

**AN ANALYTICAL STUDY OF QUESTIONING  
LEADING TO CRITICAL THINKING IN  
CLASSROOMS**



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# **AN ANALYTICAL STUDY OF QUESTIONING LEADING TO CRITICAL THINKING IN CLASSROOMS**



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Dated:\_\_\_\_\_

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## DECLARATION

I, **Ms. Wilayat Bibi**, Roll No. 09, a student of Ph.D. at the Institute of Education and Research, University of Peshawar, do hereby solemnly declare that the thesis titled '*An Analytical Study of Questioning Leading to Critical Thinking in Classrooms*' submitted by me in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Education, is my original work, except where otherwise acknowledged in the text and has not been submitted or published earlier and shall not in future, be submitted by me for obtaining any degree from this or any other university of institution.

Dated:\_\_\_\_\_

---

**Wilayat Bibi**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

*In the Name of*

*Allah*

*The Most Merciful, and the Most*

*Compassionate*

## **DEDICATION**

To my **Father& Mother**

For their love, continuous support and 100%  
encouragement;

To my **Siblings**

For their love, unfailing 'push' and support in their  
own individual way;

To my beloved **Friend**

For her undying love, endless understanding and  
lasting support;

All of you mean so much to me and you are all truly  
and absolutely beautiful in my eyes and in my heart.

*Nothing is wasted,  
Nothing is forgotten...*



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## **ABSTRACT**

Questioning is one of the most commonly used techniques at the disposal of teachers during teaching to check students' level of understanding about the concepts. Questioning technique assists teachers to communicate them about the level of understanding of their students. Questions are promoting students' creativity in classroom interaction. Without higher order, thought provoking questions, learning become little more than memorization. Questions, if asked intelligently not only elicit information and develop cognitive thinking processes but also develop analytical and critical thinking. Perhaps a few studies have been carried out on this vital issue in the Pakistani classroom situation.

The overall purpose of the proposed study was to investigate questioning leading to critical thinking in the classrooms setting. It was focused to determine the levels of questions keeping in view the Bloom's Taxonomy. The study was also focused to analyze lower and higher order questions and to explore convergent and divergent questions at secondary and tertiary levels. The study was an observational type of the descriptive method. The target population composed of 21965 teachers at Secondary Level and 3000 teachers at Tertiary Level in Khyber Pakhtunkhwa. Using proportional allocation of population (Walpole, 1968), 176 Secondary School teachers and 24 Tertiary level teachers were observed in their classrooms during their teaching. Using simple random sample technique, the study was conducted in districts Peshawar, Kohat, D.I.Khan, Mansehra, Mardan, Malakand, and Swat. To achieve the objectives of the study, the instrument "observation guide using Bloom's Taxonomy" was used. A total of two hundred observations were made at both the levels. During the observation the researcher

noted down the questions asked by the teacher and was also audio recorded. The questions were then categorized on the observation sheet as knowledge, comprehension, application, analysis, synthesis and evaluation.

The study results revealed that teachers practice of asking questions was very weak, majority of the teachers asked dominantly lower order and convergent questions at secondary level which could not help to develop the habit of critical thinking among students at secondary level. There were variations in terms of classroom time duration and number of asked questions by teachers. The results of the study showed that no question was asked by teachers in some of the classes at secondary level. The asked questions were predominantly lower order and convergent questions with a very low asking ratio and, not encouraging critical thinking at tertiary level among students. The teachers both at secondary and tertiary level provided very short wait time to students to respond. There found no awareness of teachers regarding the positive impact of increasing wait time and getting divergent answers. The results also concluded that there is no significance difference between type of teachers' questions at secondary and tertiary level. The observations in the study revealed that teachers at secondary and tertiary level employed almost similar type of questioning technique while teaching in order to check student's level of understanding. Of all the questions asked in the study, lower order and convergent questions elicited the greatest number of responses from the students. Teachers rarely posed questions at the application, synthesis and evaluation levels.

Teachers generally preferred to pose simple questions that would accelerate the teaching learning process and would need little efforts on the part of students to answer the questions.

It was recommended that the use of multiple types of questions in the classroom is crucial for promoting students' critical thinking. In teaching, it is necessary for the teachers to plan questions for students learning, as well as for promoting students' higher level of thinking process.

# **CHAPTER-ONE**

## **INTRODUCTION**

### **1.1 Background of the Study**

The researcher has almost ten years school and college teaching experience. Once at school the researcher was making classroom observations with the school principal. It was observed that questioning techniques were heavily used teaching strategy employed by almost all teachers who were observed. Half of their instructional time was spent in asking questions for the active participation of the students in the lesson, to arouse their interest and to develop their critical thinking. The researcher interest in the area developed as being teacher, has experienced great satisfaction when asked questions from students and got correct responses. It was thought that whether the practice of asking questions was appropriate and teachers were asking the right type of questions or not? Were these questions effective to improve students' achievement and develop their critical thinking?

The researcher and advisor conducted a small scale study earlier that was a case study of one school. In order to expand this study to see if the findings were generalizable, this Ph.D. level study was a large scale study and was further expanded to offer a comparison of one level with another (secondary and tertiary). Basically asking questions is a compulsory part of instruction in classroom. This activity begins in the early grades and it is expected that in higher grades the teachers would ask good quality, thought-provoking questions. This is why a

comparison of the two levels was made in order to see if questioning increased in higher levels of schooling.

## **1.2 Nature of Questions**

One of the aims of teaching is to equip the students with necessary skills to make appropriate decisions in life. For this purpose students must be taught in such a way as to enable them to solve the problems actively, to critically think, and to feel relax about them. They get these skills of thinking by learning to response to critical questions. Asking appropriate question which lead to critical thinking is a complicated process and unfortunately most of the teachers are untrained to ask high-quality questions (Cecil, 1995).

The questioning process is a central feature of most classrooms. Teachers ask questions not only to monitor students understanding, but also to stimulate students to engage with the content, relate it to the prior knowledge, and to think about its applications. Researches show that teachers are supposed to ask as many questions which require students to process and analyze information while many of their questions are factual which encourage only rote memorization. Teachers also tend to rush students responses not giving them adequate time to provide varied and thoughtful answers (Ryan & Cooper, 2010).

Teachers play a critical role in asking questions. It is much important for the teachers to plan questions carefully so that knowledge and comprehension of students may enhanced. High quality of teacher's questioning can help students think critically and independently. All questions involve content. Mastery of teachers in content can help teachers ask questions which involve students in deeper meaning and critical thinking (Pagliaro, 2011).

Questions are tool for checking the understanding level of students. Questions are not only asked to make the students learn factual knowledge or recall information but the important thing is to ensure that the questions engage students in deeper and creative thinking. One way to make sure that the questions involve students in creative and analytical thinking is to plan in advance using an organizational structure such as Bloom's Taxonomy (Fisher & Frey, 2007)

### **1.3 Blooms' Levels of Questions**

When one considers the development of thinking skills, turns for guidance to Bloom's Taxonomy. Education professor Benjamin Bloom and a group of colleagues worked to develop a system to identify and organize the process of thinking and learning. In 1956 Bloom's group published the Taxonomy of Educational Objectives: Handbook 1, which is now commonly known as Bloom's Taxonomy (McDonald & Hershman, 2010). From 1995 through 2000, a group of educators worked to revise the original taxonomy based on more recent understanding about learning. The group published the result of their work in 2001(Sousa, 2009). To summarize this taxonomy advocate that giving judgment for something is not possible without knowing the facts, understanding of the facts, application of the facts, taking the facts apart, and putting the facts organized in such a way that new perspectives are disclosed (Morgan & Saxton, 2006).

Bloom's six types of questions can further be divided into three detailed groups. Level one question consists of "knowledge" and "comprehension". These are categorized as lower level questions, which require students to recall and collect data, but these encourage students for little deep thinking. Level two

questions consist of “application” and “analysis”. Such types of questions require the students to begin to process data and to assimilate new content with their own observations. The third level of questions is “synthesis” and “evaluation”. These questions provoke higher level deep thinking because these involve a high level of mental activity (Cecil, 1995). These different questioning techniques of Bloom’s Taxonomy are recommended to promote critical and analytical thinking in students. Teachers can inculcate these questions in such a manner that students actively participate in many activities of deep level thinking and behind these techniques the teachers have many objectives and conclusions. These objectives can be achieved effectively by creating an encouraging classroom environment boost up active involvement of students with new experiences and inquisitive attitude which help them in achieving their goals (Shaunessy, 2005).

The concept of learning is that it occurs when the students are able to answer the questions asked by the teacher, the reality is that learning does not occur until learner need to know and can formulate the questions for themselves.

Classroom activities involve the students into the process of inquiry-thinking, feeling, discussing, arguing, philosophizing and more- and it is the teacher who is mostly the initiator of these actions (Morgan & Saxton, 2006).

Gall (1984) indicated that teachers seldom ask questions that require higher levels of thinking (application, analysis, synthesis or evaluation). Teachers ask questions requiring students to recall facts. This is unfortunate because higher order questions stimulate critical thinking. However, achievement is not accomplished if teachers only ask higher order questions. The best strategy is to

use the combination of questions that can move students from lower levels to higher levels of learning.

One of the problems is that without higher order, thought-provoking questions learning becomes little more than memorization (Cooper, 2013).

Different types of questions serve different types of learning and teaching purposes. It is not the case that certain types of questions should be preferred over others such as low cognitive over high cognitive or vice versa. Teachers should select questions keeping in view the objectives of the lesson. If the objective is to give some basic information of the concepts, low cognitive questions should be asked. If the purpose is to make the students analyze, evaluate or create new information, high cognitive questions should be used (Hunt, Wiseman & Touzel, 2009).

#### **1.4 Convergent and Divergent Questions**

Asking convergent questions means to restrict student's responses to one right answer while asking divergent questions is to divert student's thinking in many directions. Divergent questions encourage critical thinking about problems. Mostly, teachers ask convergent questions without realizing the fact that they are confining students to recall of information (Althouse et al; 2003). Convergent questions can only be effective when teachers want to assess students' knowledge of facts (Colburn, 2003).

## 1.5 Wait Time

Another dynamic aspect that is related to teachers' questions, involves wait time. Teachers seldom wait more than one minute to answer their own questions (Powell & Caseau, 2004). Critical and creative thinking and reflection take time. A teacher questioning methodology should operate in such a way that give students enough time to think over and give a response (Ryan & Cooper 2010). How long teachers pause or wait? Suggestions range from 3 to 5 seconds. Research shows a range of 0.5 to 1.2 seconds (Blosser, 2000).

|                    |                     |                  |                     |                  |
|--------------------|---------------------|------------------|---------------------|------------------|
| Teachers' question | Pause (wait time 1) | Student response | Pause (wait time 2) | Teacher reaction |
|--------------------|---------------------|------------------|---------------------|------------------|

Pausing after asking a question (wait time 1) provides students with the opportunity to think about teacher's question and to formulate a response. Pausing after a student's responds (wait time 2) provides the students with the opportunity to add, to modify, or elaborate on the response (Rowe, 1973).

Ever since the beginning of classroom research (Stevens, 1912), teachers have been observed – when not lecturing or demonstrating –ask a good many questions at a fast pace over a class hour, several questions per minute. Less than one second of time has repeatedly been observed to lapse between the end of the student's answer and the start of the teacher's next question. The majority of questions entail the recall and recitation of factual information previously taught or studied; some questions bear on speculative, evaluative, and other cognitive manipulations of information; and the remainder are conversational and managerial.

## **1.6 Significance**

Questioning is essential for good communication and it lies at the heart of good, interactive teaching. Learning to think in an effective manner and develop critical thinking, students must be engaged to learn actively, and one way to active learning in classroom is to ask variety of questions. Good questioning technique is a challenging skill which is very important to be developed by the teachers. Questions are supposed to be asked intelligently that is at the suitable level, of the suitable type, and specially, should be worded correctly. Very often it has been observed that the teacher occupy central position in the classroom who is busy in talking while the students become passive listeners. Use of questioning technique is an appropriate way to changeover from teacher-centered instruction to student-centered instruction. A skill in questioning is becoming a vital element of productive teaching.

Questioning technique plays a key role in helping teachers to impart knowledge as it serves so many functions but it is still an under researched area in the Pakistani classroom context. This study adopted a realistic approach to focus on daily classroom activities related to questioning.

The study will be significant for the teachers to develop and improve their questioning skill as to promote higher order thinking in students. The study will be beneficial for university and secondary school teachers to get familiar with convergent and divergent questions. The study will provide footings for further research to correlate the type of question asked and the development of higher order or lower order thinking.

## **1.7 Statement of the problem**

Being a teacher herself, the researcher noticed that teachers asked a lot of questions but whether the questions were better enough to promote critical thinking. Perhaps this vital issue has not gained attention of the researchers and still an under – researched area in Pakistan. The overall purpose of the study was an analysis of Questioning leading to critical thinking in the classrooms.

## **1.8 Objectives of the study**

Objectives of the study were

- To explore the convergent questions at Secondary and Tertiary Levels
- To find out the divergent questions at Secondary and Tertiary levels
- To determine the levels of questioning taking into consideration the Taxonomy of Bloom
- To differentiate the levels of questioning at Secondary and Tertiary levels
- To analyze higher and lower order questions

## **1.9 Research Hypotheses**

H<sub>0</sub>: There is no significance difference between the type of questions at Secondary and Tertiary Levels

H<sub>1</sub>: There is significance difference between the type of questions at Secondary and Tertiary Levels

- The teachers at Secondary Level ask lower order questions.
- The teachers at Tertiary Level ask lower order questions.

- The teachers at Secondary and Tertiary Levels ask more convergent questions than divergent questions.
- There is no significance difference between teachers' lower order questions at Secondary and Tertiary level.
- There is no significance difference between teachers' higher order questions at Secondary and Tertiary level.

### **1.10 Limitations of the Study**

The study was limited to the Secondary and Tertiary level teachers of Khyber Pakhtunkhwa to know the prevailing practice of questioning technique.

### **1.11 Delimitations of the Study**

Keeping in view the real world constraints, the study was delimited to two levels of education i.e. Secondary and Tertiary Levels. The study was further delimited to the Secondary School teachers and teachers of public sector universities of Khyber Pakhtunkhwa.

### **1.12 Definition of the Terms**

- **Analytical:** Relating to or using analysis or logical reasoning.
- **Question:** A sentence worded or expressed so as to elicit information.
- **Critical:** Expressing adverse or disapproving comments or judgments.
- **Thinking:** Using thought or rational judgment.
- **Secondary level teachers:** teachers teaching to class, 6<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>,
- **Tertiary level teachers:** teachers teaching at B.A, B.Sc, M.A, M.Sc level

- **Convergent question:** A convergent question is a specific query which requires 'yes' or 'no' answer.
- **Divergent question:** A divergent question has more than one answer or a finite limit.

## **CHAPTER-TWO**

### **LITERATURE REVIEW**

This chapter describes the review of related literature under the following headings.

#### **2.1 Questioning Skills**

Educational process based on the practice of enquiry, and enquiry takes place through the framing of questions (Kerry, 2002). Since Socrates time, teaching and questioning strategy have been regarded as necessarily relevant activities. An effective teacher must also be an effective questioner. While teaching in the classroom, teachers ask a lot of questions. Researchers have identified that during teaching career, a typical teacher ask almost one and half million questions. Asking lots of questions do not mean that teachers are skilled in asking good questions (Cooper, 2013). Wood (1998) stated that teachers' questions have commanding influence over classroom talk. Most of the research findings about classroom questions show that questions play a crucial role in the classroom and that teachers need to develop an improved questioning skill (Dillon, 1984).

#### **2.2 What is question?**

Questioning is a strategy which is employed to accomplish a specific purpose (Nor, & Mohd. Ramli, 1998). A working definition of a question in the classroom is "any statement intended to evoke a verbal response" (Wragg, 1984). Any declaration aimed to elicit a student's response is called question. If the

questions evoke responses that actively engage a student in the learning process, are considered effective questions. Questions are helping instruments for teachers to present the content of the lesson, develop students' bridging understanding ability to learn the content. Questions are used to arise interest and curiosity, to focus attention on an issue, to diagnose specific learning difficulties, to help recall specific information, to promote thought and understanding of ideas.

Teacher's questions has a vital role in the development of students' spirit of inquiry, evoke and initiate new ideas, clear their concepts and they become more demanding and ambitious in life. Students generate their learning and thinking skills when exposed to the right set of questions. It is therefore vital for teachers to assess their current questioning techniques (Stewart, 2011).

Questioning technique is an indispensable element in the teaching learning process. Teachers' classroom time is spent in asking different questions. They ask questions as much as two questions each minute, up to 400 in a day, almost 70,000 a year or two to three million questions over the course of a career. So, it is imperative to ask right questions in the right way. Among the four hundred questions between 30 to 60 percent are procedural rather than learning-based. But questioning technique is still an important element and play pivotal role in transmitting knowledge (Hastings, 2006).

Questions are vehicles for thought. Teacher questioning behaviors affect which students learn how much (Walsh & Sattes, 2005). Questioning is an essential and complex learning tool for teachers –even for the most experience as well -- to master. To add to the complexity, varieties of questions are suitable for various kinds of instructional strategies (Pagliaro, 2011).

The use of skilful questioning techniques is seen as sign of a successful teacher. Skilful teachers match their questions to the ability level of their students. Less competent students may need a series of questions to arrive at a correct answer (Lapp, Flood & Farnan, 1989).

Nor, & Mohd. Ramli (1998) listed a number of reasons for asking questions by the teachers. The reasons they had given were, a) to promote creativity in the thinking process, b) to collect and examine the facts, c) to stimulate and extend students' cognitive abilities, d) to update their already learned knowledge, e) to activate students' participation in the teaching and learning process, f) to instigate the creativity in ideas, g) to develop a supportive environment where teachers and students can freely share their ideas, h) to check and judge students' level of understanding and time to time progress in the studies, i) to find out whether the targets set for the teaching and learning are achieved or not, j) to draw students' attention and to promote their interest for learning and, k) to generate a cordial and pleasant environment between teachers and students.

### **2.3 Classification of Questions according to Bloom's Taxonomy**

Effective questioning has well-defined and definite characteristics, serves various functions and creates different levels of thinking. Teachers' questions involve different thought processes from simple factual recall of information to more complex thinking level. Teachers' great reliance on asking factual questions cannot create effective learning environment. Using questions effectively and intelligently, thorough knowledge about the different types of questions is very important for teachers (Cooper, 2013).

There are many terms and classifications for explaining the different types of questions. All these classifications provide a conceptual framework for categorizing questions. To simplify the process and to avoid repetition, Bloom's Taxonomy (1956) which is a famous system of classification for educational objectives and also for classroom questions has to be selected. Bloom's Taxonomy consists of six levels and question at each level demand distinct type of thought process. Effective teachers formulate questions on each of these six levels in order to involve students in different types of thinking processes.

There are different types of learners in the classroom for which teachers must plan to devise such questions which cover all the distinct levels of cognitive domain that contain knowledge, comprehension, application, analysis, synthesis, and evaluation levels of Bloom's Taxonomy.

### ***2.3.1 Knowledge Level Questions***

Knowledge level questions refer to types of questions that lay stresses on memory. Such type of questions assist students in understanding or remembering of the concepts that had been taught. These levels of questions demand students to demonstrate their knowledge in the form of classification, sequencing and listing of facts (Bloom, 1956). Knowledge based questions encourage the learner to recall, describe, define, or recognize facts that already have been devoted to memory (Borich, 2000).

Questions formulated at the knowledge level may ask students to remember common terms, specified and definite facts, methods and procedures, basic ideas, and principles. This could include stating or describing the who, what, when, where, and how of a situation. Knowledge questions can prompt students to

arrange ,define, describe, enumerate, identify, know, label, list, match, outline, recall, recognize, select, state, or tell (Henning, 2008).

Knowledge level questions are important for several reasons. Knowledge level questions provide a base for higher level thinking as memorization of information is required to perform a variety of tasks. Use of knowledge questions also develops class participation (Cooper, 2013). Asking knowledge level questions provide an opportunity to low ability students to exhibit a leading performance by responding correctly to such questions 70 to 80 percent of the time (Brophy & Evertson, 1976).

On the other hand knowledge category questions have some drawbacks. Most of the teachers overuse knowledge level questions, memorization of facts are stressed which is easily forgotten. Such questions judge students' superficial and shallow understanding of the phenomena (Cooper, 2013).

### ***2.3.2 Comprehension Level Questions***

Comprehension based questions are the type of questions that give more consideration to the comprehension of concepts or principles. At this level, learners are expected to use ideas, concepts, principles and theories learned to obtain solutions of the problems. The principles used must be transparent as well. Learners should have the ability to manipulate information from diagrams, graphs, formula or explain scientific terminology (Bloom, 1956).

Questions asked at the comprehension level stimulate the learner behavior to explain, describe, summarize, or elaborate the facts learned formerly (Borich, 2000).

At the comprehension level, students may be asked to explain facts and principles, interpret verbal material, clarify charts and graphs, translate etc. (Henning, 2008).

#### Examples

1. Can anyone explain photosynthesis in your own words?
2. What is the purpose of Bloom's taxonomy?

Questions asked at the comprehension level encourage the learner to go outside of the rote memorization of certain facts and their translation and to use previously acquired facts and understandings in an advanced and distinct environment (Borich, 2000).

### ***2.3.3 Application Level Questions***

Application level questions give more stress to focus learners' competency to use ideas, concepts, principles and theories to find solutions to problems that they have not confronted before (Bloom, 1956).

The application level of Bloom's taxonomy requires both understanding and application; it is considered a high level of cognition than the comprehension level. Questions at the application level require students to act, administer, apply, articulate, develop, discover, dramatize, establish, show, use, write etc. (Henning, 2008).

#### Example

1. Why is Bloom's taxonomy helpful in analyzing the effectiveness of teacher questions?

### ***2.3.4 Analysis Level Questions***

Questions at the analysis level demand learners' ability to distinguish the constituting elements of an idea at large, analyzing the relationship between various constituents and splitting up a topic into various inter-connected fractions. Making distinctions, comparing, connecting, doing an experiment and solving a problem are the behavior which can be judged at this level (Bloom, 1956).

Analysis level questions come under the category of higher order questions. Here the students are asked to split the information or problem into its constituent parts and to draw relationships among the parts (Borich, 2000).

At the analysis level of Bloom's taxonomy students are asked to divide and organize concepts, ideas, examples, theories, or other information or material into their component parts to better understand its organizational structure. Questions may include verbs such as analyze, appraise, break down, calculate, categorize, compare, contrast, correlate, diagram, differentiate, outline etc. (Henning, 2008).

Example

1. What features distinguish bird from a mammal?
2. What is the difference between knowledge and analysis level of Bloom's taxonomy?

### ***2.3.5 Synthesis Level Questions***

A synthesis level question stimulates learners to be more creative and imaginative. Acquiring this ability will help them to explore and solve a problem that has been presented. For instance, this level question demands the learners to plan, combine, create or produce something new (Bloom, 1956).

Synthesis level questions are designed to ask the learners to plan or create a unique or incomparable response to an unknown problem (Borich, 2000).

Synthesis level of Bloom's taxonomy encourages students to initiate, assimilate, and combine ideas into a product, plan, or proposal that is unique to him or her. They may be engaged in writing an essay, composing a speech, designing an experiment, creating a classification scheme, or generating any kind of project that requires the formulation of new patterns or structures (Henning, 2008).

### ***2.3.6 Evaluation Level Questions***

Evaluation level questions require learners to ponder on specific situation. Learners require appraising an idea, finding answers and making a judgment. An example of question for this level is requiring students to evaluate, give opinions, to elaborate the essence of a specific matter or issue, draw conclusion and give an explanation (Bloom, 1956).

Evaluation level questions are designed to develop in students the power of making judgments and taking in time decisions. Such type of questions helps students to employ stated criteria for determining the adequacy of the response (Borich, 2000).

Teachers need practice and guidance on asking a variety of questions as only effective questions can engage students actively in learning (Powell, 2004, p. 221).

## **2.4 Convergent and Divergent Questions**

Questions may be narrow or broad. Questions are narrow when encouraging a specific or limited response. Questions are broad when a general or expansive response encouraged. An efficient and competent teacher has full insight about questioning technique and always in a position to frame both type of questions, close (convergent) and open ended (divergent). Convergent types of questions are those which confined students responses to single or very limited answer. Convergent questions encourage students thinking on already learned answers and memorizing some limited facts (Borich, 2000).

Hiang (1997) also described the meaning of a convergent question and a divergent question. A convergent question requires a clear-cut and well-defined answer. The answer is wrong if it is contrastive to the supposed answer. On the contrary, a divergent question is not directed towards one specific answer rather it demands one to state one's views, feelings, observations, prediction and thoughts on specific situation.

The vast majority of questions teachers ask students are convergent (Blosser, 2000). Convergent questions are also called short-answer questions, since students can often respond to them with a word or two. Convergent questions are effective for assessing students' knowledge of facts (Colburn, 2003).

Convergent questions may require students to make comparisons, explain facts or concepts, state or describe relationships, or solve problems using leaned procedures. The following example illustrate convergent question:

What is the relationship between crude oil and plastic? (Hunt et al., 2009)

Convergent questions are also asked to lead the way for a discussion. For example:

1. What percentage of all teachers are females?
  2. Why would more females become teachers than males?
  3. What are the main reasons that all teachers give for becoming teachers?
- (Clement, 2005).

Questions which stimulate extensive and wide range responses are termed as divergent or indirect questions. Such sort of questions has more chances of correct and right answers (Borich, 2000).

Clement (2005) asserted that divergent questions are designed to guide the students to think broadly as such questions have many possible answers.

Divergent questions give students the freedom to respond and not restrict them to one correct answer. Responding to divergent questions require information base on the part of students. Divergent questions require students to think in new and novel ways (Powell, 2010).

Questions classified as divergent may require students to predict, hypothesize, or infer. An expression such as 'what if' is common to questions classified as divergent. The following example illustrate divergent question:

What do you think our society will be like in one hundred years? (Hunt et al, 2009).

The ratio of convergent questions asked in the classroom is much higher than divergent questions. The proportion is about 4:1 (Borich, 2000). The formulations of divergent questions that encourage higher level thinking are difficult to construct. Its formulation needs planning in advance. Due to lack of

proper planning in advance, many teachers rely on asking primarily convergent questions (Cruickshank, 2009, p.373).

## **2.5 Wait time**

Questioning technique with the provision of wait time for students' responses helps teachers to accelerate the learning process. It is essential for teachers to give time before starting another question or turning to another student to actively engage the learner in the learning process (Borich, 2000).

Teachers usually do not wait after asking questions from students. It has been observed that teachers do not wait more than a second to get answers of their asked question. Teachers allowed an average time of a second to put questions and receive a response from students. Sometimes teachers answer the question themselves. Below average students are provided with more less time as the teachers do not want them to feel shy when they are not able to give the right responses (Hastings, 2006).

Rowe (1974) conducted a study on questioning and concluded that teachers wait only 0.9 seconds for students' responses after posing a question. This time is too little for average students to answer any question. Every learner goes through four intellectual steps that are needed to response to a question. First step demand them to hear and comprehend the question. Second step encourage the students to recollect and think about the information from their memories. Third step requires the students to take into consideration that their answers will be approved and fourth step tells them that their answers will either be appreciated or criticized (Jones and Jones, 2004).

Increasing wait time by the teachers to students' responses has very positive impacts on developing higher level thinking in students, their answer skill improves and the failures to respond decrease (Rowe, 1986).

The more we provide longer time the more we get reasonable responses with great willingness and much confidence (Borich, 2000).

Permitting students a reasonable amount of thinking time increases the quality of students' responses (Partin, 2005).

## **2.6 Effective Questioning Skills**

Effective questioning gives participants to think through the content and gain a better understanding of the concepts being presented (Sullivan & Wircenski, 2001).

The use of successful questioning strategy helps teachers to promote thinking ability of the students, strengthen their fundamental skills, encourage shy and quiet students to participate and gain the concentration of inattentive, non-serious students (Dana & Hoppey, 2003).

Effective questioning is a complex process which needs careful planning. The teachers, while planning for effective questioning skills, should consider the goals and objectives of the lesson, should think about students' characteristics and should prepare guiding questions and include variety in capturing students' interest (Fusco, 2012). Effective teachers keep in view the instructional objectives of the lesson before framing the type of question (Moore & Hansen, 2011).

Frequency, equal distribution of low and higher level questions, prompting and wait-time are considered the characteristics of effective questioning strategies (Eggen & Kauchak, 2007; O'Flahavan, Hartman, & Pearson, 1988). Good

questioning skill has positive consequences on classroom environment as it stimulates students' creativity and critical thinking, involve students to actively participate in class and ensure their understanding (Ralph, 2004). Questioning, if asked intelligently, would upgrade students' level of thinking (Muth & Alverman, 1992; Orlich, Harder, Callahan, Kauchak, & Gibson, 1994; Ornstein, 1995).

## **2.7 Common Problems in Using Questions**

Eighty percent of the school time is devoted to questions and answers (Gall, 1984). According to (Brown & Edmondson, 1984) almost hundreds of questions per hour are asked by the teachers during classroom instruction. Borich (2000) study showed that questioning strategy is the most frequent technique employ by the teachers in their classroom teaching as this is the most appropriate method in promoting critical thinking.

But not all questions are effective. Only those questions encourage active participation of students in classroom if develop carefully. Questioning technique occupies much class time and students are actively involved during the learning process if teachers follow good questioning techniques (Bond, 2007).

Some of the most frequently observed problems with asking questions are the following.

### ***2.7.1 Use of Complex, Ambiguous or “Double” questions***

One of the commonest question asking problems of beginning teachers is the use of the complex, ambiguous or “double” question. This is a question that is so long and complicated that students easily lose track of the main idea by the time it is completed (Borich, 2000).

### ***2.7.2 We accept only the Answers we expect***

Another common mistake of teachers is to rely almost exclusively on the answer they expect. Answers that are just what the teachers are looking for are always desirable, but partly accurate replies and even uncommon and unanticipated. One can become effective supplements to the discussion through the use of probes (Borich, 2000).

### ***2.7.3 Why to ask this Question?***

The most serious error of all in question asking is not being certain why we are asking a question. Questions are tools that support teaching and learning processes. Our first decision in using questions is to decide either to use convergent or divergent questions which fulfill lesson needs (Borich, 2000).

### ***2.7.4 Answering own question***

Another common problem with teachers is posing a question, and then answering it themselves. The teachers often supply the correct answer to their own questions (Borich, 2000).

### ***2.7.5 Using Questions as Punishment***

Teachers usually employ questioning strategy to punish or make the students confuse. This wrong use of questions can hardly improve misbehavior and never supports the learning process (Borich, 2000).

## **2.8 Research Already Conducted**

According to a study done by Khan & Inamullah, (2011) “A study of lower order and higher order questions at secondary level” concluded that teachers asked

frequent questions in classrooms where most of the questions were lower order while higher order questions were seldom asked.

Tritapoe, (2010) declared that in most of the classrooms there is absence of motivation and interest on the part of students when the teacher is busy in explaining the content. The main reason behind this was lacking suitable questioning skills by the teachers. Declamatory and procedural questions were mostly asked by the teachers. It was also observed that insufficient time was provided to students' responses when asked questions.

The research of Tekene, (2006) highlighted that most of the questions asked in the centers were lower order questions. Majority of the participants were provided with less than three seconds to answer any question.

Ma, (2004) conducted a study which discussed some basic knowledge of questions, and then explores the skill of questioning in English class about the preparing, designing, controlling and evaluating of questioning.

Honea, (1982) conducted an experiment which studied the effects of which increasing wait-time. The number of participants of the study was twenty four social studies class students. It was observed that when wait-time was increased from three to five seconds, the active involvement and participation of students were highly improved.

Dumteeb (2009) explored the questions and questioning techniques used by Thailand English teachers to promote students' responses and their critical thinking skills in the English language classrooms. To obtain the data, various collection strategies including classroom observations, questionnaires, individual interviews,

focus group interviews, and document analysis were employed. The teachers used six types of questions in the classrooms: knowledge, comprehension, application, analysis, synthesis, and evaluation questions. Knowledge questions were found to be predominant. The dominance of knowledge questions was caused by the focus, the objectives of the lesson and the classroom context. Of all the questions asked in the study, knowledge questions elicited the greatest number of responses from the students. The fact that the students responded to knowledge questions most often might be because responding to knowledge questions does not require much of the students' time, effort, vocabulary and grammatical knowledge in formulating their responses.

Sulaiman & Noordin (2005) examined to what extent teachers use question levels in teaching investigation skills and explored that while teaching investigation skills, teachers mostly use knowledge level questions followed by analysis and comprehension question levels. Questions from the other levels were not often used while teaching.

According to Moore (1995) teachers have the inclination to ask a series of particular, factual, lower-order questions that do not pose any difficulty to the learner in finding answers because answers can easily be picked from the texts. This dependence on lower-order questions and ignoring other kinds of questions leads to rote learning and poses hurdles in promoting higher-level thinking skill among students (Perrott, 1990).

Ghazali (1998) conducted study on questioning in Malaysia and found that majority of the teachers feel discomfort in effective use of all types of questions that is from low to high, convergent, divergent, literal and inferential questions.

Questions asked at the lower-level appeal to lower level thinking which result in rote learning of facts and solid information. Such questions are beneficial for learners who have no prior learning and who must be dealt with easy questions before moving on to difficult and more intellectual reasoning (Ornstein, 1995).

## **CHAPTER-THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The main purpose of the study was analysis of questioning leading to critical thinking in the classroom. The study was observational type of the descriptive method. The following procedure was adopted for studying the questioning techniques in the classroom using Bloom's Taxonomy.

#### **3.2 Population**

##### ***3.2.1 Categorization of the population***

- All the 21965 teachers (<http://www.kpese.gov.pk/>) of the public secondary schools in Khyber Pukhtunkhwa
- All the 3000 teachers (<http://www.hec.gov.pk/ourinstitutes/>) of the public sector universities in Khyber Pukhtunkhwa

##### ***3.2.2 Sampling***

After studying different articles, research papers and research methodologies, the researcher decided to use proportion allocation of population (Walpole, 1968), 200 classroom observations were done, 176 at secondary level and 24 at tertiary level keeping in view cultural constraints, time constraints and current depressed situation and war against terrorism in the Khyber Pakhtunkhwa. At secondary level classes of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup> were observed while at tertiary level classes of B.A, B.Sc. and M.A, M.Sc. were taken. Being the student

of social sciences and having no background of pure sciences, with the permission of the heads of the institutes and willingness of the teachers, the researcher conducted observations of teachers teaching English, Urdu, Islamiyat, social studies etc. science classrooms were not observed.

In classes of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup> subjects of English, Urdu, social studies/ Pakistan studies, Islamiyat, civics were seen. In classes of B.A, B.Sc. and M.A, M.Sc. subjects like Education, Political science, English, Urdu, Islamic studies, Economics, Pakistan studies, Psychology, History etc. were observed.

Using simple random sample technique, the study was conducted in the districts of Peshawar, Kohat, D.I. Khan, Mansehra, Mardan, Malakand, and Swat.

### **3.3 Research Instrument**

To achieve the objectives of the study, the instrument was taken from “the instructional leader’s guide to informal classroom observations” (Zepeda, 2009) and modified by the supervisor and the researcher. The modifications were made in each category of the cognitive domain of Bloom’s Taxonomy. Each level was further divided into sub categories so that the categorization of the questions become easy and done appropriately. (Appendix -2)

### **3.4 Procedure**

The design of the study was observational. In order to collect data, the observational sheet was used while observing teacher’s lesson. One hundred and seventy six lessons were observed at Secondary Level while twenty four lessons were observed at Tertiary Level. A total of two hundred observations were made at both the levels. During the observation the researcher noted down the questions

asked by the teacher and was also audio recorded. The questions were then categorized on the observation sheet as knowledge, comprehension, application, analysis, synthesis and evaluation based.

Before conducting the actual study, the researcher got letter of permission (Appendix-1) from IER, University of Peshawar for collecting the data. After getting permission from school and universities authority and consent of the teachers, the observations were conducted at Secondary and Tertiary Levels of Khyber Pakhtunkhwa.

### **3.5 Pilot Testing**

The researcher selected Institute of Education & Research, University of Peshawar for pilot testing as the researcher is student over there. The researcher observed two classes using the instrument in the presence of senior professors. They were requested to give their valuable suggestions freely for improvement. They suggested

- That each category of the instrument be further expanded.
- For the validity of the data audio recording should also be made.
- For unobtrusive observation so that the teachers might be observed in their real spirit of teaching.

Accordingly technique of observation improved upon in the light of pilot testing.

### **3.6 Data Collection**

Data collection stage was an interesting stage for the researcher. The researcher visited different institutions (Appendix-3) and interacted with different

teachers at Secondary and Tertiary levels. Two hundred classes (as mentioned in the sample) with different strength of the students were observed in a period of six months. The class sizes ranged from 40-100 students at secondary level while class sizes was not more than 20- 30 students at tertiary level. The cooperation of the principals and teachers was admirable. Throughout the classroom observations, the teachers' questioning strategy was observed and was audio recorded. The observation sheet developed for the study was used for encoding the data. Each teacher was observed in the allocated class time in different institutions.

### **3.7 Ethical Consideration**

The teachers were carefully approached keeping in view the ethical issues discussed by Denscombe (2002). The purpose of research was explained and thus an informed consent was signed from the teachers of both secondary and tertiary level. Confidentiality of data and anonymity of the participants was ensured.

### **3.8 Budget**

The study was managed on self-support basis.

### **3.9 Time Schedule**

The study was completed in 20 months by following the given phases:

1. Review of related Literature was completed in 6 months.
2. The instrument was developed in a month.
3. The data was collected in 6 months
4. The collected data was organized, analyzed and interpreted in 4 months.

5. The research was reported in 3 months.

There are total 25 districts in Khyber Pakhtunkhwa:

- 1 Abbottabad 2 Bannu 3 Chitral 4 Charsadda 5 D.I. Khan 6 Dir Lower
- 7 Karak 8 Kohat 9 Kohistan 10 Mansehra 11 Mardan 12 Malakand
- 13 Nowshera 14 Peshawar 15 Swat 16 Swabi 17 Bunner 18 Haripur
- 19 Lakki 20 Tank 21 Battagram 22 Dir Upper 23 Hangu 24 Shangla
- 25 Tor Ghar

(Annual Statistical Report 2010)



Figure 3.1: Map showing districts of Khyber Pakhtunkhwa

## **CHAPTER-FOUR**

### **DATA AND DATA ANALYSIS**

#### **4.1 Organization of the Data**

The major purpose of the study was an analysis of questioning leading to critical thinking in the classrooms. To achieve the objectives of the study the researcher collected the data through the instrument “observation guide using Bloom’s Taxonomy” developed by Zepeda in (2009) amended by Khan & Inamullah (2011), using the observational technique. Data was collected by the above mentioned instrument, tabulated, analyzed and interpreted by using percentage and Chi Square statistical tool.

This chapter deals with the analysis and interpretation of data according to the study objectives. Tables 1 to 176 show the number of questions teacher asked at different levels of Bloom’s Taxonomy over specified classroom time at secondary level. Tables 177 to 200 show the number of questions teacher asked at different levels of Bloom’s Taxonomy over specified classroom time at tertiary level. Tables 201 to 211 deal with testing research hypotheses.

#### **4.2 Data Tabulation and Analysis**

A naturalistic approach was adopted by the researcher to observe teachers’ questioning technique in the classroom (Agrosino & Mays de Pérez, 2000). This helped the researcher to observe the real picture regarding questioning technique employed by teachers in the classrooms (Allwright & Bailey, 1991) and yet to be

inconspicuous (Ackroyd & Hughes, 1992; Bryman, 2001). During the classroom observations, the teachers' questioning patterns were observed and audio recording was made. The observation sheet developed for the study was used for encoding the data.

Each teacher was observed in the class over specific period of time. At the secondary level, the time duration per class was not more than forty minutes. In some schools a period of thirty minutes was also observed. There were differences in the time because the researcher was only concerned with the time when the teacher was engaged in giving lecture. That time of the class was not taking into considerations when the teacher started written work or checking of the notebooks of the students.

Two hundred teachers (as mentioned in the sample) were observed with audio recording.

The two hundred audio – taped observation sessions were transcribed. The transcribed data was analyzed on the bases of intuitive interpretation of the researcher (Kvale, 1996). Following observations, questions were categorized on the observation sheet consisting six levels of Bloom's Taxonomy. The Procedural questions (e.g., take out your books and start reading? and rhetorical questions (e.g., you have test today, isn't it?) were not analyzed.

The researcher identified the level of thinking for each question noted and placed it in the knowledge, comprehension, application, analysis, synthesis and evaluation category.

The teacher's questions were coded lower – order that asks for knowledge, comprehension and application, the first three categories of Bloom's taxonomy.

The questions that asked for analysis, synthesis, and evaluation were coded as higher – order questions, the last three categories of Bloom’s taxonomy (Morgan & Saxton, 1994, p.63, 64).

Some of the examples of low order questions include: which is the biggest mountain range? What is the meaning of cognitive? What is unconditioned stimulus? What is stratified random sampling? Who is the writer of the book “politics among nations”? Where is Mount Olympia?

Some of the higher order questions were:

What effect does overpopulation have on our country? What is the relationship between culture and religion? How will we change this sentence into indirect speech? How might we create a sentence for negative?

When the level of teacher questions was confirmed, questioning data were recorded onto a questioning chart regarding: question types; categories of data from the chart were summed. After each category was calculated, the total number of question types was divided by the number of questions the teacher asked. This information provided a percentage of each category of Bloom’s taxonomy.

The formula of percentage was:

$$\frac{\text{Number of asked questions}}{\text{Total number of questions}} \times 100$$

In order to compare the types of questions at secondary and tertiary level classrooms, chi square test was applied using manual calculations.

#### Chi-Square Test

Test statistics was used

$$\chi^2_{Obs} = \sum_{cells} \frac{(O - E)^2}{E}$$

O<sub>i</sub> = Observed frequencies

E<sub>i</sub> = Expected frequencies.

Df = Degree of freedom

Level of Significance used in the study was 0.05 (Gay, 2000)

Observed frequencies were collected and the expected frequency comes from the formula.

Row total multiply by column total whole divided by grand total  $\{(R * C) / GT\}$ .

In the table Df is degree of freedom and, 0.05 is level of significance (Garrett, 1997)

### 4.3 Secondary Level Data of individual tables

#### Connotation used:

K= Knowledge, C= Comprehension, APP= Application, ANA= Analysis, SYNT= Synthesis, EVA= Evaluation, No of Obs. Ques. = Number of observed questions

**Table-1~176: Category of questions observed in 176 total sessions at  
Secondary Level**

**Table 01**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App.</b> | <b>Ana.</b> | <b>Synt.</b> | <b>Eva.</b> |
|-------------|--------------------------|----------|----------|-------------|-------------|--------------|-------------|
| 15 min      | 19                       | 11       | 4        | 3           | 1           | 0            | 0           |
| %age        |                          | 58%      | 21%      | 16%         | 5%          | 0%           | 0%          |

Table 1 indicated that in 15 minutes class duration, the researcher observed 19 questions. 58 % of the questions were knowledge based, 21% were comprehension based, 31% were application based and 5% were analysis based. Thus majority of the questions asked in the class were lower order questions. The total percentage of questions during 15 minutes was 127%.

**Table 02**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App.</b> | <b>Ana.</b> | <b>Synt</b> | <b>Eva.</b> |
|-------------|--------------------------|----------|----------|-------------|-------------|-------------|-------------|
| 25min       | 11                       | 9        | 2        | 0           | 0           | 0           | 0           |
| %age        |                          | 82%      | 18%      | 0%          | 0%          | 0%          | 0%          |

Table 2 indicated that in 25 minutes class duration, the researcher observed 9 questions. 82 % of the questions were knowledge based and 18% were comprehension based. Thus majority of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was 44%.

**Table 03**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 15min       | 10                       | 5        | 5        | 0          | 0          | 0           | 0          |
| %age        |                          | 50%      | 50%      | 0%         | 0%         | 0%          | 0%         |

Table 3 indicated that in 15 minutes class duration, the researcher observed 10 questions. 50% of the questions were knowledge based and 50% were comprehension based. Thus majority of the questions asked in the class were lower order questions. The total percentage of questions during 15 minutes was 67%.

**Table 04**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Syn</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|------------|------------|
| 15min       | 10                       | 9        | 1        | 0          | 0          | 0          | 0          |
| %age        |                          | 90%      | 10%      | 0%         | 0%         | 0%         | 0%         |

Table 4 indicated that in 15 minutes class duration, the researcher observed 10 questions. 90% of the questions were knowledge based and 10% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 15 minutes was 67%.

**Table 05**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App.</b> | <b>Ana.</b> | <b>Syn.</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|-------------|-------------|-------------|------------|
| 25min       | 26                       | 20       | 2        | 3           | 1           | 0           | 0          |
| %age        |                          | 77%      | 7.6%     | 11.5%       | 4%          | 0%          | 0%         |

Table 5 indicated that in 25 minutes class duration, the researcher observed 26 questions. 77 % of the questions were knowledge, 7.6% were comprehension, and 11% .5 were application and 4% were analysis based. Thus majority of the questions asked in the class were lower order questions. 4% of the questions were asked in the higher order. The total percentage of questions during 25 minutes was 104%.

**Table 06**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | 7                        | 4        | 3        | 0          | 0          | 0           | 0          |
| %age        |                          | 57%      | 43%      | 0%         | 0%         | 0%          | 0%         |

Table 6 indicated that in 20 minutes class duration, the researcher observed 7 questions. 57% of the questions were knowledge based and 43% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 20 minutes was 35%

**Table 07**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 19                       | 12       | 7        | 0          | 0          | 0           | 0          |
| %age        |                          | 63%      | 37%      | 0%         | 0%         | 0%          | 0%         |

Table 7 indicated that in 30 minutes class duration, the researcher observed 19 questions. 63% of the questions were knowledge based and 37% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 63%.

**Table 08**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | 9                        | 3        | 5        | 0          | 0          | 1           | 0          |
| %age        |                          | 33%      | 56%      | 0%         | 0%         | 11%         | 0%         |

Table 20 indicated that in 20 minutes class duration, the researcher observed 9 questions. 33 % of the questions were knowledge based, 56% were comprehension based, and 11% were synthesis based. Thus majority of the questions asked in the class were lower order questions. Only 11% of the questions were higher order. The total percentage of questions during 20 minutes was 60%.

**Table 09**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 17                       | 11       | 6        | 0          | 0          | 0           | 0          |
| %age        |                          | 65%      | 35%      | 0%         | 0%         | 0%          | 0%         |

Table 9 indicated that in 30 minutes class duration, the researcher observed 17 questions. 65% of the questions were knowledge based and 35% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 57%.

**Table 10**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 22                       | 17       | 2        | 2          | 1          | 0           | 0          |
| %age        |                          | 77%      | 9%       | 9%         | 5%         | 0%          | 0%         |

Table 10 indicated that in 25 minutes class duration, the researcher observed 17 questions. 77 % of the questions were knowledge based, 9% were comprehension based, 9% were application based and 5% were analysis based. Thus majority of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was 88%.

**Table 11**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 15min       | 10                       | 8        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 80%      | 20%      | 0%         | 0%         | 0%          | 0%         |

Table11 indicated that in 15 minutes class duration, the researcher observed 10 questions. 80% of the questions were knowledge based and 20% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 15 minutes was 67%.

**Table 12**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 7                        | 6        | 0        | 0          | 1          | 0           | 0          |
| %age        |                          | 86%      | 0%       | 0%         | 14%        | 0%          | 0%         |

Table 12 indicated that in 40 minutes class duration, the researcher observed 7 questions. 86 % of the questions were knowledge based and 14% were analysis based. Thus majority of the questions asked in the class were lower order questions. 14% of the questions were asked in the higher order. The total percentage of questions during 40 minutes was 17.5%.

**Table 13**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 8                        | 8        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 13 indicated that in 45 minutes class duration, the researcher observed 8 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 45 minutes was just 18%.

**Table 14**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 6                        | 5        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 83%      | 17%      | 0%         | 0%         | 0%          | 0%         |

Table 14 indicated that in 35 minutes class duration, the researcher observed 6 questions. 83% of the questions were knowledge based and 17% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 17%.

**Table 15**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 6                        | 5        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 83%      | 17%      | 0%         | 0%         | 0%          | 0%         |

Table 15 indicated that in 40 minutes class duration, the researcher observed 6 questions. 83% of the questions were knowledge based and 17% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was just 15%.

**Table 16**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 5                        | 4        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 80%      | 20%      | 0%         | 0%         | 0%          | 0%         |

Table 16 indicated that in 45 minutes class duration, the researcher observed 5 questions. 80% of the questions were knowledge based and 20% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 45 minutes was just 11%.

**Table 17**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 5                        | 3        | 1        | 1          | 0          | 0           | 0          |
| %age        |                          | 60%      | 20%      | 20%        | 0%         | 0%          | 0%         |

Table 17 indicated that in 40 minutes class duration, the researcher observed 5 questions. 60 % of the questions were knowledge based, 20% were comprehension based, and 20% were application based. Thus majority of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was 12.5%.

**Table 18**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 7                        | 3        | 1        | 0          | 0          | 2           | 1          |
| %age        |                          | 43%      | 14%      | 0%         | 0%         | 29%         | 14%        |

Table 18 indicated that in 35 minutes class duration, the researcher observed 7 questions. 43 % of the questions were knowledge based, 14% were comprehension based, 29% were synthesis and 14% were evaluation based. Thus most of the questions asked in the class were lower order questions. 43% of the questions were higher order. The total percentage of questions during 35 minutes was 20%.

**Table 19**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 7                        | 5        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 71%      | 29%      | 0%         | 0%         | 0%          | 0%         |

Table 19 indicated that in 40 minutes class duration, the researcher observed 7 questions. 71% of the questions were knowledge based and 29% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just 17.5%.

**Table 20**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 1                        | 1        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 20 indicated that in 35 minutes class duration, the researcher observed only 1 question 100 % of the questions were knowledge based. All the rest were lower order questions. The total percentage of questions during 35 minutes was just only 3%.

**Table 21**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 2                        | 1        | 0        | 0          | 1          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 0%         | 50%        | 0%          | 0%         |

Table 21 indicated that in 30 minutes class duration, the researcher observed 2 questions. 50 % of the questions were knowledge based and 50% were analysis based. Here 50% of the questions were lower order 50% of the questions were higher order. The total percentage of questions during 30 minutes was just 7%.

**Table 22**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 6                        | 5        | 0        | 1          | 0          | 0           | 0          |
| %age        |                          | 83%      | 0%       | 17%        | 0%         | 0%          | 0%         |

Table 22 indicated that in 35 minutes class duration, the researcher observed 6 questions. 83 % of the questions were knowledge based and 17% were application based. Thus majority of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 17%.

**Table 23**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 2                        | 0        | 1        | 0          | 1          | 0           | 0          |
| %age        |                          | 0%       | 50%      | 0%         | 50%        | 0%          | 0%         |

Table 23 indicated that in 30 minutes class duration, the researcher observed 2 questions. 50 % of the questions were knowledge based and 50% were analysis based. Here 50% of the questions were lower order 50% of the questions were higher order. The total percentage of questions during 30 minutes was just 7%.

**Table 24**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 11                       | 9        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 82%      | 18%      | 0%         | 0%         | 0%          | 0%         |

Table 24 indicated that in 30 minutes class duration, the researcher observed 11 questions. 82% of the questions were knowledge based and 18% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 37%.

**Table 25**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | 11                       | 3        | 8        | 0          | 0          | 0           | 0          |
| %age        |                          | 27%      | 73%      | 0%         | 0%         | 0%          | 0%         |

Table 25 indicated that in 20 minutes class duration, the researcher observed 11 questions. 27% of the questions were knowledge based and 73% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 20 minutes was 55%.

**Table 26**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | 5                        | 4        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 80%      | 20%      | 0%         | 0%         | 0%          | 0%         |

Table 26 indicated that in 20 minutes class duration, the researcher observed 5 questions. 80% of the questions were knowledge based and 20% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 20 minutes was just 25%.

**Table 27**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 15min       | 9                        | 4        | 4        | 0          | 1          | 0           | 0          |
| %age        |                          | 44.4%    | 44.4%    | 0%         | 11%        | 0%          | 0%         |

Table 27 indicated that in 15 minutes class duration, the researcher observed 9 questions. 44.4 % of the questions were knowledge based, 44.4% were comprehension based and 11% were analysis based. Thus majority of the questions asked in the class were lower order questions. Only 11% of the questions were asked in the higher order. The total percentage of questions during 15 minutes was 60%.

**Table 28**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | 13                       | 7        | 2        | 4          | 0          | 0           | 0          |
| %age        |                          | 54%      | 15%      | 31%        | 0%         | 0%          | 0%         |

Table 28 indicated that in 20 minutes class duration, the researcher observed 13 questions. 54 % of the questions were knowledge based, 15% were comprehension based, and 31% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 20 minutes was 65%.

**Table 29**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 9                        | 9        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 29 indicated that in 30 minutes class duration, the researcher observed 9 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 30%.

**Table 30**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 19                       | 10       | 7        | 2          | 0          | 0           | 0          |
| %age        |                          | 53%      | 37%      | 10%        | 0%         | 0%          | 0%         |

Table 30 indicated that in 30 minutes class duration, the researcher observed 19 questions. 53 % of the questions were knowledge based, 37% were comprehension based, and 10% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 30 minutes was 63%.

**Table 31**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 18                       | 12       | 0        | 4          | 1          | 1           | 0          |
| %age        |                          | 67%      | 0%       | 22%        | 5.5%       | 5.5%        | 0%         |

Table 31 indicated that in 30 minutes class duration, the researcher observed 18 questions. 67 % of the questions were knowledge based, 22% were application based, 5.5% were analysis and 5.5% were synthesis based. Thus most of the questions asked in the class were lower order questions. 33% of the questions were higher order. The total percentage of questions during 30 minutes was 60%.

**Table 32**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 2                        | 1        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 50%      | 50%      | 0%         | 0%         | 0%          | 0%         |

Table 32 indicated that in 20 minutes class duration, the researcher observed 5 questions. 80% of the questions were knowledge based and 20% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 20 minutes was just 25%.

**Table 33**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 4                        | 3        | 0        | 1          | 0          | 0           | 0          |
| %age        |                          | 75%      | 0%       | 25%        | 0%         | 0%          | 0%         |

Table 33 indicated that in 30 minutes class duration, the researcher observed 4 questions. 75% of the questions were knowledge based and 25% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 20 minutes was just 13%.

**Table 34**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 2                        | 0        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 0%       | 100%     | 0%         | 0%         | 0%          | 0%         |

Table 34 indicated that in 35 minutes class duration, the researcher observed 2 questions. 100 % of the questions were comprehension based. All the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 6%.

**Table 35**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 4                        | 3        | 0        | 0          | 1          | 0           | 0          |
| %age        |                          | 75%      | 0%       | 0%         | 25%        | 0%          | 0%         |

Table 35 indicated that in 25 minutes class duration, the researcher observed 4 questions. 75 % of the questions were knowledge based and 25% of the questions were analysis based. The total percentage of questions during 25 minutes was 16%.

**Table 36**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 2                        | 0        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 0%       | 100%     | 0%         | 0%         | 0%          | 0%         |

Table 36 indicated that in 30 minutes class duration, the researcher observed 2 questions. 100 % of the questions were comprehension based. All the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 7%.

**Table 37**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 2                        | 1        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 50%      | 50%      | 0%         | 0%         | 0%          | 0%         |

Table 37 indicated that in 30 minutes class duration, the researcher observed 2 questions. 50% of the questions were knowledge based and 50% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was just only 7%.

**Table 38**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 4                        | 4        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 38 indicated that in 30 minutes class duration, the researcher observed 4 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 13%.

**Table 39**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 2                        | 0        | 1        | 1          | 0          | 0           | 0          |
| %age        |                          | 0%       | 50%      | 50%        | 0%         | 0%          | 0%         |

Table 39 indicated that in 35 minutes class duration, the researcher observed 2 questions. 50 % of the questions were comprehension based, and 50% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 6%.

**Table 40**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 10                       | 10       | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 40 indicated that in 35 minutes class duration, the researcher observed 10 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 29%.

**Table 41**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 2                        | 2        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 41 indicated that in 30 minutes class duration, the researcher observed 2 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 7%.

**Table 42**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 4                        | 2        | 1        | 1          | 0          | 0           | 0          |
| %age        |                          | 50%      | 25%      | 25%        | 0%         | 0%          | 0%         |

Table 42 indicated that in 35 minutes class duration, the researcher observed 4 questions. 50 % of the questions were knowledge based, 25% were comprehension based, and 25% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was just 11%.

**Table 43**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 5                        | 3        | 0        | 1          | 1          | 0           | 0          |
| %age        |                          | 60%      | 0%       | 20%        | 20%        | 0%          | 0%         |

Table 43 indicated that in 35 minutes class duration, the researcher observed 5 questions. 60 % of the questions were knowledge based, 20% were application based, and 20% were analysis based. Thus majority of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 14%.

**Table 44**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 5                        | 3        | 0        | 1          | 1          | 0           | 0          |
| %age        |                          | 60%      | 0%       | 20%        | 20%        | 0%          | 0%         |

Table 44 indicated that in 35 minutes class duration, the researcher observed 5 questions. 60 % of the questions were knowledge based, 20% were application based, and 20% were analysis based. Thus majority of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 14%.

**Table 45**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | nil                      | 0        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 0%       | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 45 indicated that in 40 minutes class duration the researcher observed no question. The total percentage of questions during 40 minutes was 0%.

**Table 46**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 2        | 0        | 1          | 0          | 0           | 0          |
| %age        |                          | 67%      | 0%       | 33%        | 0%         | 0%          | 0%         |

Table 46 indicated that in 35 minutes class duration, the researcher observed 3 questions. 67 % of the questions were knowledge based, and 50% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 9%.

**Table 47**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 2        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 67%      | 33%      | 0%         | 0%         | 0%          | 0%         |

Table 47 indicated that in 35 minutes class duration, the researcher observed 3 questions. 67% of the questions were knowledge based and 33% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was just only 9%.

**Table 48**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 4                        | 3        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 75%      | 25%      | 0%         | 0%         | 0%          | 0%         |

Table 48 indicated that in 40 minutes class duration, the researcher observed 4 questions. 75% of the questions were knowledge based and 25% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 10%.

**Table 49**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 2        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 67%      | 33%      | 0%         | 0%         | 0%          | 0%         |

Table 49 indicated that in 35 minutes class duration, the researcher observed 3 questions. 67% of the questions were knowledge based and 33% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was just only 9%.

**Table 50**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 2        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 67%      | 33%      | 0%         | 0%         | 0%          | 0%         |

Table 50 indicated that in 35 minutes class duration, the researcher observed 3 questions. 67% of the questions were knowledge based and 33% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was just only 9%.

**Table 51**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 4                        | 3        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 75%      | 25%      | 0%         | 0%         | 0%          | 0%         |

Table 51 indicated that in 40 minutes class duration, the researcher observed 4 questions. 75% of the questions were knowledge based and 25% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 10%.

**Table 52**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 7                        | 5        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 71%      | 29%      | 0%         | 0%         | 0%          | 0%         |

Table 52 indicated that in 40 minutes class duration, the researcher observed 7 questions. 71% of the questions were knowledge based and 29% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 17.5%.

**Table 53**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 4                        | 4        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 53 indicated that in 40 minutes class duration, the researcher observed 4 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was 10%.

**Table 54**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 6                        | 5        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 83%      | 17%      | 0%         | 0%         | 0%          | 0%         |

Table 54 indicated that in 40 minutes class duration, the researcher observed 6 questions. 83% of the questions were knowledge based and 17% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 15%.

**Table 55**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 9                        | 6        | 1        | 2          | 0          | 0           | 0          |
| %age        |                          | 67%      | 11%      | 22%        | 0%         | 0%          | 0%         |

Table 55 indicated that in 40 minutes class duration, the researcher observed 9 questions. 67 % of the questions were knowledge based, 11% were comprehension based, and 22% were application based. Thus all of the questions asked in the class were lower order questions. The total %of questions during 40 minutes was 22.5%.

**Table 56**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 5                        | 3        | 0        | 0          | 2          | 0           | 0          |
| %age        |                          | 60%      | 0%       | 0%         | 40%        | 0%          | 0%         |

Table 56 indicated that in 40 minutes class duration, the researcher observed 5 questions. 60 % of the questions were knowledge based, and 40% were analysis based. Thus majority of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was 12.5%.

**Table 57**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 5                        | 5        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 57 indicated that in 40 minutes class duration, the researcher observed 5 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was 12.5%.

**Table 58**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 6                        | 6        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 58 indicated that in 40 minutes class duration, the researcher observed 6 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was 15%.

**Table 59**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 2                        | 1        | 0        | 1          | 0          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 50%        | 0%         | 0%          | 0%         |

Table 59 indicated that in 35 minutes class duration, the researcher observed 2 questions. 50 % of the questions were knowledge based, and 50% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 6%.

**Table 60**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 4                        | 1        | 1        | 1          | 1          | 0           | 0          |
| %age        |                          | 25%      | 25%      | 25%        | 25%        | 0%          | 0%         |

Table 60 indicated that in 35 minutes class duration, 25% of the questions were knowledge based, 25% were comprehension based, 25% were application and 25% were analysis based. Thus most of the questions asked in the class were lower order questions. 25% of the questions were higher order. The total percentage of questions during 35 minutes was 11%.

**Table 61**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 6                        | 4        | 1        | 1          | 0          | 0           | 0          |
| %age        |                          | 67%      | 16.6%    | 16.6%      | 0%         | 0%          | 0%         |

Table 61 indicated that in 35 minutes class duration, the researcher observed 6 questions. 67 % of the questions were knowledge based, 16.6% were comprehension based, and 16.6% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 35 minutes was 17%.

**Table 62**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 7                        | 1        | 0        | 2          | 3          | 1           | 0          |
| %age        |                          | 14%      | 0%       | 29%        | 43%        | 14%         | 0%         |

Table 62 indicated that in 35 minutes class duration, the researcher observed 7 questions. 14 % of the questions were knowledge based, 29% were application based, 43% were analysis and 14% were synthesis based. Thus most of the questions asked in the class were lower order questions. 14% of the questions were higher order. The total percentage of questions during 35 minutes was 20%.

**Table 63**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 2        | 0        | 1          | 0          | 0           | 0          |
| %age        |                          | 67%      | 0%       | 33%        | 0%         | 0%          | 0%         |

Table 63 indicated that in 35 minutes class duration, the researcher observed 3 questions. 67 % of the questions were knowledge based, and 33% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 9%.

**Table 64**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 16                       | 7        | 4        | 4          | 1          | 0           | 0          |
| %age        |                          | 44%      | 25%      | 25%        | 6%         | 0%          | 0%         |

Table 64 indicated that in 25 minutes class duration, the researcher observed 16 questions. 44 % of the questions were knowledge based, 25% were comprehension based, 25% were application and 6% were analysis based. Thus most of the questions asked in the class were lower order questions. 6% of the questions were higher order. The total percentage of questions during 25 minutes was 64%.

**Table 65**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 12                       | 4        | 6        | 2          | 0          | 0           | 0          |
| %age        |                          | 33%      | 50%      | 17%        | 0%         | 0%          | 0%         |

Table 65 indicated that in 35 minutes class duration, the researcher observed 12 questions. 33 % of the questions were knowledge based, 50% were comprehension based, and 17% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 35 minutes was 34%.

**Table 66**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 6                        | 2        | 1        | 2          | 1          | 0           | 0          |
| %age        |                          | 33%      | 17%      | 33%        | 17%        | 0%          | 0%         |

Table 66 indicated that in 40 minutes class duration, 33 % of the questions were knowledge based, 17% were comprehension based, 33% were application and 17% were analysis based. Thus most of the questions asked in the class were lower order questions. 17% of the questions were higher order. The total percentage of questions during 40 minutes was 15%.

**Table 67**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 8                        | 1        | 2        | 1          | 4          | 0           | 0          |
| %age        |                          | 12.5%    | 25%      | 12.5%      | 50%        | 0%          | 0%         |

Table 67 indicated that in 35 minutes class duration, 12.5 % of the questions were knowledge based, 25% were comprehension based, 12.5% were application and 50% were analysis based. Thus 50% of the questions asked in the class were lower order questions and 50% of the questions were higher order. The total percentage of questions during 35 minutes was 23%.

**Table 68**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 4                        | 1        | 2        | 0          | 1          | 0           | 0          |
| %age        |                          | 25%      | 50%      | 0%         | 25%        | 0%          | 0%         |

Table 68 indicated that in 40 minutes class duration, 25 % of the questions were knowledge based, 50% were comprehension based, and 25% were analysis based. Thus most of the questions asked in the class were lower order questions. 25% of the questions were higher order. The total percentage of questions during 40 minutes was 10%.

**Table 69**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 5                        | 0        | 2        | 3          | 0          | 0           | 0          |
| %age        |                          | 0%       | 40%      | 60%        | 0%         | 0%          | 0%         |

Table 69 indicated that in 35 minutes class duration, the researcher observed 5 questions. 40 % of the questions were comprehension based, and 60% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 14%.

**Table 70**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 4                        | 3        | 0        | 0          | 1          | 0           | 0          |
| %age        |                          | 75%      | 0%       | 0%         | 25%        | 0%          | 0%         |

Table 70 indicated that in 30 minutes class duration, the researcher observed 4 questions. 75 % of the questions were knowledge based, and 25% were analysis based. Thus majority of the questions asked in the class were lower order questions while 25% were lower order questions. The total percentage of questions during 30 minutes was just 13%.

**Table 71**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 9                        | 4        | 1        | 2          | 2          | 0           | 0          |
| %age        |                          | 45%      | 11%      | 22%        | 22%        | 0%          | 0%         |

Table 71 indicated that in 45 minutes class duration, the researcher observed 9 questions. 45 % of the questions were knowledge based, 11% were comprehension based, 22% were application and 22% were analysis based. Thus most of the questions asked in the class were lower order questions. Only 22% of the questions were higher order. The total percentage of questions during 45 minutes was 20%.

**Table 72**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 15min       | 4                        | 2        | 0        | 1          | 1          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 25%        | 25%        | 0%          | 0%         |

Table 72 indicated that in 15 minutes class duration, 50 % of the questions were knowledge based, 25% were comprehension based, and 25% were analysis based. Thus most of the questions asked in the class were lower order questions. 25% of the questions were higher order. The total percentage of questions during 15 minutes was 26%.

**Table 73**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 4                        | 1        | 1        | 1          | 1          | 0           | 0          |
| %age        |                          | 25%      | 25%      | 25%        | 25%        | 0%          | 0%         |

Table 73 indicated that in 30 minutes class duration, 25 % of the questions were knowledge based, 25% were comprehension based, 25% were application and 25% were analysis based. Thus most of the questions asked in the class were lower order questions. Only 25% of the questions were higher order. The total percentage of questions during 30 minutes was 13%.

**Table 74**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 3                        | 1        | 1        | 1          | 0          | 0           | 0          |
| %age        |                          | 33.3%    | 33.3%    | 33.3%      | 0%         | 0%          | 0%         |

Table 74 indicated that in 40 minutes class duration, the researcher observed 3 questions. 33.3 % of the questions were knowledge based, 33.3% were comprehension based, and 33.3% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was 6%.

**Table 75**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 6                        | 4        | 0        | 1          | 1          | 0           | 0          |
| %age        |                          | 67%      | 0%       | 16.6%      | 16.6%      | 0%          | 0%         |

Table 75 indicated that in 40 minutes class duration, the researcher observed 6 questions. 67 % of the questions were knowledge based, 16.6% were comprehension based, and 16.6% were analysis based. Thus most of the questions asked in the class were lower order questions. The total % of questions during 40 minutes was 15%.

**Table 76**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 3                        | 1        | 0        | 1          | 1          | 0           | 0          |
| %age        |                          | 33.3%    | 0%       | 33.3%      | 33.3%      | 0%          | 0%         |

Table 76 indicated that in 30 minutes class duration, the researcher observed 3 questions. 33.3 % of the questions were knowledge based, 33.3% were comprehension based, and 33.3% were analysis based. Thus most of the questions asked in the class were lower order questions. 33.3% of the questions were higher order. The total percentage of questions during 30 minutes was 10%.

**Table 77**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 6                        | 3        | 2        | 0          | 1          | 0           | 0          |
| %age        |                          | 50%      | 33%      | 0%         | 17%        | 0%          | 0%         |

Table 77 indicated that in 35 minutes class duration, 50 % of the questions were knowledge based, 33% were comprehension based, and 17% were analysis based. Thus most of the questions asked in the class were lower order questions. 17% of the questions were higher order. The total percentage of questions during 35 minutes was 17%.

**Table 78**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 2                        | 2        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 78 indicated that in 35 minutes class duration, the researcher observed 2 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 6%.

**Table 79**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 8                        | 6        | 1        | 1          | 0          | 0           | 0          |
| %age        |                          | 75%      | 12.5%    | 12.5%      | 0%         | 0%          | 0%         |

Table 79 indicated that in 35 minutes class duration, the researcher observed 8 questions. 75 % of the questions were knowledge based, 12.5% were comprehension based, and 12.5% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 35 minutes was 23%.

**Table 80**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 4                        | 2        | 0        | 1          | 1          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 25%        | 25%        | 0%          | 0%         |

Table 80 indicated that in 35 minutes class duration, the researcher observed 4 questions. 50 % of the questions were knowledge based, 25% were application based, and 25% were analysis based. Thus most of the questions asked in the class were lower order questions. 25% of the questions were higher order. The total percentage of questions during 35 minutes was 11%.

**Table 81**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 6                        | 3        | 3        | 0          | 0          | 0           | 0          |
| %age        |                          | 50%      | 50%      | 0%         | 0%         | 0%          | 0%         |

Table 81 indicated that in 35 minutes class duration, the researcher observed 6 questions. 50% of the questions were knowledge based and 50% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was just only 17%.

**Table 82**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 4                        | 2        | 0        | 0          | 2          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 0%         | 50%        | 0%          | 0%         |

Table 82 indicated that in 35 minutes class duration, the researcher observed 4 questions. 50% of the questions were knowledge based and 50% were analysis based. 50% of the questions asked in the class were lower order and 50% were higher order questions. The total percentage of questions during 35 minutes was just only 11%.

**Table 83**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 10                       | 7        | 1        | 1          | 1          | 0           | 0          |
| %age        |                          | 70%      | 10%      | 10%        | 10%        | 0%          | 0%         |

Table 83 indicated that in 35 minutes class duration, the researcher observed 10 questions. 70 % of the questions were knowledge based, 10% were comprehension based, 10% were application and 10% were analysis based. Thus most of the questions asked in the class were lower order questions. Only 10% of the questions were higher order. The total percentage of questions during 35 minutes was 29%.

**Table 84**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 10                       | 4        | 3        | 2          | 0          | 1           | 0          |
| %age        |                          | 40%      | 30%      | 20%        | 0%         | 10%         | 0%         |

Table 84 indicated that in 40 minutes class duration, 40 % of the questions were knowledge based, 30% were comprehension based, 20% were application and 10% were synthesis based. Thus most of the questions asked in the class were lower order questions. Only 10% of the questions were higher order. The total percentage of questions during 40 minutes was 25%.

**Table 85**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 5                        | 2        | 2        | 0          | 1          | 0           | 0          |
| %age        |                          | 40%      | 40%      | 0%         | 20%        | 0%          | 0%         |

Table 85 indicated that in 30 minutes class duration, 40 % of the questions were knowledge based, 40% were comprehension based, and 20% were analysis based. Thus most of the questions asked in the class were lower order questions. Only 20% of the questions were higher order. The total percentage of questions during 30 minutes was 17%.

**Table 86**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 11                       | 6        | 5        | 0          | 0          | 0           | 0          |
| %age        |                          | 55%      | 45%      | 0%         | 0%         | 0%          | 0%         |

Table 86 indicated that in 25 minutes class duration, 55% of the questions were knowledge based and 45% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was 44%.

**Table 87**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 8                        | 2        | 4        | 2          | 0          | 0           | 0          |
| %age        |                          | 25%      | 50%      | 25%        | 0%         | 0%          | 0%         |

Table 87 indicated that in 35 minutes class duration, 25 % of the questions were knowledge based, 50% were comprehension based, and 25% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 35 minutes was 23%.

**Table 88**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 17                       | 4        | 5        | 3          | 2          | 1           | 2          |
| %age        |                          | 23.5%    | 29%      | 17.6%      | 12%        | 6%          | 12%        |

Table 88 indicated that in 40 minutes class duration, 23.5 % of the questions were knowledge based, 29% were comprehension based, 17.6% were application, 12% were analysis based, 6% were synthesis based and 12% were evaluation based. Thus most of the questions asked in the class were lower order questions and 30% of the questions were higher order. The total percentage of questions during 40 minutes was 43%.

**Table 89**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 9                        | 8        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 89%      | 11%      | 0%         | 0%         | 0%          | 0%         |

Table 89 indicated that in 30 minutes class duration, the researcher observed 9 questions. 89% of the questions were knowledge based and 11% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 30%.

**Table 90**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 3                        | 3        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 90 indicated that in 40 minutes class duration, the researcher observed 3 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was 8%.

**Table 91**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 4                        | 2        | 0        | 2          | 0          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 50%        | 0%         | 0%          | 0%         |

Table 91 indicated that in 30 minutes class duration, the researcher observed 4 questions. 50 % of the questions were knowledge based, and 50% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 47%.

**Table 92**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 12                       | 6        | 3        | 0          | 2          | 1           | 0          |
| %age        |                          | 50%      | 25%      | 0%         | 17%        | 8%          | 0%         |

Table 92 indicated that in 25 minutes class duration, the researcher observed 12 questions. 50 % of the questions were knowledge based, 25% were comprehension based, 17% were analysis and 8% were synthesis based. Thus most of the questions asked in the class were lower order questions. Only 25% of the questions were higher order. The total percentage of questions during 25 minutes was 48%.

**Table 93**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | Nil                      | 0        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 0%       | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 93 indicated that in 20 minutes class duration, not a single question was asked.

**Table 94**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 7                        | 4        | 3        | 0          | 0          | 0           | 0          |
| %age        |                          | 57%      | 43%      | 0%         | 0%         | 0%          | 0%         |

Table 94 indicated that in 35 minutes class duration, the researcher observed 7 questions. 57% of the questions were knowledge based and 43% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was just only 20%.

**Table 95**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 15                       | 6        | 3        | 3          | 0          | 2           | 1          |
| %age        |                          | 40%      | 20%      | 20%        | 0%         | 13%         | 7%         |

Table 95 indicated that in 35 minutes class duration, the researcher observed 15 questions. 40 % of the questions were knowledge based, 20% were comprehension based, 20% were application, 13% were synthesis based and 7% were evaluation based. Thus most of the questions asked in the class were lower order questions and 20% of the questions were higher order. The total percentage of questions during 35 minutes was 43%.

**Table 96**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 20                       | 11       | 3        | 1          | 3          | 0           | 2          |
| %age        |                          | 55%      | 15%      | 5%         | 15%        | 0%          | 10%        |

Table 96 indicated that in 40 minutes class duration, the researcher observed 20 questions. 55 % of the questions were knowledge based, 15% were comprehension based, 5% were application, 15% were analysis based, and 10% were evaluation based. Thus most of the questions asked in the class were lower order questions and 25% of the questions were higher order. The total percentage of questions during 40 minutes was 50%.

**Table 97**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 6                        | 2        | 3        | 1          | 0          | 0           | 0          |
| %age        |                          | 33%      | 50%      | 17%        | 0%         | 0%          | 0%         |

Table 97 indicated that in 30 minutes class duration, the researcher observed 6 questions. 33 % of the questions were knowledge based, 50% were comprehension based, and 17% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 30 minutes was 20%.

**Table 98**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | 3                        | 3        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 98 indicated that in 20 minutes class duration, the researcher observed 3 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 20 minutes was 15%.

**Table 99**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 13                       | 6        | 6        | 0          | 0          | 1           | 0          |
| %age        |                          | 46%      | 46%      | 0%         | 0%         | 8%          | 0%         |

Table 99 indicated that in 35 minutes class duration, the researcher observed 13 questions. 46 % of the questions were knowledge based, 46% were comprehension based, and 8% were synthesis based. Thus most of the questions asked in the class were lower order questions. Only 8% of the questions were higher order. The total percentage of questions during 35 minutes was 37%.

**Table 100**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 18                       | 7        | 4        | 4          | 2          | 0           | 1          |
| %age        |                          | 39%      | 22%      | 22%        | 11%        | 0%          | 6%         |

Table 100 indicated that in 35 minutes class duration, the researcher observed 18 questions. 39 % of the questions were knowledge based, 22% were comprehension based, 22% were application, 11% were analysis based, and 6% were evaluation based. Thus most of the questions asked in the class were lower order questions and 17% of the questions were higher order. The total percentage of questions during 35 minutes was 51%.

**Table 101**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 8                        | 2        | 1        | 5          | 0          | 0           | 0          |
| %age        |                          | 25%      | 13%      | 62%        | 0%         | 0%          | 0%         |

Table 101 indicated that in 40 minutes class duration, the researcher observed 8 questions. 25 % of the questions were knowledge based, 13% were comprehension based, and 62% were application based. Thus all of the questions asked in the class were lower order questions. The total %of questions during 40 minutes was 20%.

**Table 102**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 12                       | 8        | 2        | 1          | 1          | 0           | 0          |
| %age        |                          | 67%      | 17%      | 8%         | 8%         | 0%          | 0%         |

Table 102 indicated that in 40 minutes class duration, the researcher observed 12 questions. 67 % of the questions were knowledge based, 17% were comprehension based, 8% were application and 8% were analysis based. Thus most of the questions asked in the class were lower order questions. Only 8% of the questions were higher order. The total percentage of questions during 40 minutes was 30%.

**Table 103**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 10                       | 4        | 5        | 0          | 1          | 0           | 0          |
| %age        |                          | 40%      | 50%      | 0%         | 10%        | 0%          | 0%         |

Table 103 indicated that in 35 minutes class duration, 40 % of the questions were knowledge based, 50% were comprehension based, and 10% were application based. Thus most of the questions asked in the class were lower order questions. Only 10% of the questions were higher order. The total percentage of questions during 35 minutes was 29%.

**Table 104**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 4                        | 3        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 75%      | 25%      | 0%         | 0%         | 0%          | 0%         |

Table 104 indicated that in 30 minutes class duration, the researcher observed 4 questions. 75% of the questions were knowledge based and 25% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was just only 13%.

**Table 105**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 10                       | 6        | 4        | 0          | 0          | 0           | 0          |
| %age        |                          | 60%      | 40%      | 0%         | 0%         | 0%          | 0%         |

Table 105 indicated that in 40 minutes class duration, the researcher observed 10 questions. 60% of the questions were knowledge based and 40% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 25%.

**Table 106**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 4                        | 2        | 0        | 1          | 1          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 25%        | 25%        | 0%          | 0%         |

Table 106 indicated that in 25 minutes class duration, 50 % of the questions were knowledge based, 25% were application based, and 25% were analysis based. Thus most of the questions asked in the class were lower order questions. Only 25% of the questions were higher order. The total percentage of questions during 25 minutes was just 16%.

**Table 10 7**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 6                        | 3        | 1        | 1          | 0          | 1           | 0          |
| %age        |                          | 50%      | 16.6%    | 16.6%      | 0%         | 16.6%       | 0%         |

Table 107 indicated that in 35 minutes class duration, the researcher observed 6 questions. 50% of the questions were knowledge based, 16.6% were comprehension based, 16.6% were application, and 16.6% were synthesis based. Thus most of the questions asked in the class were lower order questions and 16.6% of the questions were higher order. The total percentage of questions during 35 minutes was 17%.

**Table 108**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 4                        | 2        | 1        | 1          | 0          | 0           | 0          |
| %age        |                          | 50%      | 25%      | 25%        | 0%         | 0%          | 0%         |

Table 108 indicated that in 35 minutes class duration, 50 % of the questions were knowledge based, 25% were comprehension based, and 25% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 25 minutes was 11%.

**Table 109**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 5                        | 2        | 2        | 1          | 0          | 0           | 0          |
| %age        |                          | 40%      | 40%      | 20%        | 0%         | 0%          | 0%         |

Table 109 indicated that in 40 minutes class duration, 40 % of the questions were knowledge based, 40% were comprehension based, and 20% were application based. Thus all of the questions asked in the class were lower order questions. The total %of questions during 40 minutes was 13%.

**Table 110**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 10                       | 4        | 2        | 2          | 1          | 0           | 1          |
| %age        |                          | 40%      | 20%      | 20%        | 10%        | 0%          | 10%        |

Table 110 indicated that in 45 minutes class duration, the researcher observed 10 questions. 40 % of the questions were knowledge based, 20% were comprehension based, 20% were application, 10% were analysis based, and 10% were evaluation based. Thus most of the questions asked in the class were lower order questions and 17% of the questions were higher order. The total percentage of questions during 45 minutes was 22%.

**Table 111**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 2                        | 0        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 0%       | 100%     | 0%         | 0%         | 0%          | 0%         |

Table 111 indicated that in 30 minutes class duration, the researcher observed 2 questions. 100 % of the questions were comprehension based. All the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 7%.

**Table 112**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 2                        | 0        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 0%       | 100%     | 0%         | 0%         | 0%          | 0%         |

Table 112 indicated that in 30 minutes class duration, the researcher observed 2 questions. 100 % of the questions were comprehension based. All the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 7%.

**Table 113**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 4                        | 3        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 75%      | 25%      |            |            |             |            |

Table 113 indicated that in 45 minutes class duration, the researcher observed 4 questions. 75% of the questions were knowledge based and 25% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 9%.

**Table 114**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 4                        | 2        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 50%      | 50%      | 0%         | 0%         | 0%          | 0%         |

Table 114 indicated that in 40 minutes class duration, the researcher observed 4 questions. 50% of the questions were knowledge based and 50% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 10%.

**Table 115**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 10                       | 6        | 4        | 0          | 0          | 0           | 0          |
| %age        |                          | 60%      | 40%      | 0%         | 0%         | 0%          | 0%         |

Table 115 indicated that in 45 minutes class duration, the researcher observed 10 questions. 60% of the questions were knowledge based and 40% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 22%.

**Table 116**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 15                       | 6        | 7        | 0          | 2          | 0           | 0          |
| %age        |                          | 40%      | 47%      | 0%         | 13%        | 0%          | 0%         |

Table 116 indicated that in 30 minutes class duration, the researcher observed 15 questions. 40% of the questions were knowledge based, 47% were comprehension based, and 13% were analysis based. Thus most of the questions asked in the class were lower order questions and 13% of the questions were higher order. The total percentage of questions during 30 minutes was 50%.

**Table 117**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 5                        | 2        | 3        | 0          | 0          | 0           | 0          |
| %age        |                          | 40%      | 60%      | 0%         | 0%         | 0%          | 0%         |

Table 117 indicated that in 40 minutes class duration, the researcher observed 5 questions. 40% of the questions were knowledge based and 60% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 13%.

**Table 118**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 12                       | 8        | 4        | 0          | 0          | 0           | 0          |
| %age        |                          | 67%      | 33%      | 0%         | 0%         | 0%          | 0%         |

Table 118 indicated that in 35 minutes class duration, the researcher observed 12 questions. 67% of the questions were knowledge based and 33% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 34%.

**Table 119**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 8                        | 2        | 4        | 2          | 0          | 0           | 0          |
| %age        |                          | 25%      | 50%      | 25%        | 0%         | 0%          | 0%         |

Table 119 indicated that in 45 minutes class duration, the researcher observed 8 questions. 425% of the questions were knowledge based, 50% were comprehension based, and 25% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 40 minutes was 18%.

**Table 120**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 5                        | 1        | 3        | 1          | 0          | 0           | 0          |
| %age        |                          | 20%      | 60%      | 20%        | 0%         | 0%          | 0%         |

Table 120 indicated that in 45 minutes class duration, the researcher observed 5 questions. 20 % of the questions were knowledge based, 60% were comprehension based, and 20% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 45 minutes was 11%.

**Table 121**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 6                        | 3        | 0        | 1          | 1          | 1           | 0          |
| %age        |                          | 50%      | 0%       | 16.6%      | 16.6%      | 16.6%       | 0%         |

Table 121 indicated that in 45 minutes class duration, 50 % of the questions were knowledge based, 16.6% were application based, 16.6% were analysis, and 16.6% were synthesis based. Thus most of the questions asked in the class were lower order questions and 33% of the questions were higher order. The total percentage of questions during 45 minutes was 13%.

**Table 122**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 6                        | 3        | 0        | 2          | 1          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 33%        | 17%        | 0%          | 0%         |

Table 122 indicated that in 45 minutes class duration, the researcher observed 6 questions. 50% of the questions were knowledge based, 47% were application based, and 13% were analysis based. Thus most of the questions asked in the class were lower order questions and 17% of the questions were higher order. The total percentage of questions during 45 minutes was 13%.

**Table 123**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 4                        | 2        | 0        | 1          | 1          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 25%        | 25%        | 0%          | 0%         |

Table 123 indicated that in 25 minutes class duration, the researcher observed 4 questions. 50% of the questions were knowledge based, 25% were comprehension based, and 25% were analysis based. Thus most of the questions asked in the class were lower order questions and 25% of the questions were higher order. The total percentage of questions during 25 minutes was 16%.

**Table 124**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | 8                        | 5        | 2        | 1          | 0          | 0           | 0          |
| %age        |                          | 62.5%    | 25%      | 12.5%      | 0%         | 0%          | 0%         |

Table 124 indicated that in 20 minutes class duration, the researcher observed 8 questions. 62.5 % of the questions were knowledge based, 25% were comprehension based, and 12.5% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 20 minutes was 40%.

**Table 125**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 3                        | 3        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 125 indicated that in 30 minutes class duration, the researcher observed 3 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 20 minutes was 10%.

**Table 126**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 3                        | 1        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 33%      | 67%      | 0%         | 0%         | 0%          | 0%         |

Table 126 indicated that in 25 minutes class duration, the researcher observed 3 questions. 33% of the questions were knowledge based and 67% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was just only 12%.

**Table 127**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 2                        | 0        | 1        | 0          | 1          | 0           | 0          |
| %age        |                          | 0%       | 50%      | 0%         | 50%        | 0%          | 0%         |

Table 127 indicated that in 35 minutes class duration, the researcher observed 2 questions. 50% of the questions were comprehension based, and 50% were analysis based. Thus 50% of the questions asked in the class were lower order questions and 50% of the questions were higher order. The total percentage of questions during 25 minutes was 6%.

**Table 128**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 2                        | 2        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 128 indicated that in 30 minutes class duration, the researcher observed 2 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 7%.

**Table 129**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 11                       | 5        | 2        | 2          | 2          | 0           | 0          |
| %age        |                          | 46%      | 18%      | 18%        | 18%        | 0%          | 0%         |

Table 128 indicated that in 35 minutes class duration, the researcher observed 11 questions. 46% of the questions were knowledge based, 18% were comprehension based, 18% were application, and 18% were analysis based. Thus most of the questions asked in the class were lower order questions and 18% of the questions were higher order. The total percentage of questions during 35 minutes was 31%.

**Table 130**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 10                       | 1        | 4        | 2          | 3          | 0           | 0          |
| %age        |                          | 10%      | 40%      | 20%        | 30%        | 0%          | 0%         |

Table 130 indicated that in 30 minutes class duration, 10% of the questions were knowledge based, 40% were comprehension based, 20% were application, and 30% were analysis based. Thus most of the questions asked in the class were lower order questions and 30% of the questions were higher order. The total percentage of questions during 30 minutes was 33%.

**Table 131**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 4                        | 2        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 50%      | 50%      | 0%         | 0%         | 0%          | 0%         |

Table 131 indicated that in 40 minutes class duration, the researcher observed 4 questions. 50% of the questions were knowledge based and 50% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 10%.

**Table 132**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 4                        | 3        | 0        | 0          | 1          | 0           | 0          |
| %age        |                          | 75%      | 0%       | 0%         | 25%        | 0%          | 0%         |

Table 132 indicated that in 45 minutes class duration, the researcher observed 4 questions. 75% of the questions were knowledge based, and 25% were analysis based. Thus 75% of the questions asked in the class were lower order questions and 25% of the questions were higher order. The total % of questions during 45 minutes was 9%.

**Table 133**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 6                        | 1        | 2        | 1          | 2          | 0           | 0          |
| %age        |                          | 17%      | 33%      | 17%        | 33%        | 0%          | 0%         |

Table 133 indicated that in 35 minutes class duration, 17% of the questions were knowledge based, 33% were comprehension based, 17% were application, and 33% were analysis based. Thus most of the questions asked in the class were lower order questions and 33% of the questions were higher order. The total percentage of questions during 35 minutes was 17%.

**TABLE 134**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 4                        | 2        | 1        | 0          | 1          | 0           | 0          |
| %age        |                          | 50%      | 25%      | 0%         | 25%        | 0%          | 0%         |

Table 134 indicated that in 40 minutes class duration, the researcher observed 4 questions. 50% of the questions were knowledge based, 25% were comprehension based, and 25% were analysis based. Thus most of the questions asked in the class were lower order questions and 25% of the questions were higher order. The total percentage of questions during 40 minutes was 10%.

**Table 135**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 14                       | 8        | 5        | 1          | 0          | 0           | 0          |
| %age        |                          | 57%      | 36%      | 7%         | 0%         | 0%          | 0%         |

Table 135 indicated that in 40 minutes class duration, the researcher observed 14 questions. 57 % of the questions were knowledge based, 36% were comprehension based, and 7% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 40 minutes was 35%.

**Table 136**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 13                       | 4        | 9        | 0          | 0          | 0           | 0          |
| %age        |                          | 31%      | 69%      | 0%         | 0%         | 0%          | 0%         |

Table 136 indicated that in 45 minutes class duration, the researcher observed 13 questions. 31% of the questions were knowledge based and 69% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 45 minutes was just only 29%.

**Table 137**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 5                        | 4        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 80%      | 20%      | 0%         | 0%         | 0%          | 0%         |

Table 137 indicated that in 40 minutes class duration, the researcher observed 5 questions. 80% of the questions were knowledge based and 20% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 13%.

**Table 138**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 5                        | 1        | 1        | 3          | 0          | 0           | 0          |
| %age        |                          | 20%      | 20%      | 60%        | 0%         | 0%          | 0%         |

Table 138 indicated that in 25 minutes class duration, the researcher observed 5 questions. 20 % of the questions were knowledge based, 20% were comprehension based, and 60% were application based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 25 minutes was 20%.

**Table 139**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 19                       | 7        | 6        | 5          | 1          | 0           | 0          |
| %age        |                          | 37%      | 32%      | 26%        | 5%         | 0%          | 0%         |

Table 139 indicated that in 45 minutes class duration, the researcher observed 19 questions. 37% of the questions were knowledge based, 32% were comprehension based, 26% were application, and 5% were analysis based. Thus most of the questions asked in the class were lower order questions and 5% of the questions were higher order. The total percentage of questions during 45 minutes was 42%.

**Table 140**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 3                        | 2        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 67%      | 33%      | 0%         | 0%         | 0%          | 0%         |

Table 140 indicated that in 25 minutes class duration, the researcher observed 3 questions. 67% of the questions were knowledge based and 33% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was just only 12%.

**Table 141**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 9                        | 5        | 2        | 2          | 0          | 0           | 0          |
| %age        |                          | 56%      | 22%      | 22%        | 0%         | 0%          | 0%         |

Table 141 indicated that in 40 minutes class duration, the researcher observed 9 questions. 56 % of the questions were knowledge based, 22% were comprehension based, and 22% were application based. Thus all of the questions asked in the class were lower order questions. The total% of questions during 40 minutes was 23%.

**Table 142**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 1        | 1        | 0          | 1          | 0           | 0          |
| %age        |                          | 33.3%    | 33.3%    | 0%         | 33.3%      | 0%          | 0%         |

Table 142 indicated that in 35 minutes class duration, the researcher observed 3 questions. 33.3% of the questions were knowledge based, 33.3% were comprehension based, and 33.3% were analysis based. Thus most of the questions asked in the class were lower order questions and 33.3% of the questions were higher order. The total percentage of questions during 35 minutes was 9%.

**Table 143**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 4                        | 1        | 0        | 1          | 2          | 0           | 0          |
| %age        |                          | 25%      | 0%       | 25%        | 50%        | 0%          | 0%         |

Table 143 indicated that in 25 minutes class duration, the researcher observed 4 questions. 25% of the questions were knowledge based, 25% were application based, and 50% were analysis based. Thus 50% of the questions asked in the class were lower order questions and 50% of the questions were higher order. The total percentage of questions during 25 minutes was 16%.

**Table 144**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 3                        | 2        | 0        | 1          | 0          | 0           | 0          |
| %age        |                          | 67%      | 0%       | 33%        | 0%         | 0%          | 0%         |

Table 144 indicated that in 45 minutes class duration, the researcher observed 3 questions. 67 % of the questions were knowledge based, and 33% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 45 minutes was 7%.

**Table 145**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 4                        | 3        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 75%      | 25%      | 0%         | 0%         | 0%          | 0%         |

Table 145 indicated that in 45 minutes class duration, the researcher observed 4 questions. 75% of the questions were knowledge based and 25% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was just only 12%.

**Table 146**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 4                        | 3        | 0        | 1          | 0          | 0           | 0          |
| %age        |                          | 75%      | 0%       | 25%        | 0%         | 0%          | 0%         |

Table 146 indicated that in 45 minutes class duration, the researcher observed 4 questions. 75 % of the questions were knowledge based, and 25% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 45 minutes was 9%.

**Table 147**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 8                        | 4        | 3        | 1          | 0          | 0           | 0          |
| %age        |                          | 50%      | 38%      | 12%        | 0%         | 0%          | 0%         |

Table 147 indicated that in 40 minutes class duration, the researcher observed 8 questions. 50 % of the questions were knowledge based, 38% were comprehension based, and 12% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was 20%.

**Table 148**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 7                        | 7        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 148 indicated that in 35 minutes class duration, the researcher observed 7 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 20%.

**Table 149**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 19                       | 17       | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 89%      | 11%      | 0%         | 0%         | 0%          | 0%         |

Table 149 indicated that in 35 minutes class duration, the researcher observed 19 questions. 89% of the questions were knowledge based and 11% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 54%.

**Table 150**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 2                        | 1        | 0        | 0          | 1          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 0%         | 50%        | 0%          | 0%         |

Table 150 indicated that in 25 minutes class duration, the researcher observed 2 questions. 50 % of the questions were knowledge based, and 50% were analysis based. Thus 50% of the questions asked in the class were lower order questions, and 50% were higher order. The total percentage of questions during 25 minutes was 8%.

**Table 151**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 3                        | 2        | 0        | 1          | 0          | 0           | 0          |
| %age        |                          | 67%      | 0%       | 33%        | 0%         | 0%          | 0%         |

Table 151 indicated that in 25 minutes class duration, the researcher observed 3 questions. 67 % of the questions were knowledge based, and 33% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was 12%.

**Table 152**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 3                        | 3        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 152 indicated that in 25 minutes class duration, the researcher observed 3 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was 12%.

**Table 153**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 1        | 0        | 0          | 2          | 0           | 0          |
| %age        |                          | 33%      | 0%       | 0%         | 67%        | 0%          | 0%         |

Table 153 indicated that in 35 minutes class duration, the researcher observed 3 questions. 33 % of the questions were knowledge based, and 67% were analysis based. Thus 33% of the questions asked in the class were lower order questions, and 67% were higher order. The total percentage of questions during 25 minutes was 9%.

**Table 154**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | 4                        | 0        | 3        | 1          | 0          | 0           | 0          |
| %age        |                          | 0%       | 75%      | 25%        | 0%         | 0%          | 0%         |

Table 154 indicated that in 20 minutes class duration, the researcher observed 4 questions. 75 % of the questions were comprehension based, and 25% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 20 minutes was 20%.

**Table 155**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 4                        | 0        | 2        | 1          | 1          | 0           | 0          |
| %age        |                          | 0%       | 50%      | 25%        | 25%        | 0%          | 0%         |

Table 155 indicated that in 30 minutes class duration, the researcher observed 4 questions. 50% of the questions were comprehension based, 25% were application based, and 25% were analysis based. Thus majority of the questions asked in the class were lower order questions while 25% of the questions were higher order. The total percentage of questions during 30 minutes was 13%.

**Table 156**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 6                        | 3        | 2        | 0          | 1          | 0           | 0          |
| %age        |                          | 50%      | 33%      | 0%         | 17%        | 0%          | 0%         |

Table 156 indicated that in 30 minutes class duration, the researcher observed 6 questions. 50% of the questions were knowledge based, 33% were comprehension based, and 17% were analysis based. Thus most of the questions asked in the class were lower order questions only 17% of the questions were higher order. The total percentage of questions during 30 minutes was 20%.

**Table 157**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | 3                        | 3        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 157 indicated that in 20 minutes class duration, the researcher observed 3 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was 15%.

**Table 158**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 3                        | 2        | 0        | 0          | 0          | 1           | 0          |
| %age        |                          | 67%      | 0%       | 0%         | 0%         | 33%         | 0%         |

Table 158 indicated that in 40 minutes class duration, the researcher observed 3 questions. 67 % of the questions were knowledge based, and 33% were synthesis based. Thus majority of the questions asked in the class were lower order questions, and 33% were higher order. The total % of questions during 25 minutes was 8%.

**Table 159**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 2        | 0        | 1          | 0          | 0           | 0          |
| %age        |                          | 67%      | 0%       | 33%        | 0%         | 0%          | 0%         |

Table 159 indicated that in 35 minutes class duration, the researcher observed 3 questions. 67 % of the questions were knowledge based, and 33% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was just only 9%.

**Table 160**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 45min       | 3                        | 3        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 160 indicated that in 45 minutes class duration, the researcher observed 3 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 45 minutes was just only 7%.

**Table 161**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 4                        | 0        | 2        | 1          | 1          | 0           | 0          |
| %age        |                          | 0%       | 50%      | 25%        | 25%        | 0%          | 0%         |

Table 161 indicated that in 30 minutes class duration, the researcher observed 4 questions. 50% of the questions were comprehension based, 25% were application based, and 25% were analysis based. Thus most of the questions asked in the class were lower order questions. Only 25% of the questions were higher order. The total percentage of questions during 30 minutes was 13%.

**Table 162**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 4                        | 1        | 3        | 0          | 0          | 0           | 0          |
| %age        |                          | 25%      | 75%      | 0%         | 0%         | 0%          | 0%         |

Table 162 indicated that in 25 minutes class duration, the researcher observed 4 questions. 25% of the questions were knowledge based and 75% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was 16%.

**Table 163**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 3                        | 1        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 33%      | 67%      | 0%         | 0%         | 0%          | 0%         |

Table 163 indicated that in 30 minutes class duration, the researcher observed 3 questions. 33% of the questions were knowledge based and 67% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 10%.

**Table 164**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 2        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 67%      | 33%      | 0%         | 0%         | 0%          | 0%         |

Table 164 indicated that in 35 minutes class duration, the researcher observed 3 questions. 67% of the questions were knowledge based and 33% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 9%.

**Table 165**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 0        | 2        | 1          | 0          | 0           | 0          |
| %age        |                          | 0%       | 67%      | 33%        | 0%         | 0%          | 0%         |

Table 165 indicated that in 35 minutes class duration, the researcher observed 3 questions. 67 % of the questions were comprehension based, and 33% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 9%.

**Table 166**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 1        | 1        | 0          | 1          | 0           | 0          |
| %age        |                          | 33.3%    | 33.3%    | 0%         | 33.3%      | 0%          | 0%         |

Table 166 indicated that in 35 minutes class duration, the researcher observed 3 questions. 33.3% of the questions were knowledge based, 33.3% were comprehension based, and 33.3% were analysis based. Thus most of the questions asked in the class were lower order questions only while 33.3% of the questions were higher order. The total percentage of questions during 35 minutes was 9%.

**Table 167**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 2        | 0        | 0          | 1          | 0           | 0          |
| %age        |                          | 67%      | 0%       | 0%         | 33%        | 0%          | 0%         |

Table 167 indicated that in 35 minutes class duration, the researcher observed 3 questions. 67 % of the questions were knowledge based, and 33% were analysis based. Thus majority of the questions asked in the class were lower order questions, and 33% were higher order. The total % of questions during 35 minutes was 9%.

**Table 168**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 40min       | 4                        | 4        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 168 indicated that in 40 minutes class duration, the researcher observed 4 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 40 minutes was just only 10%.

**Table 169**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 5                        | 2        | 1        | 1          | 1          | 0           | 0          |
| %age        |                          | 40%      | 20%      | 20%        | 20%        | 0%          | 0%         |

Table 169 indicated that in 35 minutes class duration, the researcher observed 5 questions. 40% of the questions were knowledge based, 20% were comprehension based, 20% were application, and 20% were analysis based. Thus most of the questions asked in the class were lower order questions and 20% of the questions were higher order. The total percentage of questions during 35 minutes was 14%.

**Table 170**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 2                        | 1        | 0        | 1          | 0          | 0           | 0          |
| %age        |                          | 50%      | 0%       | 50%        | 0%         | 0%          | 0%         |

Table 170 indicated that in 25 minutes class duration, the researcher observed 2 questions. 50 % of the questions were knowledge based, and 50% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was 8%.

**Table 171**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 20min       | 4                        | 4        | 0        | 0          | 0          | 0           | 0          |
| %age        |                          | 100%     | 0%       | 0%         | 0%         | 0%          | 0%         |

Table 171 indicated that in 20 minutes class duration, the researcher observed 4 questions. 100 % of the questions were knowledge based. All the questions asked in the class were lower order questions. The total percentage of questions during 20 minutes was just only 20%.

**Table 172**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 3                        | 1        | 1        | 1          | 0          | 0           | 0          |
| %age        |                          | 33.3%    | 33.3%    | 33.3%      | 0%         | 0%          | 0%         |

Table 172 indicated that in 25 minutes class duration, the researcher observed 3 questions. 33.3 % of the questions were knowledge based, 33.3% were comprehension based, and 33.3% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was 12%.

**Table 173**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 35min       | 3                        | 2        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 67%      | 33%      | 0%         | 0%         | 0%          | 0%         |

Table 173 indicated that in 35 minutes class duration, the researcher observed 3 questions. 67% of the questions were knowledge based and 33% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 35 minutes was 9%.

**Table 174**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 25min       | 3                        | 1        | 1        | 1          | 0          | 0           | 0          |
| %age        |                          | 33.3%    | 33.3%    | 33.3%      | 0%         | 0%          | 0%         |

Table 174 indicated that in 25 minutes class duration, the researcher observed 3 questions. 33.3 % of the questions were knowledge based, 33.3% were comprehension based, and 33.3% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 25 minutes was 12%.

**Table 175**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 3                        | 2        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 67%      | 33%      | 0%         | 0%         | 0%          | 0%         |

Table 175 indicated that in 30 minutes class duration, the researcher observed 3 questions. 67% of the questions were knowledge based and 33% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 10%.

**Table 176**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 30min       | 11                       | 4        | 4        | 3          | 0          | 0           | 0          |
| %age        |                          | 36.3%    | 36.3%    | 27%        | 0%         | 0%          | 0%         |

Table 176 indicated that in 30 minutes class duration, the researcher observed 11 questions. 36.3 % of the questions were knowledge based, 36.3% were comprehension based, and 27% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 30 minutes was 37%.

#### 4.4 Tertiary Level Data individual tables

**Table-177~200: Categories of questions observed in 24 total sessions at tertiary level**

**Table 177**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 30min | 8                        | 2        | 1        | 5          | 0          | 0           | 0          |
| %age         |                          | 25%      | 13%      | 62%        | 0%         | 0%          | 0%         |

Table 177 indicated that in 1 hour 30 minutes class duration, the researcher observed 8 questions. 25 % of the questions were knowledge based, 13% were comprehension based, and 62% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 1 hour 30 minutes was 9%.

**Table 178**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour      | 12                       | 8        | 2        | 1          | 1          | 0           | 0          |
| %age        |                          | 67%      | 17%      | 8%         | 8%         | 0%          | 0%         |

Table 178 indicated that in 1 hour class duration, the researcher observed 12 questions. 67% of the questions were knowledge based, 17% were comprehension based, 8% were application, and 8% were analysis based. Thus most of the questions asked in the class were lower order questions and just 8% of the questions were higher order. The total percentage of questions during 1 hour was 23%.

**Table 179**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour      | 10                       | 4        | 5        | 0          | 1          | 0           | 0          |
| %age        |                          | 40%      | 50%      | 0%         | 10%        | 0%          | 0%         |

Table 179 indicated that in 1 hour class duration, the researcher observed 10 questions. 40% of the questions were knowledge based, 50% were comprehension based, and 10% were analysis based. Thus most of the questions asked in the class were lower order questions and just 10% of the questions were higher order. The total percentage of questions during 1 hour was 17%.

**Table 180**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1hour30min  | 4                        | 3        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 75%      | 25%      | 0%         | 0%         | 0%          | 0%         |

Table 180 indicated that in 1 hour 30 minutes class duration, 75 % of the questions were knowledge based, and 25% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 1 hour 30 minutes was just only 4%.

**Table 181**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 3 hour      | 3                        | 0        | 2        | 0          | 1          | 0           | 0          |
| %age        |                          | 0%       | 67%      | 0%         | 33%        | 0%          | 0%         |

Table 181 indicated that in 3 hours class duration, the researcher observed 3 questions. 67% of the questions were comprehension based, and 33% were analysis based. Thus most of the questions asked in the class were lower order questions and just 33% of the questions were higher order. The total percentage of questions during 3 hours was just only 2%.

**Table 182**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 30min | 4                        | 2        | 1        | 1          | 0          | 0           | 0          |
| %age         |                          | 50%      | 25%      | 25%        | 0%         | 0%          | 0%         |

Table 182 indicated that in 1 hour 30 minutes class duration, the researcher observed 4 questions. 50 % of the questions were knowledge based, 25% were comprehension based, and 25% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 1 hour 30 minutes was just only 4%.

**Table 183**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour      | 6                        | 3        | 1        | 1          | 0          | 1           | 0          |
| %age        |                          | 50%      | 16.6%    | 16.6%      | 0%         | 16.6%       | 0%         |

Table 183 indicated that in 1 hour class duration, the researcher observed 6 questions. 50% of the questions were knowledge based, 16.6% were comprehension based, 16.6% were application, and 16.6% were synthesis based. Thus most of the questions asked in the class were lower order questions and 16.6% of the questions were higher order. The total percentage of questions during 1 hour was 10%.

**Table 184**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour      | 4                        | 2        | 1        | 1          | 0          | 0           | 0          |
| %age        |                          | 50%      | 25%      | 25%        | 0%         | 0%          | 0%         |

Table 184 indicated that in 1 hour class duration, the researcher observed 4 questions. 50 % of the questions were knowledge based, 25% were comprehension based, and 25% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 1 hour was just only 7%.

**Table 185**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 30min | 3                        | 2        | 1        | 0          | 0          | 0           | 0          |
| %age         |                          | 67%      | 33%      | 0%         | 0%         | 0%          | 0%         |

Table 185 indicated that in 1 hour 30 minutes class duration, the researcher observed 3 questions. 67 % of the questions were knowledge based, and 33% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 1 hour 30 minutes was just only 3%.

**Table 186**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 2 hour      | 10                       | 4        | 2        | 2          | 1          | 0           | 1          |
| %age        |                          | 40%      | 20%      | 20%        | 10%        | 0%          | 10%        |

Table 186 indicated that in 2 hours class duration, the researcher observed 10 questions. 40% of the questions were knowledge based, 20% were comprehension based, 20% were application, 10% were analysis and 10% were evaluation based. Thus most of the questions asked in the class were lower order questions and 20% of the questions were higher order. The total % of questions during 2 hours was 8%.

**Table 187**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1hour 30min | 2                        | 0        | 2        | 0          | 0          | 0           | 0          |
| %age        |                          | 0%       | 100%     | 0%         | 0%         | 0%          | 0%         |

Table 187 indicated that in 1 hour 30 minutes class duration, the researcher observed 2 questions. 100 % of the questions were knowledge based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 1 hour 30 minutes was just only 2%.

**Table 188**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 30min | 5                        | 1        | 2        | 1          | 1          | 0           | 0          |
| %age         |                          | 20%      | 40%      | 20%        | 20%        | 0%          | 0%         |

Table 188 indicated that in 1 hour 30 minutes class duration, the researcher observed 5 questions. 20% of the questions were knowledge based, 40% were comprehension based, 20% were application, and 20% were analysis based. Thus most of the questions asked in the class were lower order questions only 20% of the questions were higher order. The total % of questions during 1 hour 30 minutes was 6%.

**Table 189**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 30min | 3                        | 1        | 0        | 1          | 1          | 0           | 0          |
| %age         |                          | 33.3%    | 0%       | 33.3%      | 33.3%      | 0%          | 0%         |

Table 189 indicated that in 1 hour 30 minutes class duration, 33.3% of the questions were knowledge based, 33.3% were application, and 33.3% were analysis based. Thus most of the questions asked in the class were lower order questions only 33.3% of the questions were higher order. The total percentage of questions during 1 hour 30 minutes was just only 3%.

**Table 190**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 3 hour      | 2                        | 1        | 1        | 0          | 0          | 0           | 0          |
| %age        |                          | 50%      | 50%      | 0%         | 0%         | 0%          | 0%         |

Table 190 indicated that in 1 hour 3 hours class duration, the researcher observed 2 questions. 50 % of the questions were knowledge based, and 50% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 3 hours was just only 1%.

**Table 191**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 30min | 10                       | 6        | 4        | 0          | 0          | 0           | 0          |
| %age         |                          | 60%      | 40%      | 0%         | 0%         | 0%          | 0%         |

Table 191 indicated that in 1 hour 30 minutes class duration, the researcher observed 10 questions. 60 % of the questions were knowledge based, and 40% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total % of questions during 1 hour 30 minutes was just only 11%.

**Table 192**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 30min | 15                       | 6        | 7        | 0          | 2          | 0           | 0          |
| %age         |                          | 40%      | 47%      | 0%         | 13%        | 0%          | 0%         |

Table 192 indicated that in 1 hour 30 minutes class duration, 40% of the questions were knowledge based, 47% were comprehension based, and 13% were analysis based. Thus most of the questions asked in the class were lower order questions and just 13% of the questions were higher order. The total percentage of questions during 1 hour 30 minutes was 17%.

**Table 193**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 2 hour      | 5                        | 2        | 3        | 0          | 0          | 0           | 0          |
| %age        |                          | 40%      | 60%      | 0%         | 0%         | 0%          | 0%         |

Table 193 indicated that in 2 hours class duration, the researcher observed 5 questions. 40 % of the questions were knowledge based, and 60% were comprehension based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 2 hours was just only 4%.

**Table 194**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 30min | 2                        | 1        | 0        | 1          | 0          | 0           | 0          |
| %age         |                          | 50%      | 0%       | 50%        | 0%         | 0%          | 0%         |

Table 194 indicated that in 1 hour 30 minutes class duration, the researcher observed 2 questions. 50 % of the questions were knowledge based, and 50% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 1 hour 30 minutes was just only 2%.

**Table 195**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1hour 45min | 8                        | 2        | 4        | 2          | 0          | 0           | 0          |
| %age        |                          | 25%      | 50%      | 25%        | 0%         | 0%          | 0%         |

Table 195 indicated that in 1 hour 45 minutes class duration, the researcher observed 8 questions. 25 % of the questions were knowledge based, 50% were comprehension based, and 25% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 1 hour 45 minutes was just only 8%.

**Table 196**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1hour 45min | 5                        | 1        | 3        | 1          | 0          | 0           | 0          |
| %age        |                          | 20%      | 60%      | 20%        | 0%         | 0%          | 0%         |

Table 196 indicated that in 1 hour 45 minutes class duration, the researcher observed 5 questions. 20 % of the questions were knowledge based, 60% were comprehension based, and 20% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 1 hour 45 minutes was just only 5%.

**Table 197**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 45min | 6                        | 3        | 0        | 1          | 1          | 1           | 0          |
| %age         |                          | 50%      | 0%       | 16.6%      | 16.6%      | 16.6%       | 0%         |

Table 197 indicated that in 1 hour 45 minutes class duration, the researcher observed 6 questions. 50% of the questions were knowledge based, 16.6% were application based, 16.6% were analysis and 16.6% were synthesis based. Thus most of the questions asked in the class were lower order questions and 33% of the questions were higher order. The total% of questions during 1 hour 45 minutes was 6%.

**Table 198**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 45min | 6                        | 3        | 0        | 2          | 1          | 0           | 0          |
| %age         |                          | 50%      | 0%       | 33%        | 17%        | 0%          | 0%         |

Table 198 indicated that in 1 hour 45 minutes class duration, 50% of the questions were knowledge based, 33% were application, and 17% were analysis based. Thus most of the questions asked in the class were lower order questions only 17% of the questions were higher order. The total percentage of questions during 1 hour 45 minutes was just only 6%.

**Table 199**

| <b>Time</b>  | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|--------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 1 hour 30min | 4                        | 2        | 0        | 1          | 1          | 0           | 0          |
| %age         |                          | 50%      | 0%       | 25%        | 25%        | 0%          | 0%         |

Table 199 indicated that in 1 hour 30 minutes class duration, the researcher observed 4 questions. 50% of the questions were knowledge based, 25% were application, and 25% were analysis based. Thus most of the questions asked in the class were lower order questions only 25% of the questions were higher order. The total percentage of questions during 1 hour 30 minutes was just only 4%.

**Table 200**

| <b>Time</b> | <b>No. of obs. Ques.</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva</b> |
|-------------|--------------------------|----------|----------|------------|------------|-------------|------------|
| 3hour       | 4                        | 0        | 3        | 1          | 0          | 0           | 0          |
| %age        |                          | 0%       | 75%      | 25%        | 0%         | 0%          | 0%         |

Table 200 indicated that in 3 hours class duration, the researcher observed 4 questions. 75% of the questions were comprehension based, and 25% were application based. Thus all of the questions asked in the class were lower order questions. The total percentage of questions during 13 hours was just only 2%.

## 4.5 Comprehensive Tables of Secondary Level Data

**Table-201: Percentage of total questions asked in each category**

| Observation | Time    | No.ofObs. Qs | K  | C | App | Analy | Synt | Eva |
|-------------|---------|--------------|----|---|-----|-------|------|-----|
| 1           | 0:15:00 | 19           | 11 | 4 | 3   | 1     | 0    | 0   |
| 2           | 0:25:00 | 11           | 9  | 2 | 0   | 0     | 0    | 0   |
| 3           | 0:15:00 | 10           | 5  | 5 | 0   | 0     | 0    | 0   |
| 4           | 0:15:00 | 10           | 9  | 1 | 0   | 0     | 0    | 0   |
| 5           | 0:25:00 | 26           | 20 | 2 | 3   | 1     | 0    | 0   |
| 6           | 0:20:00 | 7            | 4  | 3 | 0   | 0     | 0    | 0   |
| 7           | 0:30:00 | 19           | 12 | 7 | 0   | 0     | 0    | 0   |
| 8           | 0:20:00 | 9            | 3  | 5 | 0   | 0     | 1    | 0   |
| 9           | 0:30:00 | 17           | 11 | 6 | 0   | 0     | 0    | 0   |
| 10          | 0:25:00 | 10           | 8  | 2 | 0   | 0     | 0    | 0   |
| 11          | 0:15:00 | 10           | 8  | 2 | 0   | 0     | 0    | 0   |
| 12          | 0:40:00 | 7            | 6  | 0 | 0   | 1     | 0    | 0   |
| 13          | 0:45:00 | 8            | 8  | 0 | 0   | 0     | 0    | 0   |
| 14          | 0:35:00 | 6            | 5  | 1 | 0   | 0     | 0    | 0   |
| 15          | 0:40:00 | 6            | 5  | 1 | 0   | 0     | 0    | 0   |
| 16          | 0:45:00 | 5            | 4  | 1 | 0   | 0     | 0    | 0   |
| 17          | 0:40:00 | 5            | 3  | 1 | 1   | 0     | 0    | 0   |
| 18          | 0:35:00 | 7            | 3  | 1 | 0   | 0     | 2    | 1   |
| 19          | 0:40:00 | 7            | 5  | 2 | 0   | 0     | 0    | 0   |
| 20          | 0:35:00 | 1            | 1  | 0 | 0   | 0     | 0    | 0   |
| 21          | 0:30:00 | 2            | 1  | 0 | 0   | 1     | 0    | 0   |
| 22          | 0:35:00 | 6            | 5  | 0 | 1   | 0     | 0    | 0   |
| 23          | 0:30:00 | 2            | 0  | 1 | 0   | 1     | 0    | 0   |
| 24          | 0:30:00 | 11           | 9  | 2 | 0   | 0     | 0    | 0   |
| 25          | 0:20:00 | 11           | 3  | 8 | 0   | 0     | 0    | 0   |
| 26          | 0:20:00 | 5            | 4  | 1 | 0   | 0     | 0    | 0   |
| 27          | 0:15:00 | 9            | 4  | 4 | 0   | 1     | 0    | 0   |
| 28          | 0:20:00 | 13           | 7  | 2 | 4   | 0     | 0    | 0   |
| 29          | 0:30:00 | 9            | 9  | 0 | 0   | 0     | 0    | 0   |
| 30          | 0:30:00 | 19           | 10 | 7 | 2   | 0     | 0    | 0   |
| 31          | 0:30:00 | 18           | 12 | 0 | 4   | 1     | 1    | 0   |
| 32          | 0:40:00 | 2            | 1  | 1 | 0   | 0     | 0    | 0   |
| 33          | 0:30:00 | 4            | 3  | 0 | 1   | 0     | 0    | 0   |
| 34          | 0:35:00 | 2            | 0  | 2 | 0   | 0     | 0    | 0   |
| 35          | 0:25:00 | 4            | 3  | 0 | 0   | 1     | 0    | 0   |
| 36          | 0:30:00 | 2            | 0  | 2 | 0   | 0     | 0    | 0   |
| 37          | 0:30:00 | 2            | 1  | 1 | 0   | 0     | 0    | 0   |
| 38          | 0:30:00 | 4            | 4  | 0 | 0   | 0     | 0    | 0   |
| 39          | 0:35:00 | 2            | 0  | 1 | 1   | 0     | 0    | 0   |
| 40          | 0:35:00 | 10           | 10 | 0 | 0   | 0     | 0    | 0   |
| 41          | 0:30:00 | 2            | 2  | 0 | 0   | 0     | 0    | 0   |
| 42          | 0:35:00 | 4            | 2  | 1 | 1   | 0     | 0    | 0   |
| 43          | 0:35:00 | 5            | 3  | 0 | 1   | 1     | 0    | 0   |
| 44          | 0:35:00 | 5            | 3  | 0 | 1   | 1     | 0    | 0   |
| 45          | 0:40:00 | 0            | 0  | 0 | 0   | 0     | 0    | 0   |
| 46          | 0:35:00 | 3            | 2  | 0 | 1   | 0     | 0    | 0   |
| 47          | 0:35:00 | 3            | 2  | 1 | 0   | 0     | 0    | 0   |
| 48          | 0:40:00 | 4            | 3  | 1 | 0   | 0     | 0    | 0   |

|    |         |    |   |   |   |   |   |   |
|----|---------|----|---|---|---|---|---|---|
| 49 | 0:35:00 | 3  | 2 | 1 | 0 | 0 | 0 | 0 |
| 50 | 0:35:00 | 3  | 2 | 1 | 0 | 0 | 0 | 0 |
| 51 | 0:40:00 | 4  | 3 | 1 | 0 | 0 | 0 | 0 |
| 52 | 0:40:00 | 7  | 5 | 2 | 0 | 0 | 0 | 0 |
| 53 | 0:40:00 | 4  | 4 | 0 | 0 | 0 | 0 | 0 |
| 54 | 0:40:00 | 6  | 5 | 1 | 0 | 0 | 0 | 0 |
| 55 | 0:40:00 | 9  | 6 | 1 | 2 | 0 | 0 | 0 |
| 56 | 0:40:00 | 5  | 3 | 0 | 0 | 2 | 0 | 0 |
| 57 | 0:40:00 | 5  | 5 | 0 | 0 | 0 | 0 | 0 |
| 58 | 0:40:00 | 6  | 6 | 0 | 0 | 0 | 0 | 0 |
| 59 | 0:35:00 | 2  | 1 | 0 | 1 | 0 | 0 | 0 |
| 60 | 0:35:00 | 4  | 1 | 1 | 1 | 1 | 0 | 0 |
| 61 | 0:35:00 | 6  | 4 | 1 | 1 | 0 | 0 | 0 |
| 62 | 0:35:00 | 7  | 1 | 0 | 2 | 3 | 1 | 0 |
| 63 | 0:35:00 | 3  | 2 | 0 | 1 | 0 | 0 | 0 |
| 64 | 0:25:00 | 16 | 7 | 4 | 4 | 1 | 0 | 0 |
| 65 | 0:35:00 | 12 | 4 | 6 | 2 | 0 | 0 | 0 |
| 66 | 0:40:00 | 6  | 2 | 1 | 2 | 1 | 0 | 0 |
| 67 | 0:35:00 | 8  | 1 | 2 | 1 | 4 | 0 | 0 |
| 68 | 0:40:00 | 4  | 1 | 2 | 0 | 1 | 0 | 0 |
| 69 | 0:35:00 | 5  | 0 | 2 | 3 | 0 | 0 | 0 |
| 70 | 0:30:00 | 4  | 3 | 0 | 0 | 1 | 0 | 0 |
| 71 | 0:45:00 | 9  | 4 | 1 | 2 | 2 | 0 | 0 |
| 72 | 0:15:00 | 4  | 2 | 0 | 1 | 1 | 0 | 0 |
| 73 | 0:30:00 | 4  | 1 | 1 | 1 | 1 | 0 | 0 |
| 74 | 0:40:00 | 3  | 1 | 1 | 1 | 0 | 0 | 0 |
| 75 | 0:40:00 | 6  | 4 | 0 | 1 | 1 | 0 | 0 |
| 76 | 0:30:00 | 3  | 1 | 0 | 1 | 1 | 0 | 0 |
| 77 | 0:35:00 | 6  | 3 | 2 | 0 | 1 | 0 | 0 |
| 78 | 0:35:00 | 2  | 2 | 0 | 0 | 0 | 0 | 0 |
| 79 | 0:35:00 | 8  | 6 | 1 | 1 | 0 | 0 | 0 |
| 80 | 0:35:00 | 4  | 2 | 0 | 1 | 1 | 0 | 0 |
| 81 | 0:35:00 | 6  | 3 | 3 | 0 | 0 | 0 | 0 |
| 82 | 0:35:00 | 4  | 2 | 0 | 0 | 2 | 0 | 0 |
| 83 | 0:35:00 | 10 | 7 | 1 | 1 | 1 | 0 | 0 |
| 84 | 0:40:00 | 10 | 4 | 3 | 2 | 0 | 1 | 0 |
| 85 | 0:30:00 | 5  | 2 | 2 | 0 | 1 | 0 | 0 |
| 86 | 0:25:00 | 11 | 6 | 5 | 0 | 0 | 0 | 0 |
| 87 | 0:35:00 | 8  | 2 | 4 | 2 | 0 | 0 | 0 |
| 88 | 0:40:00 | 17 | 4 | 5 | 3 | 2 | 1 | 2 |
| 89 | 0:30:00 | 9  | 8 | 1 | 0 | 0 | 0 | 0 |
| 90 | 0:40:00 | 3  | 3 | 0 | 0 | 0 | 0 | 0 |
| 91 | 0:30:00 | 4  | 2 | 0 | 2 | 0 | 0 | 0 |
| 92 | 0:25:00 | 12 | 6 | 3 | 0 | 2 | 1 | 0 |

|     |         |    |    |   |   |   |   |   |
|-----|---------|----|----|---|---|---|---|---|
| 93  | 0:20:00 | 0  | 0  | 0 | 0 | 0 | 0 | 0 |
| 94  | 0:35:00 | 7  | 4  | 3 | 0 | 0 | 0 | 0 |
| 95  | 0:35:00 | 15 | 6  | 3 | 3 | 0 | 2 | 1 |
| 96  | 0:40:00 | 20 | 11 | 3 | 1 | 3 | 0 | 2 |
| 97  | 0:30:00 | 6  | 2  | 3 | 1 | 0 | 0 | 0 |
| 98  | 0:20:00 | 3  | 3  | 0 | 0 | 0 | 0 | 0 |
| 99  | 0:35:00 | 13 | 6  | 6 | 0 | 0 | 1 | 0 |
| 100 | 0:35:00 | 18 | 7  | 4 | 4 | 2 | 0 | 1 |
| 101 | 0:40:00 | 8  | 2  | 1 | 5 | 0 | 0 | 0 |
| 102 | 0:40:00 | 12 | 8  | 2 | 1 | 1 | 0 | 0 |
| 103 | 0:35:00 | 10 | 4  | 5 | 0 | 1 | 0 | 0 |
| 104 | 0:30:00 | 4  | 3  | 1 | 0 | 0 | 0 | 0 |
| 105 | 0:40:00 | 10 | 6  | 4 | 0 | 0 | 0 | 0 |
| 106 | 0:25:00 | 4  | 2  | 0 | 1 | 1 | 0 | 0 |
| 107 | 0:35:00 | 6  | 3  | 1 | 1 | 0 | 1 | 0 |
| 108 | 0:35:00 | 4  | 2  | 1 | 1 | 0 | 0 | 0 |
| 109 | 0:40:00 | 5  | 2  | 2 | 1 | 0 | 0 | 0 |
| 110 | 0:45:00 | 10 | 4  | 2 | 2 | 1 | 0 | 1 |
| 111 | 0:30:00 | 2  | 0  | 2 | 0 | 0 | 0 | 0 |
| 112 | 0:30:00 | 2  | 0  | 2 | 0 | 0 | 0 | 0 |
| 113 | 0:45:00 | 4  | 3  | 1 | 0 | 0 | 0 | 0 |
| 114 | 0:40:00 | 4  | 2  | 2 | 0 | 0 | 0 | 0 |
| 115 | 0:45:00 | 10 | 6  | 4 | 0 | 0 | 0 | 0 |
| 116 | 0:30:00 | 15 | 6  | 7 | 0 | 2 | 0 | 0 |
| 117 | 0:40:00 | 5  | 2  | 3 | 0 | 0 | 0 | 0 |
| 118 | 0:35:00 | 12 | 8  | 4 | 0 | 0 | 0 | 0 |
| 119 | 0:45:00 | 8  | 2  | 4 | 2 | 0 | 0 | 0 |
| 120 | 0:45:00 | 5  | 1  | 3 | 1 | 0 | 0 | 0 |
| 121 | 0:45:00 | 6  | 3  | 0 | 1 | 1 | 1 | 0 |
| 122 | 0:45:00 | 6  | 3  | 0 | 2 | 1 | 0 | 0 |
| 123 | 0:25:00 | 4  | 2  | 0 | 1 | 1 | 0 | 0 |
| 124 | 0:20:00 | 8  | 5  | 2 | 1 | 0 | 0 | 0 |
| 125 | 0:30:00 | 3  | 3  | 0 | 0 | 0 | 0 | 0 |
| 126 | 0:25:00 | 3  | 1  | 2 | 0 | 0 | 0 | 0 |
| 127 | 0:35:00 | 2  | 0  | 1 | 0 | 1 | 0 | 0 |
| 128 | 0:30:00 | 2  | 2  | 0 | 0 | 0 | 0 | 0 |
| 129 | 0:35:00 | 11 | 5  | 2 | 2 | 2 | 0 | 0 |
| 130 | 0:30:00 | 10 | 1  | 4 | 2 | 3 | 0 | 0 |
| 131 | 0:40:00 | 4  | 2  | 2 | 0 | 0 | 0 | 0 |
| 132 | 0:45:00 | 4  | 3  | 0 | 0 | 1 | 0 | 0 |
| 133 | 0:35:00 | 6  | 1  | 2 | 1 | 2 | 0 | 0 |
| 134 | 0:40:00 | 4  | 2  | 1 | 0 | 1 | 0 | 0 |
| 135 | 0:40:00 | 14 | 8  | 5 | 1 | 0 | 0 | 0 |

|              |                 |             |               |               |               |              |              |              |
|--------------|-----------------|-------------|---------------|---------------|---------------|--------------|--------------|--------------|
| 136          | 0:45:00         | 13          | 4             | 9             | 0             | 0            | 0            | 0            |
| 137          | 0:40:00         | 5           | 4             | 1             | 0             | 0            | 0            | 0            |
| 138          | 0:25:00         | 5           | 1             | 1             | 3             | 0            | 0            | 0            |
| 139          | 0:45:00         | 19          | 7             | 6             | 5             | 1            | 0            | 0            |
| 140          | 0:25:00         | 3           | 2             | 1             | 0             | 0            | 0            | 0            |
| 141          | 0:40:00         | 9           | 5             | 2             | 2             | 0            | 0            | 0            |
| 142          | 0:35:00         | 3           | 1             | 1             | 0             | 1            | 0            | 0            |
| 143          | 0:25:00         | 4           | 1             | 0             | 1             | 2            | 0            | 0            |
| 144          | 0:45:00         | 3           | 2             | 0             | 1             | 0            | 0            | 0            |
| 145          | 0:45:00         | 4           | 3             | 1             | 0             | 0            | 0            | 0            |
| 146          | 0:45:00         | 4           | 3             | 0             | 1             | 0            | 0            | 0            |
| 147          | 0:40:00         | 8           | 4             | 3             | 1             | 0            | 0            | 0            |
| 148          | 0:35:00         | 7           | 7             | 0             | 0             | 0            | 0            | 0            |
| 149          | 0:35:00         | 19          | 17            | 2             | 0             | 0            | 0            | 0            |
| 150          | 0:25:00         | 2           | 1             | 0             | 0             | 1            | 0            | 0            |
| 151          | 0:25:00         | 3           | 2             | 0             | 1             | 0            | 0            | 0            |
| 152          | 0:25:00         | 3           | 3             | 0             | 0             | 0            | 0            | 0            |
| 153          | 0:35:00         | 3           | 1             | 0             | 0             | 2            | 0            | 0            |
| 154          | 0:20:00         | 4           | 0             | 3             | 1             | 0            | 0            | 0            |
| 155          | 0:30:00         | 4           | 0             | 2             | 1             | 1            | 0            | 0            |
| 156          | 0:30:00         | 6           | 3             | 2             | 0             | 1            | 0            | 0            |
| 157          | 0:20:00         | 3           | 2             | 0             | 0             | 0            | 1            | 0            |
| 158          | 0:40:00         | 3           | 2             | 0             | 1             | 0            | 0            | 0            |
| 159          | 0:35:00         | 3           | 3             | 0             | 0             | 0            | 0            | 0            |
| 160          | 0:45:00         | 4           | 0             | 2             | 1             | 1            | 0            | 0            |
| 161          | 0:30:00         | 4           | 1             | 3             | 0             | 0            | 0            | 0            |
| 162          | 0:25:00         | 3           | 1             | 2             | 0             | 0            | 0            | 0            |
| 163          | 0:30:00         | 3           | 2             | 1             | 0             | 0            | 0            | 0            |
| 164          | 0:35:00         | 3           | 0             | 2             | 1             | 0            | 0            | 0            |
| 165          | 0:35:00         | 3           | 1             | 1             | 0             | 1            | 0            | 0            |
| 167          | 0:35:00         | 3           | 2             | 0             | 0             | 1            | 0            | 0            |
| 168          | 0:40:00         | 4           | 4             | 0             | 0             | 0            | 0            | 0            |
| 169          | 0:35:00         | 5           | 2             | 1             | 1             | 1            | 0            | 0            |
| 170          | 0:25:00         | 2           | 1             | 0             | 1             | 0            | 0            | 0            |
| 171          | 0:20:00         | 4           | 4             | 0             | 0             | 0            | 0            | 0            |
| 172          | 0:25:00         | 3           | 1             | 1             | 1             | 0            | 0            | 0            |
| 173          | 0:35:00         | 3           | 2             | 1             | 0             | 0            | 0            | 0            |
| 174          | 0:25:00         | 3           | 1             | 1             | 1             | 0            | 0            | 0            |
| 175          | 0:30:00         | 3           | 2             | 1             | 0             | 0            | 0            | 0            |
| 176          | 0:30:00         | 11          | 4             | 4             | 3             | 0            | 0            | 0            |
| <b>Total</b> | <b>97:05:00</b> | <b>1150</b> | <b>638</b>    | <b>288</b>    | <b>125</b>    | <b>77</b>    | <b>14</b>    | <b>8</b>     |
| <b>%</b>     |                 |             | <b>55.47%</b> | <b>25.04%</b> | <b>10.87%</b> | <b>6.70%</b> | <b>1.22%</b> | <b>0.70%</b> |

The above table indicated that during 176 observations session at Secondary Level, the total time of observation was 97 hours and 5 minutes, the total number of questions observed were 1150. The result of the study revealed that the teachers asked questions during instruction. Total percentage of questions during 5825 minutes was 20 percent. The whole number of questions was not good and in most of the classes the number of questions was also too much low. Among 1150 questions 55.47% were knowledge based, 25.04% were comprehension based, 10.87% were application based, 6.70% were analysis based, 1.22% was synthesis based, and 0.70% was evaluation based. In the knowledge category most of the questions were related to knowledge of specifics and terminology, theories and structures, and trend and sequences. In the comprehension category most of the questions asked were related to interpretation and extrapolation. In the application category the questions were either related to manipulation or demonstration. The questions asked in the analysis category were mostly related to analysis of elements and relationship. The questions at synthesis and evaluation level were too much low.

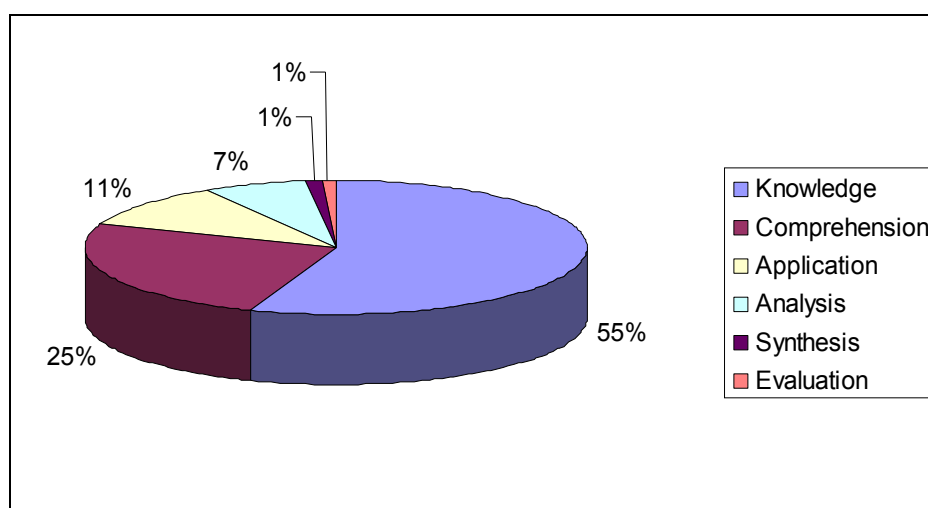


**Figure-4.1: Graphic representation of secondary level data**

**Table-202: Time versus type of questions (Secondary level Data)**

| <b>Type of Qs<br/>Time</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Anal</b> | <b>Synt</b> | <b>Eval</b> | <b>Total</b> |
|----------------------------|----------|----------|------------|-------------|-------------|-------------|--------------|
| 0:15:00                    | 39       | 16       | 4          | 3           | 0           | 0           | 62           |
| 0:20:00                    | 35       | 24       | 6          | 0           | 2           | 0           | 67           |
| 0:25:00                    | 78       | 26       | 17         | 10          | 1           | 0           | 132          |
| 0:30:00                    | 120      | 62       | 18         | 14          | 1           | 0           | 215          |
| 0:35:00                    | 163      | 72       | 37         | 29          | 7           | 3           | 311          |
| 0:40:00                    | 143      | 54       | 25         | 13          | 2           | 4           | 241          |
| 0:45:00                    | 60       | 34       | 18         | 8           | 1           | 1           | 122          |
| Total                      | 638      | 288      | 125        | 77          | 14          | 8           | 1150         |

The above table shows that in 15 minutes class duration, the total number of questions were 62. In 20 minutes class duration, the numbers of questions were 67. The number of questions in 25 minutes class duration was 132, the number of questions in 30 minutes class duration was 215, and the number of questions in 35 minutes class duration was 311. In 40 minutes class duration, the total number of questions was 241 while in 45 minutes class duration, the number of questions were 122.

**Table-203: Time versus type of questions (Secondary level Data)**

| <b>Type of Qs<br/>Time</b> | <b>Know</b> | <b>Comp</b> | <b>App</b> | <b>Ana</b> | <b>Syn.</b> | <b>Eva</b> | <b>Total</b> |
|----------------------------|-------------|-------------|------------|------------|-------------|------------|--------------|
| <= 0:30:00                 | 486         | 222         | 27         | 13         | 3           | 0          | 751          |
| >0:30:00                   | 152         | 66          | 98         | 64         | 11          | 8          | 399          |
| Total                      | 638         | 288         | 125        | 77         | 14          | 8          | 1150         |

The above table shows that in greater than and equal than 30 minutes class duration the number of questions were 751 while in less than 30 minutes class duration the number of questions were 399. 638 questions were asked in

knowledge category, 288 questions were asked in comprehension category, 125 questions were asked in application category, 77 questions were asked in the analysis category, 14 questions were asked in synthesis category while 8 questions were asked in the evaluation category of Bloom's Taxonomy.

**Table-204: Time versus knowledge, comprehension and application as (lower order questions) for Secondary Data**

| <b>Time \ Type of Qs</b> | <b>Know</b> | <b>Comp</b> | <b>App</b> | <b>Total</b> |
|--------------------------|-------------|-------------|------------|--------------|
| <= 0:30:00               | 486         | 222         | 27         | 735          |
| > 0:30:00                | 152         | 66          | 98         | 316          |
| Total                    | 638         | 288         | 125        | 1051         |
| Percentage               | 55.47%      | 25.04%      | 10.87%     | 91.38%       |

The above table indicated that at knowledge, comprehension, and application level of Bloom's Taxonomy, most of the questions asked by the teachers at Secondary Level were lower order and factual. A total of 55.47% questions were asked in knowledge category, 25.04% questions were asked in the comprehension category while 10.87% questions were asked in the application category. The total percentage of lower order questions at Secondary Level was 91.38%.

**Table-205: Time versus analysis, synthesis and evaluation as (higher order questions) for Secondary Data**

| <b>Time \ Type of Qs</b> | <b>Ana.</b> | <b>Syn.</b> | <b>Eva.</b> | <b>Total</b> |
|--------------------------|-------------|-------------|-------------|--------------|
| <= 0:30:00               | 13          | 3           | 0           | 16           |
| >0:30:00                 | 64          | 11          | 8           | 83           |
| Total                    | 77          | 14          | 8           | 99           |
| Percentage               | 6.70%       | 1.22%       | 0.70%       | 8.62%        |

The above table indicated that at analysis, synthesis, and evaluation levels of Bloom's Taxonomy, very little number of questions were asked. The numbers of higher order questions asked by the teachers at Secondary Level were very low. A total of 6.70% questions were asked in analysis category, 1.22% questions were asked in the synthesis category while 0.70% questions were asked in the evaluation category. The total percentage of higher order questions at Secondary Level was 8.62%.

#### 4.6 Comprehensive Tables of Tertiary Level Data

**Table 206 shows percentage of total questions asked in each category**

| Observation  | Time            | No.of ObsQ | K             | C             | App           | Ana          | Synth        | Eval         |
|--------------|-----------------|------------|---------------|---------------|---------------|--------------|--------------|--------------|
| 1            | 1:30:00         | 8          | 2             | 1             | 5             | 0            | 0            | 0            |
| 2            | 1:00:00         | 12         | 8             | 2             | 1             | 1            | 0            | 0            |
| 3            | 1:00:00         | 10         | 4             | 5             | 0             | 1            | 0            | 0            |
| 4            | 1:30:00         | 4          | 3             | 1             | 0             | 0            | 0            | 0            |
| 5            | 3:00:00         | 3          | 0             | 2             | 0             | 1            | 0            | 0            |
| 6            | 1:30:00         | 4          | 2             | 1             | 1             | 0            | 0            | 0            |
| 7            | 1:00:00         | 6          | 3             | 1             | 1             | 0            | 1            | 0            |
| 8            | 1:00:00         | 4          | 2             | 1             | 1             | 0            | 0            | 0            |
| 9            | 1:30:00         | 3          | 2             | 1             | 0             | 0            | 0            | 0            |
| 10           | 2:00:00         | 10         | 4             | 2             | 2             | 1            | 0            | 1            |
| 11           | 1:30:00         | 2          | 0             | 2             | 0             | 0            | 0            | 0            |
| 12           | 1:30:00         | 5          | 1             | 2             | 1             | 1            | 0            | 0            |
| 13           | 1:30:00         | 3          | 1             | 0             | 1             | 1            | 0            | 0            |
| 14           | 3:00:00         | 2          | 1             | 1             | 0             | 0            | 0            | 0            |
| 15           | 1:30:00         | 10         | 6             | 4             | 0             | 0            | 0            | 0            |
| 16           | 1:30:00         | 15         | 6             | 7             | 0             | 2            | 0            | 0            |
| 17           | 2:00:00         | 5          | 2             | 3             | 0             | 0            | 0            | 0            |
| 18           | 1:30:00         | 2          | 1             | 0             | 1             | 0            | 0            | 0            |
| 19           | 1:45:00         | 8          | 2             | 4             | 2             | 0            | 0            | 0            |
| 21           | 1:45:00         | 6          | 3             | 0             | 1             | 1            | 1            | 0            |
| 22           | 1:45:00         | 6          | 3             | 0             | 2             | 1            | 0            | 0            |
| 23           | 1:30:00         | 4          | 2             | 0             | 1             | 1            | 0            | 0            |
| 24           | 3:00:00         | 4          | 0             | 3             | 1             | 0            | 0            | 0            |
| <b>Total</b> | <b>38:45:00</b> | <b>136</b> | <b>58</b>     | <b>43</b>     | <b>21</b>     | <b>11</b>    | <b>2</b>     | <b>1</b>     |
| <b>%</b>     |                 |            | <b>42.65%</b> | <b>31.62%</b> | <b>15.44%</b> | <b>8.09%</b> | <b>1.47%</b> | <b>0.74%</b> |

The above table indicated that during 24 observations session at Tertiary Level, the total time of observation was 38 hours and 45 minutes, the total number of questions observed were 136. The result of the study revealed that the teachers asked questions during instruction. Total percentage of questions during 2325 minutes was only 6 percent. The entire number of questions was not admirable and nearly all of the classes observed, the number of questions was very low. It was observed that teachers raised questions very rarely at this level and dominated giving lectures only. Out of 136 questions, 42.65% were knowledge based, 31.62% were comprehension based, 15.44% were application based, 8.09% were analysis based, 1.47% was synthesis based, and 0.74% was evaluation based. In the knowledge category most of the questions were related to knowledge of specifics and terminology, theories and structures, and trend and sequences. In the comprehension category most of the questions asked were related to interpretation and extrapolation. In the application category the questions were either related to manipulation or demonstration. The questions asked in the analysis category were mostly related to analysis of elements and relationship. The questions at synthesis and evaluation level were too much low.

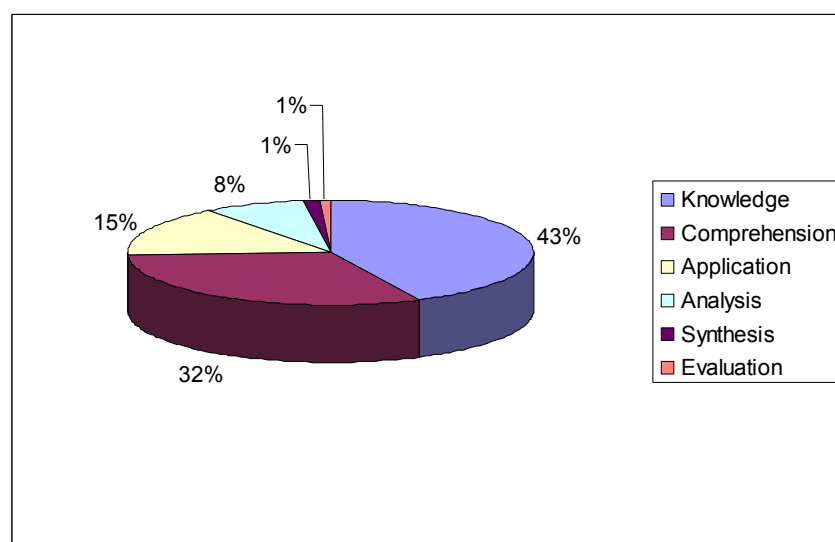


**Figure-4.2: Graphic representation of tertiary level data**

**Table-207: Time versus type of questions (Tertiary level Data)**

| Type of Qs<br>Time | K  | C  | App | Ana | Synt. | Eva | Total |
|--------------------|----|----|-----|-----|-------|-----|-------|
| 1:00:00            | 17 | 9  | 3   | 2   | 1     | 0   | 32    |
| 1:30:00            | 26 | 19 | 10  | 5   | 0     | 0   | 60    |
| 1:45:00            | 8  | 4  | 5   | 2   | 1     | 0   | 20    |
| 2:00:00            | 6  | 5  | 2   | 1   | 0     | 1   | 15    |
| 3:00:00            | 1  | 6  | 1   | 1   | 0     | 0   | 9     |
| Total              | 58 | 43 | 21  | 11  | 2     | 1   | 136   |

The above table shows that in 1 hour class duration, the total number of questions were 32. In 1 hour 30 minutes class duration, the numbers of questions were 60. The number of questions in 1 hour and 45 minutes class duration was 20, the number of questions in 2 hours class duration was 15, and the number of questions in 3 hours class duration was 9. A total of 136 questions were asked in different specified period of time at Tertiary Level.

**Table-208: Time versus type of questions (Tertiary level Data)**

| <b>Type of Qs<br/>Time</b> | <b>K</b> | <b>C</b> | <b>App</b> | <b>Ana</b> | <b>Synt</b> | <b>Eva.</b> | <b>Total</b> |
|----------------------------|----------|----------|------------|------------|-------------|-------------|--------------|
| <= 2:00:00                 | 7        | 32       | 3          | 2          | 0           | 1           | 45           |
| >2:00:00                   | 51       | 11       | 18         | 9          | 2           | 0           | 91           |
| Total                      | 58       | 43       | 21         | 11         | 2           | 1           | 136          |

The above table shows that in greater than and equal than 2 hours class duration the number of questions were 45 while in less than 2 hours class duration the number of questions were 91. 58 questions were asked in knowledge category, 43 questions were asked in comprehension category, 21 questions were asked in application category, 11 questions were asked in the analysis category, 2 questions were asked in synthesis category while only 1 question was asked in the evaluation category of Bloom's Taxonomy.

**Table-209: Time versus knowledge, comprehension and application as (lower order questions) for Tertiary Data**

| <b>Type of Qs<br/>Time</b> | <b>K</b> | <b>Com</b> | <b>App</b> | <b>Total</b> |
|----------------------------|----------|------------|------------|--------------|
| <= 2:00:00                 | 7        | 32         | 3          | 42           |
| >2:00:00                   | 51       | 11         | 18         | 80           |
| Total                      | 58       | 43         | 21         | 122          |
| Percentage                 | 42.65%   | 31.62%     | 15.44%     | 89.71%       |

The above table indicated that at knowledge, comprehension, and application level of Bloom's Taxonomy, most of the questions asked by the teachers at Tertiary Level were lower order and factual. A total of 42.65% questions were asked in knowledge category, 31.62% questions were asked in the comprehension category while 15.44% questions were asked in the application category. The total percentage of lower order questions at Tertiary Level was 89.71%.

**Table-210: Time versus analysis, synthesis and evaluation as (higher order questions) for Tertiary Data**

| <b>Time \ Type of Qs</b> | <b>Ana</b> | <b>Syn</b> | <b>Eva</b> | <b>Total</b> |
|--------------------------|------------|------------|------------|--------------|
| <= 2:00:00               | 2          | 0          | 1          | 3            |
| >2:00:00                 | 9          | 2          | 0          | 11           |
| Total                    | 11         | 2          | 1          | 14           |
| Percentage               | 8.09%      | 1.47%      | 0.74%      | 10.3%        |

The above table indicated that at analysis, synthesis, and evaluation levels of Bloom's Taxonomy, very little number of questions were asked. The numbers of higher order questions asked by the teachers at Tertiary Level were very low. A total of 8.09% questions were asked in analysis category, 1.47% questions were asked in the synthesis category while 0.74% questions were asked in the evaluation category. The total percentage of higher order questions at Secondary Level was 10.3%.

### **The null and alternative hypothesis**

H<sub>0</sub>: There is no significance difference between type of questions at Secondary and Tertiary Levels

H<sub>1</sub>: There is significance difference between type of questions at Secondary and Tertiary Levels

The significance level at  $\alpha = 0.05$

#### 4.7 Comparison of the type of Questions at Secondary and Tertiary Level

**Table-211: Comparison of the type of Questions at Secondary and Tertiary Level**

| <b>Levels<br/>Time</b>              | <b>Type/Nature of questions</b> |      |     |     |     |     | <b>Total</b> | <b><math>\chi^2</math></b> |
|-------------------------------------|---------------------------------|------|-----|-----|-----|-----|--------------|----------------------------|
| Secondary<br>Level Data<br>97:05:00 | K                               | Comp | App | Ana | Syn | Eva | 1150         | 2.873                      |
|                                     | 638                             | 288  | 125 | 77  | 14  | 8   |              |                            |
| Tertiary<br>Level Data<br>38:45:00  | 58                              | 43   | 21  | 11  | 2   | 1   | 136          | 7.504                      |
| Total                               | 696                             | 331  | 146 | 88  | 16  | 9   | 1286         | 10.377                     |

**df= 5**

**Table value= 11.07**

The calculated value of  $\chi^2$  is 10.377, while the tabulated value of  $\chi^2$  with 5 degree of freedom is 11.07 at 5 percent level of significance. So we accept the null hypothesis and conclude that there is no significance difference between teachers' types of questions at secondary and tertiary levels.

The table shows that the total number of questions at Secondary Level were 1150 over time period of 97 hours and 05 minutes while the total number of questions at tertiary level were 136 over time period of 38 hours and 45 minutes. Most of the questions asked were lower order at both Secondary and Tertiary Levels.

## **CHAPTER-FIVE**

### **FINDINGS, CONCLUSION, DISCUSSION AND RECOMMENDATIONS**

This chapter deals with the gist of the whole thesis. The researcher has derived findings after analyzing the data, has presented the conclusion, discussion on the results and has given suggestions and recommendations.

#### **5.1 Findings**

Two hundred teachers were observed in their classes for the types of questions they asked. One hundred and seventy six teachers were observed at Secondary level and twenty four teachers were observed at Tertiary level. Time duration for each class was different at both the levels.

Following were the findings of the study.

- During 176 observations session at Secondary Level, the total time of observation was 97 hours and 5 minutes, the total number of questions observed were 1150.
- Among 1150 questions 55.47% were knowledge based, 25.04% were comprehension based, 10.87% were application based, 6.70% were analysis based, 1.22% was synthesis based, and 0.70% was evaluation based.

- During 24 observations session at Tertiary Level, the total time of observation was 38 hours and 45 minutes, the total number of questions were 136.
- Among 136 questions 42.65% were knowledge based, 31.62% were comprehension based, 15.44% were application based, 8.09% were analysis based, 1.47% was synthesis based, and 0.74% was evaluation based.
- At both Secondary and Tertiary Level the knowledge category questions were dominantly asked and were mostly related to knowledge of specifics and terminology, theories and structures, and trend and sequences.
- In the comprehension category most of the questions asked were related to interpretation and extrapolation.
- In the application category the questions were either related to manipulation or demonstration.
- The questions asked in the analysis category were mostly related to analysis of elements and relationship.
- The questions at synthesis and evaluation level were too much low.
- Of all the question levels found in this study, knowledge, comprehension, and application, low level of cognition questions were found to be predominant. The total percentage of such questions was 91.38% at secondary level and 89.71% at tertiary level.
- This is followed respectively by analysis, synthesis and evaluation, high level of cognition questions. These levels of questions were not mostly

asked. The total percentage of such type of questions was 8.62 % at secondary level and 10.3% at tertiary level

- As for questioning techniques employed by the teachers in the classrooms, convergent questions were found to be predominant over divergent questions.
- It was also found that there was no significance difference between the type of questions asked at Secondary and Tertiary levels.
- In some classrooms teachers did not even ask a single question.
- At secondary level teachers were observed for a different period of time. Class duration range from fifteen minutes to forty five minutes. The number of asked questions was different at different time period. The total numbers of asked questions were low.
- At tertiary level, the duration of the class was different from that of secondary level. Teachers were observed in the class for a minimum of one hour and maximum of three hours. The number of asked questions varied at different time period. The total numbers of asked questions were too much low.
- During 176 observations session at Secondary Level, the total time of observation was 97 hours and 5 minutes, the total number of questions observed were 1150. Total percentage of asked questions during 5825 minutes was 20 percent.
- During 24 observations session at Tertiary Level, the total time of observation was 38 hours and 45 minutes, the total number of questions

observed were 136. Total percentage of questions during 2325 minutes was only 6 percent.

- In three hours class duration at tertiary level, the researcher observed even just two questions was posed, showing lack of questioning culture in the Pakistani classroom context.
- It was found that teachers mostly asked convergent questions which limited students' responses to set answers rather than divergent questions which encourage divergent and open thinking.
- The study revealed that very little attention is given to students' critical thinking development in the Pakistani schools and universities.
- It was also found that very little wait time was provided by teachers at both secondary and tertiary level after posing questions and getting answers.

### **5.3 Discussion**

At secondary and tertiary level, the teachers in Pakistan do not ask many questions. Much as other studies have shown (Goodlad, 1982) the teachers primarily teach as they were taught in their own school experience, but there are additional reasons as well. Being a former teacher and having conducted two hundred observations at the secondary and tertiary level, the researcher noted that most of the teachers were mainly engaged with giving lectures and explaining the concepts. During their lecture time very few questions were posed, and those that were asked were predominantly of lower order. The questions were mainly related to terminologies of specific words or meanings of difficult words. Teachers lacked

the knowledge of Bloom's Taxonomy nor did they have the training to frame questions covering all the levels of Bloom's Taxonomy.

Most of the teachers were not mentally ready to pose questions as their teaching revolves around the textbook only, which did not encourage the teacher to pose questions. The nature of the required summative examination compelled teachers to make students memorize the content, which encouraged rote learning. Asking a good question is a skill in itself which demands more expertise on the part of teachers in content and pedagogy. Our teachers, however, lack the training and expertise to frame higher order questions to enhance students' thinking. The results are provided strength by the findings of the study of Nisa & Khan (2012) that teacher's content knowledge and pedagogical skills, and some school factors (time constraints, examination system) were some of the possibilities and challenges which influence classroom questioning.

The result of the study showed that at both secondary and tertiary level teachers questioning strategy was almost the same. Many teachers were not aware of the number and type of questions they ask in class or the functions of those questions. This study was unable to examine the levels of critical thinking—due to the poor levels of questioning. Most of the teachers asked very less number of questions. The researcher also observed some classes where teacher even didn't ask a single question. In the asked questions, the numbers of lower level and convergent questions were greater than higher level and divergent questions at both the levels. The questions which are low level simply reflect no critical thinking. Questions of high level reflect higher thinking but its scale was low.

The result of the study revealed that majority of teachers at secondary level asked lower order and convergent questions and the ratio of higher order and divergent questions was very low. The results are in consistency with the results given by Gall (1984) that teacher seldom asking questions that require higher order thinking. The reason might be the lack of training in asking appropriate questions by the teachers as identified by Cecil (1995).

It has also been observed that teachers at the tertiary level with greater time duration for instruction asked very little number of questions. Most of the asked questions were lower order convergent questions, while the number of higher order divergent questions was too much low. The results are in support of the study conducted by Ciardiello (1998) that at post – secondary level, teachers were not using high level divergent questions in the class for their students.

At both secondary and tertiary level the knowledge based questions were more dominant followed by comprehension, application, analysis, synthesis and evaluation. The results are in support with the study of Dumteeb (2009) who explored that knowledge questions were found to be predominant. The dominance of knowledge questions was caused by the focus, the objectives of the lesson and the classroom context. Of all the questions asked in the study, knowledge questions elicited the greatest number of responses from the students. The fact that the students responded to knowledge questions most often might be because responding to knowledge questions does not require much of the students' time, effort, vocabulary and grammatical knowledge in formulating their responses.

It has also been explored that the number of asked questions were too much low at both levels. A total of 1150 questions were asked at secondary level

over time period of 97 hours and 05 minutes. The total percentage of questions during 5825 minutes was only 20 percent.

At tertiary level, the researcher observed twenty four lessons of universities lecturers and professors. At tertiary level too the number of asked questions was low. A total of 136 questions were asked over time period of 38 hours and 45 minutes. The total percentage of questions during 2325 minutes was only 6 percent. The results are not in consistency with the results of Brown & Wragg (1993) who discusses the research study of Stevens (1912) that teachers appeared to ask 400 questions per day. Moreover, Johnston (1990), cited in Ellis (1994) witnessed a total of 522 questions of various kinds in three hours of teaching.

It has also been observed that teachers did not provide sufficient wait time to students after posing questions and getting responses. Wait-time which is one of the fundamental components of good questioning practices requires 'patience' on the part of the teacher. However, it was observed that the children were not given enough wait time. The results are in support of the studies by Powell & Caseau (2004), Hastings (2006) that teachers seldom wait more than a minute to answer their own questions. Rowe (1974) concluded that teachers wait only 0.9 seconds for students' responses after posing questions.

The results of the study revealed that teachers asked more convergent questions than divergent questions. The results are provided strength by the study of Borich (2000) that the ratio of convergent questions asked in the classroom is much higher than divergent questions. The proportion is about 4:1.

It was also observed by the researcher that the teachers at both the levels did not have the skill of asking the right type of questions. The observation got strength with the observation of Tritapoe (2010) that teachers lack the skill of asking appropriate questions.

Evidence from previous studies reported that teachers ask a lot of questions during classroom teaching but the ratio of low level questions is more than the higher level questions. Hussin (2006) conducted study on the dimensions of questions in Malaysia and reported that the national curriculum of Malaysia demand learners to be critical thinkers but the teachers, in reality, teach in terms of posing low-level, factual questions that discourage critical thinking on the part of learners.

Critelli & Tritapoe (2010) explored effective questioning techniques to increase class participation. They found out that the teacher lacked the skill of posing effective questioning strategies that enhance class involvement rather mainly relied on declamatory questions and convergent questions which did not encourage high level class participation or powerful responses.

The results of the study provide support to the study by Sulaiman & Noordin (2005), who also examine to what extent teachers use six question levels of Bloom's Taxonomy in the teaching of investigation skills. They found out that teachers frequently use knowledge questions followed by analysis and comprehension question levels while teaching investigation skills, however, other levels of questions were seldom asked.

The teachers in Pakistan know little about Bloom's taxonomy of questions. No planning is carried out to plan for asking better questions before going to class.

Teachers are more concerned with the syllabus completion rather than plan for promoting critical thinking through questioning technique.

Due to lack of research culture in Pakistan, data collection stage of the study was time consuming and hard stage for the researcher. Dealing with the authorities of Secondary Schools and public sector universities of Khyber Pahtunkhwa for getting permission to collect data was a difficult job for the researcher. The timing and duration of the field work was constrained by school schedules and sometime public holidays. However, after permission for collecting data was granted by the concerned authority, the researcher planned with the teacher participants about their schedules for collecting the necessary data for the study. Some teachers denied to be observed with audio- recording but they were made convinced that identity of the institution and the confidentiality of the participants would be protected. The researcher did not mention either the name of the institution or the teacher in the analysis and results of data.

The researcher understanding of the profession provided her with greater insight to conduct more in-depth data collection and analysis. The researcher is teaching at school and college level, provided her a good opportunity to understand the classroom setting. At the tertiary level the researcher did observations of lecturers and professors in the social sciences departments only because with no science background, the researcher could not conduct observations in pure sciences.

### **5.3 Conclusion**

In the light of findings and discussion the following conclusions have been drawn.

The study results revealed that teachers practice of asking questions were very weak, majority of teachers asked dominantly lower order and convergent questions at secondary level which could not help to develop the ability of critical thinking among students at secondary level. There were variations in terms of classroom time duration and number of asked questions by teachers. The results of the study showed that no question was asked by teachers in some of the classes at secondary level.

The asked questions were predominantly lower order and convergent questions with a very low asking ratio and, not encouraging critical thinking at tertiary level among students.

The teachers both at secondary and tertiary level provided very short wait time to students to respond. There found no awareness of teachers regarding the positive impact of increasing wait time and getting divergent answers.

The results also concluded that there is no significance difference between type of teachers' questions at secondary and tertiary level.

The observations in the study revealed that teachers at secondary and tertiary level employed almost similar type of questioning technique while teaching in order to check student's level of understanding. Of all the questions asked in the study, lower order and convergent questions elicited the greatest number of responses from the students. Questions at the analysis, synthesis and evaluation levels were not mostly asked. These three levels were rarely used. The

researcher also noticed that teachers usually preferred to rely mostly on asking simple questions that would accelerate the teaching learning process and the learners also feel relax to easily answer the teacher's questions.

## **5.4 Recommendations**

The following recommendations have been given in light of findings and conclusions.

1. It is indicated from the results that teachers both at secondary and tertiary level asked low level cognitive questions predominantly while it is suggested that a combination of lower and higher order questions should be asked in order to foster student understanding and achievement.
2. The teachers' asked questions were mostly factual even if the goal of instruction was to promote higher level thinking. It is therefore recommended that teachers should ask factual questions when the goal is primarily mastery of basic understanding or skills. Higher cognitive questions are effective when more independent thinking is required and where the goal of instruction is to promote higher- level thinking.
3. The observations revealed that teachers at secondary and tertiary level classrooms did not ask a good number of questions. No question culture was found in the classrooms. Teachers should develop a thought provoking question culture in the classrooms in order to foster critical thinking among the students.
4. The results also revealed that teachers' questions were mostly convergent rather than divergent. Open ended, divergent questions should be asked to stimulate divergent thinking among the students. Teachers should use

primarily convergent questions to teach facts, rules, and action sequences and should use divergent questions to teach concepts, patterns, and abstractions.

5. Based on the observations conducted in the study, it was revealed that teachers did not provide sufficient wait time to students after posing a question at secondary and tertiary level. Therefore it is recommended that students should be allowed ample time for discovery and consolidation of answers.
6. It was observed that the climate in many Pakistani classrooms inhibits students' from asking and answering questions. In such classrooms, silence and order were the most important features and strict adherence to teacher's imposed rules was dutifully enforced. In such like situation students minds did not grow and never totally engaged in learning. Encouraging atmosphere should be created so that every hand is raised.
7. The observations in the study revealed that no careful planning for asking the right questions was made. Therefore it is suggested that thorough preparation and careful planning will assist teachers to ask better questions so as to promote students' critical thinking skills.
8. Majority of the teachers were unaware about the proper use of questioning technique in the classrooms. Therefore, special training to teachers should be given and six question levels based on Bloom's Taxonomy (1956) may be included in teacher education programme at all levels.
9. Teachers training programmes like workshops, symposium, and refresher courses should be conducted on this vital issue as to familiarize teachers with the different question levels of Blooms' Taxonomy.

10. One of the problems might be the overcrowded classrooms in schools of Khyber Pakhtunkhwa. This may also be one of the reasons of not asking much questions in such classrooms. To minimize class strength for the promotion of questioning culture in classrooms is also recommended.
11. The researcher by herself conducted the observations in the classrooms. More than one observer should be employed in the future studies in order to produce more authentic and reliable results.

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## APPENDICES

### Appendix-1: Letter to the Director

From

The director,  
Institute Of Education and Research,  
University of Peshawar

To

The Principal/Chairman  
Government High School-----/ University  
of.....

**Subject: PERMISSION FOR OBSERVATION**

Dear Sir,

Miss **Wilayat Bibi**, *Ph.D*, research scholar in the Institute of Education and Research, is conducting research on “analysis of questioning leading to critical thinking in the classrooms of Secondary Schools and Universities of Khyber Pukhtunkhwa under the supervision of **Dr. Hafiz Muhammad Inamullah**. She has to collect data related to the given topic for which your kind cooperation will be highly appreciated. The observations will be done only for the purpose of research. All the information will be kept confidential.

Thanks

Director,  
Institute Of Education and Research,

## Appendix–2: Detail description of the Instrument

### Observation Tool

Teacher: \_\_\_\_\_ Date of observation: \_\_\_\_\_ Observer: \_\_\_\_\_

Class: \_\_\_\_\_ Period of the Day: \_\_\_\_\_

Time of observation: \_\_\_\_\_ Start: \_\_\_\_\_ End: \_\_\_\_\_

Total time spent in observation: \_\_\_\_\_ No. of Students present: \_\_\_\_\_

Grade Level: \_\_\_\_\_

Topic of the lesson: \_\_\_\_\_

|      |                          | Level of Thinking |             |                             |                       |                      |                    |               |                |               |              |               |             |              |                |                                     |           |                                         |                                         |                 |
|------|--------------------------|-------------------|-------------|-----------------------------|-----------------------|----------------------|--------------------|---------------|----------------|---------------|--------------|---------------|-------------|--------------|----------------|-------------------------------------|-----------|-----------------------------------------|-----------------------------------------|-----------------|
|      |                          | Knowledge         |             |                             |                       |                      |                    | Comprehension |                |               | Application  |               | Analysis    |              |                | Synthesis                           |           | Evaluation                              |                                         |                 |
| Time | Questions and Activities | Of Specifics      | Terminology | Classification & Categories | Theories & structures | Criteria methodology | Trends & sequences | Translation   | Interpretation | Extrapolation | Manipulation | Demonstration | Of Elements | Relationship | Org. Principle | Production and unique Communication | Of a Plan | Derivation of set of abstract relations | Judgments of terms of internal evidence | Decision making |
|      |                          |                   |             |                             |                       |                      |                    |               |                |               |              |               |             |              |                |                                     |           |                                         |                                         |                 |
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### **Appendix–3: List of Universities and Schools**

#### **1. Public Sector Universities in Khyber Pakhtunkhwa**

- University of Peshawar, Peshawar
- Abdul Wali Khan University, Mardan
- Frontier Women University, Peshawar
- Gomal University, D.I. Khan
- Hazara University, Dodhial, Mansehra
- Institute of Management Science, Peshawar (IMS)
- Islamia College University, Peshawar
- Khyber Medical University, Peshawar
- Kohat University of Science and Technology, Kohat
- Khyber Pakhtunkhwa Agricultural University, Peshawar
- NWFP University of Engineering. & Technology, Peshawar
- Shaheed Benazir Bhutto University, Sheringal, Dir
- University of Malakand, Chakdara, Dir, Malakand
- University of Science & Technology, Bannu
- University of Swat, Swat

## **2. Secondary schools from different districts of Khyber Pakhtunkhwa**

### **District Peshawar**

- GHS Gharib Abad Peshawar
- GHS Hayat Abad Phase- I Peshawar
- GHS Cantt- 1 Peshawar
- GGHS Dabgari Garden Peshawar
- GHS Sufaid Dheri Peshawar

### **District Mardan**

- GHS Lund Khawar Mardan
- GGHS Lund Khawar Mardan
- GHS Takht Bhai Mardan
- GHSTakkar Mardan
- GHS Mardan

### **District Malakand**

- GHS 1, Dargai Malakand
- GGHS Sakha Kot Malakand
- GHS Sakha Kot 1 Malakand
- GHS 2, Dargai Malakand

### **District Swat**

- Govt. Girls High School Mingora No. 1
- GHS Pishmal, Swat
- GHS Gulibagh, Swat
- Govt. Girls High School Barikot, Swat