of grounded theory analysis: Emergence vs forcing.* Mill Valley, CA: Sociology Press.

Glattenhorn, A. (1987). Cooperative professional development: Peer centered options for teacher growth. Educational Leadership, (3)45, 31-35.

Glatthorn, A.A. (1992). *Teachers as agents of change: A new look at school improvement*. Washington, D.C.: National Educational Association.

Glatthorn, A. (1995). "Teacher Development." In: *International Encyclopedia of Teaching and Teacher Education*, edited by L. Anderson (2nd edition). London: Pergamon Press.

Godbout, P., & Richard, J. F. (2000). Formative assessment as an integral part of the teaching-learning process. *Physical & Health Education Journal*,*66*(3), 4.

Goede, R., & de Villiers, C. (2003, September). The applicability of grounded theory as research methodology in studies on the use of methodologies in IS practices. In *Proceedings of the 2003 annual research conference of the South African institute of computer scientists and information technologists on Enablement through technology* (pp. 208-217). South African Institute for Computer Scientists and Information Technologists.

Goffman, E. (1963). Stigma Englewood Cliffs. *NJ: Spectrum*.

Goldston, J.M., and G.M. Shroyer. 2000. Teachers as researchers: Promoting effective science

and mathematics teaching. *Teaching and Changes* 7, no. 4: 327–46.

Goodall, J., Day, C., Lindsay, G., Muijs, D. & Harris, A. (August 2005). Evaluating the impact of Continuing Professional Development (CPD). London: DfES.

Goodnough, K. 2003. Facilitating action research in the context of science education:

Reflections of a university researcher. *Educational Action Research* 11, no. 1: 41–64.

Goodnough, K. (2011). Examining the long-term impact of collaborative action research on teacher identity and practice: the perceptions of K–12 teachers. *Educational Action Research* Vol. 19, No. 1, March 2011, 73–86

Goodwin, C., & Heritage, J. (1990). Conversation analysis. *Annual review of anthropology*, 283-307.

Gopinathan, S. (2001). Globalisation, the state and education policy in Singapore.

Goulding, C. (1999). Grounded Theory: some reflections on paradigm, procedures and misconceptions.

Government of Pakistan – Ministry of Education, Islamabad. 2009a. National professional

standards for teachers in Pakistan.

Government of Pakistan – Ministry of Education, Islamabad. 2009b. National Education

Policy 2009.

Greenwood, D. J., and M. Levin. 2007. *Introduction to action research: Social research for social change*, 2nd ed. Thousand Oaks, CA: Sage.

Griffin C (2000) Absences that matter: Constructions of sexuality in young women's friendship groups. Feminism and Psychology 10(2): 227–245.

Griffin, R. (Ed.) (2012).*Teacher education in Sub-Saharan Africa*: *Closer perspectives*. Oxford: Symposium Books.

Guskey, T.R.; Huberman, M. (Eds.). 1995. Professional development in education: new paradigms and practices. New York: Teachers College Press.

Guskey, T.R. (2000). Evaluating professional development. Thousand Oaks, CA: Corwin Press.

Guskey, T. (2003). What makes professional development effective? Phi Delta Kappan, 84 (10) 748-750.

Habermas, J. 1972. *Knowledge and human interests.* Trans. Jeremy J. Shapiro. London:

Heinemann.

Halai, N. 2011. How teachers become action researchers in Pakistan: emerging

patterns from a qualitative metasynthesis. *Educational Action Research*

Vol. 19, No. 2, June 2011, 201–214. *Institute for Educational Development, Aga Khan University, Karachi, Pakistan.*

Hall, G. E., & Hord, S. M. (2011). Implementation: Learning Builds the Bridge between Research and Practice. *Journal of Staff Development*, *32*(4), 52-57.1987

Hall, J. (2002). Learning Theories: Their Application to Understanding Human Behavior. *Human Behavior and the Social Environment: Integrating Theory and Evidence-Based Practice*, 157.

Hammerness, K., Darling-Hammond, L., Bransford, J. with Berliner, D., Cochran-Smith, M., McDonald, M., & Zeichner, K. (2005) How teachers learn and develop. In Darling-Hammond, L. & Bransford, J. (Eds.) (2005). *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able To Do*. Jossey-Bass.

Hampton, M. (2008), Reflective Writing: a basic introduction. University of Portsmouth.
http://www.port.ac.uk/departments/studentsupport/ask/resources/handouts/written

Harris, D. N., & Sass, T. R. (2011). Teacher training, teacher quality and student achievement. *Journal of public economics*, *95*(7), 798-812.

Hasnain, U.F. 2007. Developing understanding of a writing frame for explanation in science writing. Unpublished master's thesis, The Aga Khan University Institute for Educational Development, Pakistan.

Hattie, J. (2003). Teachers Make a Difference. What is the research evidence? Australian Council for Educational Research, October 2003.

Hatton, N., & Smith, D. (1995). Reflection in teacher education: Towards definition and implementation. *Teaching and teacher education*, *11*(1), 33-49.

Hayes, W. (2006). The Progressive Education Movement: Is it Still a Factor in Today's Schools?. *Rowman & Littlefield Education*.

Heath, H., & Cowley, S. (2004). Developing a grounded theory approach: a comparison of Glaser and Strauss. *International journal of nursing studies*,*41*(2), 141-150.

Hegel, G. W. (1900). *The Philosophy of History* (Sibree., J., Trans.). New York: Colonial Press.

Heron, J., and P. Reason. 1997. A participatory inquiry paradigm. *Qualitative Inquiry* 3, no. 3:

274–94.

Hilgard, E. R. (1964). A perspective on the relationship between learning theory and educational practices. *Theories of learning and instruction*, 402-415.

Hitchcock, G. and Hughes, D. (1995) Research and the Teacher: A Qualitative Introduction to School-based Research (second edition). London, Routledge.

Hite, C. E., & Evans, L. S. (2006). Mainstream first-grade teachers' understanding of strategies for accommodating the needs of English language learners. *Teacher Education Quarterly*, 89-110.

Holland, J. G., & Skinner, B. F. (1961). The analysis of behavior: A program for self-instruction.

Holley, K. A., & Colyar, J. (2009). Rethinking Texts Narrative and the Construction of Qualitative Research. *Educational Researcher*, *38*(9), 680-686.

Hollingsworth, S. (Ed.). (1997). International Action Research: A Casebook for Educational Reform. London: Falmer.

Holter, I.M., and Schwartz - Barcott,D. (1993). *Action Research: What is it? How has it been used and how can it be used in nursing?* Journal of Advanced Nursing 1993:128; 298-304

Holt, J. (1967/1983). How children learn. New York: Pitman Publishing Corporation.

Hopkins, D. (1992). *A Teacher's Guide to classroom Research.* 2nd. Ed.Philadelphia: Open University Press.

Hopkins, D. (2002) A teacher's guide to classroom research (Buckingham, Open University Press).

Horne, H.H. (1931) This New Education. New York: Abingdon Press.

Housley, W., & Fitzgerald, R. (2009). Membership categorization, culture and norms in action. *Discourse & Society*, *20*(3), 345-362.

Hubbard, P., & Levy, M. (Eds.). (2006). *Teacher education in CALL* (Vol. 14). John Benjamins Publishing.

Hubbard, P., & Levy, M. (2006). The scope of CALL education. *Teacher education in CALL*, 3-20.

Huberman, M. 1995. "Professional careers and professional development". In: Guskey, T.R.;

Huberman, M. (Eds.), Professional development in education: new paradigms and practices. New York: Teachers College Press.

Imomnazarovna, E.S. 2005. Implementation of teaching based on multiple intelligences in

the primary science classroom: Action research. Unpublished master's thesis, The Aga

Khan University Institute for Educational Development, Pakistan.

Jaffer, K & Khan, A.M. (2012). Using Innovative Teaching Approaches through Action Research for B.Ed. Programmes in IER, University of Peshawar. In: A. Bashiruddin; Z. Bana and Khan, A.K (Eds.) Education in Pakistan learning from Research Partnerships. Pakistan: Oxford university press.

Jefferson, G. (2004). Glossary of transcript symbols with an introduction. *Pragmatics and Beyond New Series*, *125*, 13-34.

Jefferson, T. (1813). Letter to John Adams, October 28, 1813. *Educational Ideas in America: A Documentary History*.

Jefferson, T. (1813). John Adams. *American Political Thought*, 366-70.

Jenkins, E. W. (1992). School science education: Towards a reconstruction. *Journal of Curriculum Studies*, *24*(3), 229-246.

Johnson, B. (1993). Teacher-as-researcher. ERIC Digest 92-7. Washington, DC: ERIC Clearinghouse on Teacher Education.

Kansanen, P. (2003). Teacher education in Finland: Current models and new developments. *Institutional approaches to teacher education within higher education in Europe: Current models and new developments*, 85-108.

Kant, I. (1908). The Educational theory of Immanuel Kant (Vol. 4). JB Lippincott.

Kedzior, M., & Fifield, S. (2004). Teacher professional development.*Education Policy Brief, 15*(21), 76-97.

Kelleher, J. (2003). Professional development that works: A model for assessment-driven professional development. *Phi delta kappan, 84*(10), 751.

Kemmis, S. & McTaggart,R. 2003. Participatory action research. In N.K. Denzin & Y.S.

Lincoln (Eds). Strategies of qualitative inquiry. 2nd ed. Thousand Oaks, CA. Sage.

Kemmis, S., R. McTaggart, and J. Retallick. 2004. *The action research planner.* 2nd

rev. ed. Karachi: Aga Khan University Institute for Educational Development.

Kemmis, S. (2009), Action Research as a Practice-Based Practice, *Educational Action Research* 17: 463-474.

Kemmis S., McTaggart R., 1982, *The action research planner, third edition*. Victoria: Deakin University.

Kemmis S. & McTaggert R. (1990). The Action Research Planner. Geenlog, Deakin University Press.

Kemmis, S., R. McTaggart, and J. Retallick. 2004. *The action research planner.* 2nd

rev. ed. Karachi: Aga Khan University Institute for Educational Development.

Kemmis, S., & McTaggart, R. (1988). *The action research planner*. Victoria: Deakin University Press.

Kemmis, S., and R. McTaggart. 2005. Participatory action research: Communicative action

and the public sphere. In *Handbook of qualitative research,* edn, ed. Norman Denzin and

Yvonne Lincoln, 556–604. Thousand Oaks, CA: Sage.

Kemmis, S. (2009),What Is to Be Done? The Place of Action Research. Paper presented to the 33rd Collaborative Action Research Network (CARN) International Conference, Athens, 1 November 2009.

Kemmis, S. & McTaggart, R. (2000) Participatory action research, in: N. Denzin & Y. Lincoln

(Eds) *Handbook of qualitative research* (2nd edn) (Thousand Oaks, CA, Sage Publications).

Kevin R. Murphy. (2006). A Critique of Emotional intelligence. What are the problems and how can they be fixed? Mahwah, NJ: Lawrence Erlbaum Associates.

Knowles, Z., Gilbourne, D., Borrie, A., & Nevill, A. (2001). Developing the reflective sports coach: A study exploring the processes of reflective practice within a higher education coaching programme. *Reflective Practice,2*(2), 185-207.

Kornhaber, M. L. (2001). Howard Gardner. *Fifty modern thinkers on education: From Piaget to the present. London: Routledge*.

Krumboltz, J. D., & Krumboltz, H. B. (1972). *Changing children's behavior*. Prentice-Hall.

Kushel, G. (1994). *Reaching the peak performance zone: How to motivate yourself and others to excel*. Amacom.

Labov, W. (1972). *Language in the inner city*. Philadelphia: The University of Pennsylvania Press.

Labov, W. (1972). *Sociolinguistic patterns* (No. 4). University of Pennsylvania Press.

Leu, E., & Ginsburg, M. (2011). *Inservice teacher professional development: EQUIP1 first principles compendium*. Washington, DC: EQUIP1 and American Institutes for Research.

Levin, B. B., and S. P. Merritt. 2006. Guest editors' introduction: Action research for teacher empowerment and transformation. *Teacher Education Quarterly* 33 (3): 3–6.

Lewin, K. (1947/1951). Frontiers in group dynamics. In D. Cartwright (Ed.), *Fieldtheory in social science: Selected theoretical papers by Kurt Lewin* (pp. 188–237). New York: Harper & Row.

Lewin, K. (1945/1948). Conduct, knowledge and acceptance of new values. In G. W. Lewin (Ed.), *Resolving social conflicts* (pp. 56–70). New York: Harper & Row.

Lewin, K. 1948. *Resolving social conflicts; Selected papers on group dynamics.* Ed.

Gertrude W. Lewin. New York: Harper & Row.

Lewin, K. (1946). Action research and minority problems. In Lewin, G. W. (Ed.), *Resolving*

social conflicts: Selected papers on group dynamics (pp. 201-216). New York: Harper

& Brothers.

Lewin, K. (1942/1951). Field theory and learning. In D. Cartwright (Ed.), *Field theo- ry in social science* (pp. 60–86). New York: Harper & Row.

Lew, M. & Mohsin, M. (2011). Action Research Project in Teacher Education Programme: Pre-service Teachers' Competency and Weaknesses. The International Journal of Learning.

Lewis, A. (1994). Oppenheim, A.(1992). Questionnaire Design, Interviewing and Attitude Measurement, London, Pinter. Pp 303.£ 14.99 paperback,£ 39.50 hardback. ISBN 185567 0445 (pb), 185567 0437 (hb).

Lieberman, J. & Wilkins, E. (2006). The professional development pathways model: From policy to practice. *Kappa Delta Pi Record*. 42 (3), 124.

Locke, J. (1924). 1690. *An essay concerning human understanding*, *1*.

Lone, A. A. Reconstruction of Islamic Education: with special reference to Allama Iqbal's Educational philosophy.

Lortie, D. C. (1975). *School teacher: A sociological inquiry*. Chicago: University of Chicago Press.

Lunenberg, M., P. Ponte, and P.H. van der Ven. (2007). Why shouldn't teachers and teacher educators conduct research in their own practices? *European Educational Research Journal* 6, no. 1: 13–24.

Lustick, D., & Sykes, G. (2006). National board certification as professional development: What are teachers learning?

Lyotard, J. F. (1984). *The postmodern condition: A report on knowledge* (Vol. 10). U of Minnesota Press.

Mahoney, C. (1997). Common Qualitative Methods. In J. Freachtling, L. Sharp, (Eds.), *USER-Friendly Handbook for Mixed Method Evaluations.*

Makdisi, G. (1981). *The Rise of Colleges. Institutions of Learning in Islam and the West*. Columbia University Press, 562 West 113th Street, New York, NY 10025.

Mann, N. (1996). The origins of humanism. *The Cambridge Companion to Renaissance Humanism*, *297*.

Martin, E., & Lueckenhausen, G. (2005). How university teaching changes teachers: Affective as well as cognitive challenges. *Higher Education*, *49*(3), 389-412.

Mash R.J., Meulenberg-Buskens I. (2001). Holding it lightly: the cooperative inquiry group: a method for developing educational materials. Med. Educ. 35, 1108-1114.

Maslow, A. H. (1943). A theory of human motivation. *Psychological review*,*50*(4), 370.

Masoodi, T. (2007). Al-Ghazali and Iqbal: Their Perspective on Education.

Masters J. (1995). The History of Action Research in I. Hughes. The University of Sydney.

McBer, H. (2000). Research into Teacher Effectiveness: a model of teacher effectiveness. Research Report 216, DfEE.

McCutcheon G. & Jung B. (1990). *Alternative perspectives on Action Research. Theory into practice.* volume 24, 144-151.

McDonald, J. (1986). Raising the teacher's voice and the ironic role of theory. *Harvard Educational Review*, *56*(4), 355-379.

McGuigan, J. (Ed.). (1997). *Cultural methodologies*. Sage.

McHoul, A. (1990). The organization of repair in classroom talk. *Language in society*, *19*(3), 349-377.

McHoul, A., & Wills, D. (1990). *Writing Pynchon: strategies in fictional analysis*. Macmillan.

McKay. (1992). Professional development through Action Research. J. of Staff Development, 13 (1), 18-21

McKernan J. (1991). *Curriculum Action Research. A hand book of methods & resources for the reflective practitioner*. London.

McKernan, J. (1996). *Curriculum Action Research. A Handbook of Methods and Resources for the Reflective Practitioner* (2nd ed.). London: Kogan, 1996.

McKernan,J., (1988). The Countenance of Curriculum Action Research: Traditional, Collaborative and Critical-Emancipatory Conceptions. Journal of Curriculum and Supervision, 3,(34 Spring:173-200

McNiff, J., & Whitehead, J. (2011). *All you need to know about action research*. Sage Publications.

McNiff, J., & Whitehead, J. (2009). *You and your action research project*. Routledge.

McNiff, J. 2002. *Action research: principles and practice.* 2nd ed. London: Routledge Falmer.

McNiff, J. 1993. *Teaching as learning: An action research approach.* London: Routledge.

McNiff, J. 2010. *Action research for professional development: Concise advice for new action researchers.* www.jeanmcniff.com/booklet1.html.

McNiff, J. 1997. *Action research for professional development: Concise advice for new action researchers.* www.jeanmcniff.com/booklet1.html.

McNiff, J. (1988). *Action Research: Principles & Practice*. MacMillan Education Ltd. London.

McNiff, J. (2002) *Action Research for Professional Development: Concise -Advice for New Action Researchers.* www.jeanmcniff.com/booklet1.html

McNiff, J. & Whitehead, J. (2006). *All You Need To Know About Action Researc*h. London, Thousand Oaks & New Delhi: SAGE Publication.

McNiff, J. (2013). *Action research: Principles and practice*. Routledge.

McTaggart, R. (1997). Reading the collection. In R. McTaggart (Ed.), *Participatory action*

research (pp 1-12). Albany, NY: State University of New York Press.

McWilliam, E. (2002). *How to survive best practice*. UNSW Press.

McWilliam, Erica L (2002) Against Professional Development. Educational Philosophy and Theory 34(3):289-300.

Memon, G. R. (2007). Education in Pakistan: The key issues, problems and the new challenges. *Journal of Management and Social Sciences*, *3*(1), 47-55.

Mertler, C. A. (2009). Teachers' assessment knowledge and their perceptions of the impact of classroom assessment professional development. *Improving Schools*, *12*(2), 101-113.

Mertler, C. A. (2009). A Systematic Approach to Transforming the" Art" of Teaching into the" Science" of Teaching: Developing a D-DIDM Mindset.*Mid-Western Educational Researcher*, *22*(1).

Meyers, C., & Jones, T. B. (1993). *Promoting Active Learning. Strategies for the College Classroom*. Jossey-Bass Inc., Publishers, 350 Sansome Street, San Francisco, CA 94104.

Michaelowa, K. (2007). The impact of primary and secondary education on higher education quality. *Quality assurance in education*, *15*(2), 215-236.

Miller, D. M., & Pine, G. J. (1990). Advancing professional inquiry for educational improvement through action research. Journal of Staff Development, 11(3), 56-61. EJ430617

Mills, G. E. (2003). *Action research: A guide for the teacher researcher*. Upper Saddle River,

NJ: Merrill/Prentice Hall.

Moghaddam, A. (2006). Coding issues in grounded theory. *Issues in Educational Research*, *16*(1), 52-66.

Mohammed, R.F., and R. Kumari. 2009. Contexts and conditions for action research as a tool. In *Schools and schooling practices in Pakistan: Lessons for policy and practice*, ed. R.Qureshi and F. Shamim, 111–39. Karachi: Oxford University Press.

Mooney Simmie, G. (2007). Teacher Design Teams (TDTs)—building capacity for innovation, learning and curriculum implementation in the continuing professional development of in-career teachers. *Irish Educational Studies*, *26*(2), 163-176.

Moon, J, 1999, Learning Journals: A Handbook for Academics, Students and Professional Development. Kogan Pag.

Morse, J. M. (1994). Emerging from the data: The cognitive process of analysis in qualitative enquiry. In J. M. Morse (Ed.), *Critical Issues in Qualitative Research Methods*. Thousand Oaks: Sage.

Munroe, R. H., Munroe, R. L., & Whiting, B. Blyth. (Eds.). (1981). *Handbook of cross-cultural human development*. New York: Garland STPM Press.

Murphy, P. (2000). 'How I developed a practice and learned to conduct it more effectively', unpublished MA dissertation, Dublin, University of the West of England, Bristol.

Noffke, S.E., & Stevenson, R.B. (Eds.). (1995). Educational Action Research: Becoming Practically Critical. New York: Teachers College Press.

Noffke, S. 1997. Professional, personal, and political dimensions of action research. *Review of*

Research in Education 22, no. 1: 305–43.

Noffke, S., and B. Somekh, eds. 2009. *Handbook of educational action research.* London: Sage.

Norman, G. (2010). Likert scales, levels of measurement and the "laws" of statistics. *Advances in health sciences education*, *15*(5), 625-632.

Norton. (2005). Action Research and Pedagogy. Presentation available at; http://www.esri.mmu.ac.uk/carnnew/studydays/CARN.

OECD (2010) Strong Performers and Successful Reformers in Education: Lessons from PISA for the United States. OECD Publishing.

O'Hanlon, C. (1996). *Professional development through action research in educational settings*. Psychology Press.

Oja, S. N., & Pine, G. J. (1989). "Collaborative Action Research: Teachers' Stages of Development and School Contexts." Peabody Journal of Education, 64(2), 96-115.

O'Leary, K.D., & O'Leary, S.G. (1977). Classroom management: The successful use of behavior modification (2nd ed.). New York: Pergamon Press Inc.

Oppenheim, A. (1992). Questionnaire Design, Interviewing and Attitude Measurement, London, Pinter.

Ormell, C. (2000). Can action research rebut charges of intrinsic subjectivity and subversivity?. *PROSPERO-WALLINGFORD-*, *6*(3/4), 111-122.

Padwad, A., & Dixit, K. K. (2011). ELE Policy and Pedagogy in India: A Study of the Curriculum Framework for Teacher Education. *English Language Education in South Asia: From Policy to Pedagogy*, 245.

Page, N. and Czuba, C. (1999). “Empowerment: What Is It?” *Journal of extension,* 37(5).

Patterson, L., & Shannon, P. (1993). Reflection, inquiry, action. *Teachers are researchers: Reflection and action*, 7-11.

Patton, M. (1990) Qualitative Evaluation and Research Methods (2nd ed.) Newbury Park, CA: Sage Publications, Inc.

Phillips, D. K., & Carr, K. (2014). *Becoming a teacher through action research: Process, context, and self-study*. Routledge.

Phillips, Donna, and Kevin Carr. 2006. *Becoming a teacher through action research: Process,*

context, and self-study. New York: Routledge.

Piantanida, M., Tananis, C., & Grubs, R. (2002). Claiming grounded theory for practice based dissertation research: A think piece. In *Conference on Interdisciplinary Qualitative Studies. Athens, Georgia*.

Plummer, K. (2001). *Documents of life 2: An invitation to a critical humanism*(Vol. 2). Sage.

Ponte, P., J. Ax, and D. en Beijaard. 2004. Don’t wait till the cows come home: Action research and initial teacher education in three different countries. *Teachers and Teaching: Theory and Practice* 20: 591–621.

Ponte, P., Ax, J., Beijaard, D. & Wubbles, T. (2004). Teachers’ development of professional knowledge through action research and the facilitation of this by teacher educators. Teaching and Teacher education 20, 571–588.

Ponte, P. 2002. How teachers become action researchers and how teacher educators become their facilitators. *Educational Action Research* 10, no. 3: 399–423.

Pressley, M., Borkowski, J. G., & O'sullivan, J. T. (1985). Children's metamemory and the teaching of memory strategies. *Metacognition, cognition, and human performance, 1*, 111-153.

Prince, M. J., & Felder, R. M. (2006). Inductive teaching and learning methods: Definitions, comparisons, and research bases. *JOURNAL OF ENGINEERING EDUCATION-WASHINGTON-*, *95*(2), 123.

Psifidou, I. (2010). The fading paradox in teacher education and training policies in Europe. In *International Symposium on Teacher Education in Modern Era: Current Trends and Issues* (pp. 1-3).

Psifidou, I. (2010). Bridging knowledge with skills and competences in school curricula: evidence from policies and practices in nine European countries. In *Conference proceedings XIV World Congress of Comparative Education Societies "Bordering, re–bordering and new possibilities in education and society". Istanbul*.

Rearick, M.L., and A. Feldman. 1999. Orientations, purposes, and reflection: A framework

for understanding action research. *Teaching and Teacher Education* 15, no. 4: 333–49.

Riche, P. (1976). Education and Culture in the Barbarian West, trans. *John J. Contreni (Columbia, SC, 1976)*, 147.

Richardson, L. (2003) 'Poetic Representations of Interviews' in Gubrium. J. and Holstein. J. Postmodern Interviewing London, Sage, pp.187-201

Richard Winter, 1989. Learning From Experience: Principles and Practice in Action-Research Philadelphia: The Falmer Press, 43-67.

Robert J. Marzano. (2003). What Works in Schools: Translating Research into Action. Association for Supervision and Curriculum Development. Alexandria: VA.

Robinson, M. 2009. Practitioner inquiry in South Africa schools: What, how and why not.

Educational Action Research 17, no. 1: 121–31.

Rousseau, J. J. (1762). The Social Contract, trans. *M. Cranston, Harmonds*.

Rowland, T.W., & Freedson P.S. (1994). Physical activity, fitness, and health in children: A dose look Pediatrics, 93, 669 –672

Sacks H (1992). Lectures on conversation. Jefferson G (ed.), Introduction by Schegloff E. Oxford/Cambridge, MA: Blackwell.

Sagor, R. 1992. *How to conduct collaborative action research*. Alexandria,

VA: ASCD.

Sagor, R. (2009). Collaborative action research and school improvement: We can't have one without the other. *Journal of Curriculum and Instruction*, 3(1), 7-14.

Schegloff, E. A. (1996). Issues of relevance for discourse analysis: Contingency in action, interaction and co-participant context. In*Computational and conversational discourse* (pp. 3-35). Springer Berlin Heidelberg.

Schön, Donald. 1983. *The reflective practitioner: How professionals think in action.* New

York: Basic Books.

Schön, D. (1987) Educating the Reflective Practitioner. San Francisco: Jossey-Bass Publishers.

Scribner, J.P. 1999. Professional development: Untangling the influence of work context on

teacher learning. *Educational Administration Quarterly* 35, no. 2: 238–66.

Shalaway, L. (1990). Tap into Teacher Research. Instructor 100(1) 34–38.

Short, P. (1994). "Defining Teacher Empowerment." *Education*, 114(4), 488-492.

Shulman, L. 1986. Those who understand: Knowledge growth in teaching. *Educational*

Researcher 15, no. 2: 4–15.

Sinclair, C., Dowson, M., & McInerney, D. (2006). Motivations to teach: Psychometric perspectives across the first semester of teacher education.*The Teachers College Record*, *108*(6), 1132-1154.

Sinclair, C., Dowson, M., & Thistleton-Martin, J. (2006). Motivations and profiles of cooperating teachers: Who volunteers and why?. *Teaching and teacher education*, *22*(3), 263-279.

Skinner (1968) Skinner, B. F. (1968). The technology of teaching.

Somekh, B. 2006. *Action research: A methodology for change and development.* Maidenhead:

Open University Press.

Somekh, B., and K. Zeichner. 2009. Action research for educational reform: Remodelling

action research theories and practices in local contexts. *Educational Action Research* 17,

no. 1: 5–21.

Sorcinelli, M. D. (2006). *Dimensions associated with effective teaching*. Amherst: University of Massachusetts, Center for Teaching.

Spiggle, S. (1994). Analysis and interpretation of qualitative data in consumer research. *Journal of consumer research*, 491-503.

Stake, R. E. (1995). *The art of case study research*. Sage.

Star, S. L. (1998). Grounded Classification: Grounded Theory and Faceted Classification. *Library trends*, *47*(2), 218-32.

Steffy, B. & Wolfe, M. (2001). A life-cycle model for career teachers. *Kappa Delta Pi Record*. 38, (1), 16-20.

Stenhouse, L. (1971). The humanities curriculum project: The rationale. *Theory into Practice*, *10*(3), 154-162.

Stenhouse, L. 1975. *An introduction to curriculum research and development.* London:

Heinemann Educational Books.

Stenhouse, L. 1985. *Research as a basis for teaching: Readings from the work of Lawrence*

Stenhouse. Ed. J. Rudduck, and D. Hopkins. Oxford: Heinemann Educational Books.

Stetsenko, A. 2008. From relational ontology to a transformative activist stance on development

and learning: expanding on Vygotsky's CHAT project. *Cultural Studies of Science*

Ecucation 2, no. 2: 471–91.

Stiggins, R. J. (2001). *Student-involved classroom assessment*. Prentice Hall.

Stipek, Deborah J., and Joel M. Hoffman. "Children's achievement-related expectancies as a function of academic performance histories and sex."*Journal of Educational Psychology* 72.6 (1980): 861.

Stokes, L. (2001). Lessons from an inquiring school: Forms of inquiry and conditions for teacher learning. *Teachers caught in the action: Professional development that matters*, 141-158.

Stokes, L. 2001. "Lessons from an inquiring school: forms of inquiry and conditions for teacher learning". In: Lieberman, A.; Miller, L. (Eds.), Teachers caught in the action: professional development that matters.New York: Teachers College Press.

Stoll, L. & Fink, D. (2000). Changing our schools: Linking school effectiveness and school improvement. Zagreb: Educa.

Strauss, A., & Corbin, J. (1998). Basics of qualitative research: Procedures and techniques for developing grounded theory. *ed: Thousand Oaks, CA: Sage*.

Strauss, A. L., and J. Corbin. 1990. *Basics of qualitative research: Grounded theory*

procedures and techniques. Newbury Park, CA: Sage Publications.

Street, L. (1986). Mathematics, teachers, and an action research course. *Action research in classroom and schools. London: Allen and Unwin*.

Stringer, E.T. (2007). Action Research 3rd ed. London: Sage Publication.

Stringer, E.T. 2007. *Action research* (3rd ed.). Los Angeles, CA: Sage Publications.

Stringer, E.T. (1996). *Action research: A handbook for practitioners.* Thousand Oaks, CA:

Sage.

Subahan Mohd Meerah, T. (2011) Teaching marginalized children at primary schools: teachers'

professional development through collaborative action research; *Cypriot Journal of Educational Sciences*: Malaysia 49–60.

Tahar, S., & Boutellier, R. (2013). Resource allocation in higher education in the context of new public management. *Public Management Review, 15*(5), 687-711.

Tilloston, J.W. 2000. Studying the game: Action research in science education. *The Clearing*

House 74, no. 1: 31–4.

Tokuhama-Espinosa, T. (2010). The new science of teaching and learning: Using the best of mind, brain, and education science in the classroom. New York: Columbia University Teachers College Press.

Twine J., & Martinek T.J. (1992). Teachers as researchers—an application of a collaborative action research model. J. Physical educ. recreation & Dance, 63 (9), 22-25.

Tyler, R. W., Gagné, R. M., & Scriven, M. (1967). *Perspectives of curriculum evaluation* (Vol. 1). Chicago: Rand McNally.

Unruh, V. (1986). Language and Power in" Miss Margarida's Way" and" The Lesson". *Latin American Literary Review*, 126-135.

UNESCO 2009. EFA Global Monitoring Report: Overcoming inequality: why governance matters [Online]. Available at UNESCO at: http://unesdoc.unesco.org/images/0017/001776/177609e.pdf

USAID (2004). Pakistan teacher education and professional development programme (PTEPDP): Performance gap analysis and training needs assessment of teacher training institutes.

USAID & UNEESCO (2009). *Directory of Teacher Education Institutions in Pakistan*.

Villegas-‑Reimers, E. (2003). *Teacher Professional Development: an international review of litera-ture*. Paris: UNESCO/International Institute for Educational Planning.

Walker M.L. (1993). Participatory Action research. Rehab. Counseling Bull., 37, 2-6.

Ward, J., & McCortter, S. (2004) Reflection as a visible outcome for pre service teachers. Teaching and teacher education an International Journal of research and studies, 20(3), 243–257.

Watton P, Collings J, Moon J. (2001) Reflective Writing - Guidance Notes for Students. Exeter: Exeter University.

Wayne, A. J., & Youngs, P. (2003). Teacher characteristics and student achievement gains: A review. *Review of Educational research, 73*(1), 89-122.

West, C. (2011) Action Research as a Professional Development Activity, Arts Education Policy Review, 112: 89–94. New York Ithaca College. Taylor & Francis Group.

Whitehead, J. 1999. Educative relations in a new era. *Pedagogy, Culture and Society* 7, no. 1:

73–90.

Whitehead, J. (1989). Creating a Living Educational Theory from Questions of the Kind, 'How do I Improve my Practice?' *Cambridge Journal of Education*, 19 (1), 41-52.

Whitehead, J. (2000). How do I improve my practice? Creating and legitimating an epistemology of practice. *Reflective Practice, 1*(1), 91-104.

Wilson, T. P. (1982). Relational networks: An extension of sociometric concepts. *Social Networks*, *4*(2), 105-116.

Wilson, Richard (1992). *Rethinking political culture*. Cambridge: Cambridge University Press.

Williamson K.M. (1992). Relevance or rigor—A case for teacher as researcher. J. Physical educ. recreation & Dance, 63 (9), 17-21.

Woods, P. (1996) *Researching the Art of Teaching: ethnography for educational use*. London, Routledge.

Wragg, E. (2005). *The Art and Science of teaching and learning* (p. 72). Oxford: Routlege.

Zahra, S. A. (2007). Contextualizing theory building in entrepreneurship research. *Journal of Business venturing*, *22*(3), 443-452.

Zeichner, K. 2003. Teacher research as professional development for P-12 educations in the US. *Educational Action Research* 11, no. 2: 301–25.

Zuber-Skerrit O. (1992). Improving Learning and Teaching through Action Learning & Action research. Draft paper for the HERDSA conference 1992. University of Queensland.