



Domaine : Lettres et Langues Etrangères.

Filière : Langue Anglaise.

Spécialité: Langage et Communication.

**Dissertation Submitted in Partial Fulfilment of the Requirements**

**For the Degree of Master in English**

**Title:**

**Investigating Students' Critical Thinking through  
Questioning  
Case Study: Third Year Students of Linguistics and ESP at the  
Department of English at MMUTO**

Presented by:

MEHANI Naima

RABHI Karima

Supervised by: Ms. FEDOUL Malika

**Board of Examiners:**

Chair: AMMOUR Kamila, MAA, Department of English, UMMTO

Supervisor: FEDOUL Malika, MAA, Department of English, UMMTO

Examiner: ADEM Karima, MAA, Department of English, UMMTO

**Promotion: june 2016.**

N° d'Ordre:

N° de Série:

## ***Dedications***

*This humble work is dedicated:*

*To my dear parents, SAID and OUARDIA*

*To my grandmother DAHBIA*

*To my brothers, SOFIANE, SAMIR, RACHID and JUGURTHA*

*To my beloved sisters, SAMIRA, RAZIKA and LYNDA*

*To my future husband HACEN*

*To my closest friends especially ADIA and ANIA*

*To all those who love me and believe in me*

**NAIMA MEHANI**

*This work is dedicated to my parents especially my mother for being a source of  
inspiration and support during my studies and my life.*

*My dedications for my brothers: KARIM and MALIK.*

*To my grandparents, my aunts and my uncles*

*My future husband AYOUB*

*To all my friends especially: LYNDA, RENA AND SOUSSOU.*

*To all people whom I love and who love me.*

*To all the students of the graduating class of second-year master: 2015/2016.*

**KARIMA RABHI**

## Acknowledgements

*We would like to express our thanks to our supervisor Ms. Fedoul Malika who critically reviewed our work stage by stage to guarantee it attains the quality standard it deserved as a scientific work. Her professional guidance and encouragements helped us to complete our dissertation as required.*

*Special thanks go to Mr. Hami and Mr. Aouin, for always being willing to help.*

*Our thanks go also to the board of examiners for having accepted to examine this work.*

*We also would like to express our deepest thanks to our beloved families, for their help and moral support.*

*We are greatly thankful to the library staff of our Department for being so kind and helpful.*

*We have special thanks to the Third-Year Linguistics and ESP students and their teachers for accepting to participate in this case study.*

## Abstract

*The present study is concerned with the extent to which teachers' questions help in developing learners' critical thinking. It is intended to figure out whether teachers ask students high order questions or low order ones, and whether the degree of students' participation and involvement in the learning process is determined by the type of questions employed. The present study adopted Bloom's Taxonomy of Educational Objectives and the Revised Version as an analytical frame work. To carry out our research, two questionnaires distributed to sixteen teachers and sixty students of third year Linguistics and ESP at the department of English at MMUTO. In addition, we have conducted a classroom observation with sixteen teachers who have allowed us to gather a corpus containing (82) questions. The study combines between the qualitative and quantitative methods through using SPSS (Statistical Package for Social Sciences Version 17.0) and qualitative content analysis. The results show that questions are frequently used by teachers. However they tend to use more the questions which target low order thinking skills rather than those which stimulate learners' critical thinking. The results have also revealed that students' participation rises when high order questions are used contrary to low order questions. To help students develop their thinking skills we have provided a set of suggestions.*

*Key words: teachers' questions, critical thinking, type of questions, Bloom's Taxonomy, high order thinking skills, low order thinking skills.*

## **List of Abbreviation**

- H: Hypothesis
- HOQs: High Order Questions
- HOT: High Order Thinking
- LOQs: Low Order Questions
- LOT: Low Order Thinking
- MMUTO: Mouloud Mammeri University
- Q: Question
- QCA: Qualitative Content Analysis
- SPSS: Social Packages for Social Sciences

## List of Diagrams

Diagram 1: Teachers' Experience .....	27
Diagram 2: Number of Students in each Classroom.....	28
Diagram 3: Frequencies of Questions Occurrence in Third Year Linguistics and ESP Classes ..	28
Diagram 4: Teachers' Views towards Asking Effective and Relevant Questions.....	29
Diagram 5: Students' Participation in the Learning Process .....	29
Diagram 6: Encouraging students' Participation .....	30
Diagram 7: The Use of Wait Time.....	30
Diagram 8: Questions that Target Knowledge.....	31
Diagram 9: Questions that Target Comprehension.....	31
Diagram10: Questions that Target Application .....	32
Diagram 11: Questions that Target Analysis .....	32
Diagram12: Occurrence of Questions that Target Synthesis .....	33
Diagram13: Occurrence of Questions that Target Evaluation .....	33
Diagram 14: The Importance of Questions in the Learning Process .....	34
Diagram 15: Frequency of Teachers' Questions during Class Time .....	35
Diagram 16: Students' Attitudes towards Teachers' Questions .....	35
Diagram 17: Providing Wait-Time for the Students before Answering the Question .....	36
Diagram 18: Types of Questions Commonly Used by Teachers.....	36
Diagram 19: Questions that Denote Knowledge Level.....	37
Diagram 20: Questions that Denote Comprehension Level.....	37

Diagram 21: Questions that Denote Application Level .....	38
Diagram 22: The Rate of Using the Analysis Level .....	38
Diagram 23: The Rate of Using the Synthesis Level .....	39
Diagram 24: The Rate of Using the Evaluation Level .....	39
Diagram 25: The Rate of Using the Create Level .....	40
Diagram 26: Questions that Target Low Order Thinking Skills .....	42
Diagram 27: Questions that Target High Order Thinking Skills .....	43
Diagram 28: Low Level Questions vs. High Level Questions .....	43

## **List of Tables**

Table 1: Results of the Classroom Observation about Questions and Wait Time .....	40
---	----



## List of Figures

<b>Figure 1:</b> The Six Levels of the Cognitive Domain (Bloom, 1956) .....	17
<b>Figure 2:</b> Bloom's Revised Taxonomy (Anderson and Krathwhol, 2001) .....	19

## Table of Contents

Dedications.....	I
Acknowledgements .....	II
Abstract .....	III
List of Abbreviations.....	IV
List of Diagrams.....	V
List of Tables.....	VII
List of Figures .....	VIII

## General Introduction

• Statement of the problem .....	1
• Aims and Significance of the Study.....	2
• Research Questions and Hypotheses.....	3
• Research Techniques and Methodology .....	3
• Structure of the Dissertation .....	4

## Chapter 1: Review of the Literature

Introduction .....	6
1. Questions.....	6
1.1. Definition of Questions .....	6
1.2. The Importance of Questions in the Learning Process .....	7
1.3. Types of Teachers Questions .....	9
1.3.1. Procedural Questions .....	9
1.3.2. Convergent Questions .....	9
1.3.3. Divergent Questions.....	10
1.4. Wait Time.....	11
1.5. Critical Thinking .....	12
1.6. Motivation.....	13
1.7. Bloom Taxonomy of Educational Objectives .....	14
1.7.1. Low Level Thinking Skills .....	14
• Knowledge .....	14
• Comprehension .....	15

• Application.....	15
1.7.2. High Level Thinking Skills.....	16
• Analysis.....	16
• Synthesis .....	16
• Evaluation .....	17
1.8. Bloom’s Revised Taxonomy (Anderson and Krathwohl, 2001).....	17
• Low Order Thinking Skills .....	17
• High Order Thinking Skills.....	18
• Creation .....	19
Conclusion .....	20

## **Chapter Two: Research Design**

Introduction .....	21
2.1. Data Collection Procedures.....	21
2.1.1. Research Methods .....	21
2.1.2. Questionnaires.....	21
2.1.3. Context and Participants of the Investigation .....	22
2.1.4. Classroom Observation .....	23
2.1.5. Context and Participants of the Investigation .....	23
2.2. Procedures of Data Analysis .....	24
2.2.1. Quantitative Analysis .....	24
2.2.2. Qualitative Analysis .....	24
Conclusion .....	25

## **Chapter Three: Presentation of the Findings**

Introduction .....	26
3.1. Results of the Teachers’ Questionnaires .....	26
3.2. Results of the Students’ Questionnaires.....	33
3.3. Presentation of the results of the Classroom Observation .....	40
Conclusion .....	43

## **Chapter Four: Discussion of the Findings**

Introduction .....	44
4.1. Discussion of the Results of the Teachers' Questionnaires .....	44
4.2. Discussion of the Results of the students' Questionnaires .....	49
4.3. Discussion of the Results of the Classroom Observation .....	52
Conclusion .....	56
<b>General Conclusion</b> .....	58
<b>Bibliography</b> .....	61
<b>Appendices</b>	

## **General Introduction**

---

### **Statement of the Problem**

Researchers (Wilén 1991, Long and Leven 1981) are of the opinion that questions play a fundamental role in the teaching and learning process. They are means that render language acquisition more challenging. During class time, the use of a variety of questions enhances learners' involvement in class discussion, gives them opportunities to express and share ideas, and keep them actively participating in the classroom.

Usually, teachers employ questions in order to check students' understanding about any given topic; yet they are also a useful tool that can assist learners in developing their thinking abilities and skills. Nowadays, teachers look for the motives that lie behind their students' lack of engagement in the learning process. Neglecting such aspect results in classes full of bored and passive students, who neither think to learn nor learn to think, waiting just for teachers' instructions and commands to be executed.

According to Richards and Lockhart (1996) most of class time is devoted to questions which vary from simple ones that do not require learners to deepen their thinking to come with an answer to those that demand them to prolong their thinking. In other words, not all the questions formulated by the tutors have the same level. Some are easy to answer and do not stimulate learners' curiosity, whereas others require a high level of thinking and trigger students' reflection. One of the most important issues that teachers have to take into consideration when addressing their questions to students is to know in which level of thinking they are. During the 1950's Bloom recognized the presence of different levels of thinking that should be integrated in learning. His classification comprises six levels: Knowledge, comprehension, application, analysis, synthesis and evaluation. Using Bloom's Taxonomy in preparing questions for learners is outstanding, because it assists them in developing higher level thinking skills. Junoh et al (2012) state that educators must employ

## **General Introduction**

---

Bloom's Taxonomy in preparing questions for their students, because it provides learners with different types of questions which can help them in developing their cognitive abilities.

Arends (1991) claims that Bloom's taxonomy is an essential tool that assists teachers in creating more challenging questions.

Following his taxonomy, questions can be framed at each of the six cognitive levels, starting from lower to higher cognitive level to ensure a well grasp of the content of the lesson, and to enhance students' critical thinking as well as their engagement in the learning process. In lower cognitive levels, students are asked to recall, to remember and to apply what they have learned to other situations. A focus here is on the learners' previous knowledge. In higher cognitive levels, the focus is on what the learners are able to generate by analyzing, justifying a choice and assessing the surrounding events of any given situation.

Questioning has been widely investigated by many researchers among them Wilen (1991), Brualdi (1998), Black (2001); yet, despite the fact that they were interested in the same topic, they remain distinct in their approaches to define it. Besides, what pushed us to investigate this area is that when we have reviewed the different works done at the level of the department of English, we have noticed that no research has been conducted about questioning.

### **Aims and Significance of the Study**

The present study attempts to investigate whether teachers of linguistics and ESP classes at the department of English at MMUTO ask learners questions that stimulate their critical thinking. The goal of our research is to evaluate how teachers address questions at each level of the taxonomy which are as follows: knowledge, comprehension, application, analysis, synthesis and evaluation. We have chosen this research topic, because university students need to think critically as they are exposed to many situations where the information is of high degree of complexity. Sometimes the learners are asked to analyze someone else's

## **General Introduction**

---

view, to comment using their own words and / or to judge and evaluate a piece of work. Such abilities can be installed through appropriate questioning i.e. asking questions that trigger high level thinking. In addition, Questions are an integral part of education, and we have learned a lot through our teachers' questions which have accompanied us throughout our learning journey. Moreover, learners need to develop certain thinking skills to deal with the complexity of their daily lives, as they are exposed to different situations where they have to interpret the events wisely. Asking good questions results in enhancing learners' creative thinking. A task that is not easy for the tutors to accomplish and which demands a high level of competency.

### **Research Questions and Hypotheses**

Our study aims at answering the following research questions:

Q1- Do teachers at the department of English at MMUTO ask questions that enhance learners' critical thinking?

Q2- What is the type of questions that increases and/or decreases the degree of students' participation and involvement in the learning process?

In an attempt to answer these questions, we advance the following hypotheses:

H1-The questions asked by the teachers do not stimulate learners' critical thinking.

H2- The questions asked by the teachers stimulate learners' critical thinking

H3- Asking low order questions increases students' participation and engagement in the learning process contrary to high order ones, as they are not engaged in high order thinking.

### **Research Techniques and Methodology**

To conduct this research, we have selected the appropriate research tools that can assist us in collecting data by which we can answer the research questions. The research instruments are questionnaires handed to both teachers and students of Linguistic and ESP of the department of English at Mouloud Mammeri University of Tizi-Ouzou. We have opted for the

## General Introduction

---

questionnaire because it allows researchers to gather data in a short period of time. Classroom observation is another research tool that we have used to gather relevant information which will complement the findings of the questionnaires. While the questionnaires will be handed to teachers and students of third year linguistics and ESP, The classroom observation will take place in third year linguistics and ESP classes too. We attended sixteen (16) tutorials starting from April 26<sup>th</sup>, 2016 until May15<sup>th</sup>, 2016. Our research involves the participation of sixty (60) students, and sixteen (16) teachers. These participants are selected randomly relying on the random sampling technique in order to avoid any kind of bias and to ensure objectivity. The results gathered from the classroom observation are interpreted relying on Bloom's Taxonomy of Educational Objectives (1956) and the revised version proposed by Anderson and Krathwohl (2001).

### Structure of the Dissertation

In addition to a general introduction and a general conclusion, this research work is divided into four chapters. The first chapter is called "*literature review*". It starts with the definition of questions, their importance and their types. Since we seek to find out whether teachers employ questions that stimulate learners' critical thinking, definitions of critical thinking are provided. After that a detailed description of Bloom Taxonomy (1956) is given in addition to the one suggested by Anderson and Krathwohl (2001). Their classification of the cognitive domain into six levels ranging from lower to higher ones can help tutors in framing questions that develop students' thinking skills. Chapter two is called "*research design and methodology*". It begins with the explanation of the research methods and instruments used in our study. Then, a description of the methods followed by analyzing the data gathered from the questionnaires and classroom observation is provided. For quantitative analysis, statistical package for social sciences (SPSS) is used, whereas for qualitative analysis we have used both qualitative content analysis, Bloom's Taxonomy and the revised taxonomy (Anderson and



## General Introduction

---

Krathwohl, 2001). The third chapter is labeled *“Presentation of the Findings”*. It consists of the findings obtained from our research. The fourth chapter is called *“Discussion of the Findings”*. It provides an analysis of the results as well as it highlights some strategies that can be used by teachers in order to help students in developing their thinking skills.

### Introduction

Most of class time is devoted to questions which play a significant role in the teaching and learning process. A class empty of questions will be boring and de-motivating. Thus the use of different types of questions renders the learning process more motivating and even enjoyable. There exist different types of questions ranging from those that do not demand students to think to the ones that trigger their critical thinking. This chapter provides some definitions of critical thinking and motivation. All these information will be found in the first section of our literature review. The second section is devoted to the theoretical framework that underlies our study. In this investigation we rely on Bloom's Taxonomy of Educational objectives and the revised version (Krathwohl & Lockhart), which can serve as a guide for teachers when framing their questions at different levels of thinking.

### 1. Questions

#### 1.1. Definitions of questions

Questions are generally defined as any statement that comes in an interrogative form, whereas in a classroom setting, they are perceived as a stimuli that convey to students the content elements to be learned a (Denzin & Lincoln, 2000; Evans, 2000). According to Ur (1996) questions do not necessarily have an interrogative structure. He defines it as follows: *"so perhaps a question, in the context of teaching, may be best defined as a teacher utterance which has the objective of eliciting an oral response from the learner(s)"* (p.229). Questions are tools that help students to grasp the content of the lesson and assist teachers in checking their students' understanding. Thus they play an important role in teaching as well as in learning. Black (2001) says that teachers spend thirty-five to fifty percent of their instructional time asking the learners questions. Moyer and Milewicz (2002) argue that questioning is the most frequently used technique by teachers in the classroom. Holding the same view Richards and Lockhart (1996) argue that *"questioning is one of the most common techniques used by*

## Review of the Literature

---

*teachers. In some classes over half of class time is taken up with question- and answer exchanges* (p.185). However, in classroom settings some teachers ignore the value of questions, and tend to dominate most of the classroom discussion without checking whether their students have understood the content of the lesson or not. During class time, teachers should not be the only ones asking questions, but even questions from students should be welcomed and one has not to forget that learners are responsible for their own learning.

### 1.2. The Importance of Questions in the Teaching and Learning Process

Talking about the value of questions in the teaching and learning process, Richards and Lockhart (1996) state that

There are several reasons why questions are so commonly used in teaching:  
They stimulate and maintain students' interest.  
They encourage students to think and focus on the content of the lesson.  
They enable a teacher to elicit particular structures or vocabulary items.  
They enable teachers to check students understanding.  
They encourage student participation in a lesson. (p.185)

Their view about the role of questions in teaching is without doubt significant; however when they say that "questions encourage students to think" is not quite clear. Since there exist different levels of thinking and teachers have to know at which level the learner is in order to frame the appropriate question.

Cohen et al. (1995) gives some reasons that lie behind teachers' questions like: promoting self-expression, get students to learn through each other's responses, showing that as a teacher you appreciate your learners' opinion about any given topic and to give a chance for weaker students to take part in classroom discussion. Many other researchers have examined the functions of questions in the learning process, including Gall et al. (1978) who say that questions assist teachers in enhancing their students' thinking. This idea is shared with Croom and Stair (2005) who note that good questions are those that promote learners'

## Review of the Literature

---

critical thinking. However, Asking thought provoking questions is not an easy task at all; consequently teachers have to plan their questions in advance, i.e. before class time.

Questions' functions are not only restricted to checking understanding and enhancing learners thinking skills. They are the motives behind most of classroom discussion, communication and interaction. Yang (2006) states that "*the teacher questions can be considered as the most powerful device to lead, extend, and control communication in the classroom*" (p. 196). Teachers should ask the suitable question at the appropriate time. In other words they have to know what should be asked, for whom and when should be formulated. Effective questions lead to positive outcomes and students' right responses satisfies the tutors. Sometimes wrong responses get teachers to improve their questioning skills. Ur (1996) says that

So an effective questioning technique is one that elicits fairly prompt, motivated, relevant and full responses. If, on the other hand, our questions results in long silences, or are answered by only the strongest students, or obviously bore the class, or consistently elicit very brief or unsuccessful answers, then there is probably something wrong (p.230).

From this, one can deduce that a tutor's job, in addition to asking good and effective questions during class time, is to be a detective looking for the strategies to adapt to frame relevant questions. According to Ur (1996) what generally characterizes an effective question is the clarity of its intended meaning, thought provoking, interesting and stimulating, and being accessible to all learners. Henningsen and Stein (1997) argue that unskilled questions have one function which is checking students' existing knowledge.

### 1.3. Types of Teachers' Questions

There exist different types of questions. During class time a teacher may employ a variety of open ended questions where the learners can express their opinions freely. For

## Review of the Literature

---

instance, “why you disagree with the author’s opinion?” the answer to this question will be varied and differ from one student to another. When the learners’ responses are restricted to yes or no, the question is called close ended as in the following question “do you know what is summarizing?” Using only one type of questions makes the learners bored and they may lose interest. Questions are often categorized as being procedural, convergent and divergent.

- **Procedural Questions**

Procedural questions are those which help the instructor to set up some rules and routines in the class and they are generally related to classroom management. “*Procedural questions have to do with classroom procedures and routines, and classroom management, as opposed to the content of learning*” (p.186). One can notice that procedural questions have nothing to do with the content of a lesson. They are used by teachers to check whether everything is going well in the classroom. Responses to this type of questions are limited to yes or no answers. Have you brought your exercise book? , have you finished writing?, are some examples of procedural questions.

- **Convergent Questions**

In this type of questions a focus is on students’ prior knowledge about any given topic. They are generally required to remember what have been previously learned. Besides, they are not asked to respond using their own interpretations and information. Convergent questions are accessible to all learners, regardless to their abilities and competencies. They are defined by Richards and Lockhart as follows

Convergent questions encourage similar students’ responses, or responses which focus on a central theme. These responses are often short answers, such as yes or no or short statements. They do not require students to engage in higher level thinking in order to come up with a response but often focus on the recall of previously presented information. Language teachers often ask a rapid sequence of convergent

questions to help develop aural skills and vocabulary and to encourage whole class participation (p.186)

- **Divergent Questions**

The third type of questions is called divergent. They are the ones that demand students to evaluate and judge the information by giving their own interpretations. The learners are expected to reach higher level of thinking in order to come up with different responses. Cruickshank (2009) says that divergent questions are most of the time difficult to formulate, thus teachers should prepare them before class time. He adds that the careful preparation of divergent questions helps in not asking a big amount of convergent questions.

Brock (1986) names the questions calling for remembering *display questions* and the ones calling for evaluation and creation *referential questions*. Thus convergent questions can be called display questions, while divergent ones can be called referential.

As mentioned earlier, it is quite hard for teachers to formulate good and appropriate questions. A good tutor is the one who employs both convergent and divergent ones; however teachers rarely ask questions related to the development of critical thinking abilities in learners. Richards and Lockhart (1996) argue that “*it has been observed that teachers tend to ask more convergent than divergent questions*” (p.187). The instructors does not have to limit himself to one type of question, because a class that is composed of more than thirty students means the presence of thirty different learning styles and thinking abilities. Consequently, using always convergent questions lessens brilliant learners, and the frequent use of divergent questions gets weak student to inhibition. Chin (2004) says that in order to help students think creatively and critically, teachers can develop their questioning skills through making distinction between different types of questions and their diverse functions.

In some classes, teachers tend to address their questions to those who often dominate class participation “*they may address their questions to only a few of the students lying within*

## Review of the Literature

---

*their action zone*” (p.188). We often heard teachers claiming that some of their learners disturb their classmates from work and do not respond to questions. So it is time for these tutors to review their questioning skills and adjust them so that students will receive equal learning opportunities. However in order to keep the class active, teachers find themselves obliged to work with particular students. Richards and Lockhart (1996) believe that

In language classroom where students may be of different levels of ability, the fact that some students have much more difficulty answering questions than others may lead to teachers to call on only those students in the class who can be relied upon to answer the question in order to maintain the momentum of the class. This reinforces the teachers’ tendency to direct questions to only certain students in the class (Ibid)

### 1.4. Wait Time

Wait time is one of the most outstanding issues that teachers should take into consideration when addressing questions to their students. It refers to the time that a teacher waits when asking questions and which gives learners an opportunity to think about the answers.

Wait time can be defined as “*the length of time the teacher waits after asking the question before calling on a student to answer it, rephrasing the question, directing the question to another student, or giving the answer*” (Rowe 1974. Cited in Kindsvatter et al.1988). Jokolo (2004) believes that wait time is valuable only if students are provided with questions that trigger their thinking. However, it is also important to use it with convergent questions, even if the students are just only required to recite prior information. A tutor can wait from one to five seconds for students’ answers depending on the type of the question used. It is apt to him and/or her to decide on the length of time needed. According to Richards et al. (1992) “*increasing wait time both before calling on students and after a student’s initial*

## Review of the Literature

---

*response often increases the length of the students' responses, increases the number of questions asked by students, and increases student involvement in learning"* (p.90). So increasing wait time is sometimes crucial as it engages students in learning especially those with low thinking capacities. Cruickshank (2009) adds that: *"Using wait time allows students to establish a certain level of comfort in the classroom and encourages them to voice their personal opinions more freely"* (p.373).

### 1.5. Critical Thinking

Instructors can be the critical motives that prompt students' thinking skills through the employment of a balance of questions' types during the tutorials. A critical thinker is the one who is able to give a wise interpretation for events, judges and evaluates the information being exposed to. Critical thinking is defined by Chance (1986) as the learners' aptitude to analyze facts, generate ideas, support their opinions by arguing, compare between the different aspects of any given phenomenon, and evaluate the information and its reliability. Olson (1997) says that creative critical thinking demands the students to define the task, activate prior knowledge, produce new ideas, analyze and integrate all the information. In his article, Lesley (2004) defines critical thinking as *"the ability to generate and extend ideas, to suggest hypotheses, to apply information and look for alternative outcomes"*.

All the above mentioned researchers define critical thinking as the capacity to analyze the information, to judge the value of its content, to go beyond surface explanations of different facts, and to generate new ideas. Students' Critical thinking which involves a deep analysis of the data and creativity can be enhanced through using questions. Rosmarin (1987) argues that tutors have to think of the type of questions they should ask in an attempt to feed student' curiosity and assist them in developing their critical thinking. His view is commonly shared with Danielson (1996) who says that questions are a valuable device that involves students in higher thinking process and that awakens their curiosity; while Perkins (1992)



## Review of the Literature

---

holds the view that the ability to make judgments and the degree of students' thinking is determined by the questions that teachers employ. Lesley (2004) states that: *"skilled questions can generate high level thinking and discussion, and also provide an excellent model for children so that they can adapt self-questioning strategies. Allowing time for reflection and providing opportunities for discussion also contribute to the thinking process"* (Lesley, 2004).

Lesley's view is of significant importance, because students throughout their learning journey learn to think, to analyze, and to reflect on things, this could happen only if they are provided with well-crafted questions that stimulate their thinking. Besides one cannot ignore the role of wait time which gives the learners a chance to think before responding. These two elements are crucial for teachers to install high thinking capacities in their learners which can give rise to a generation of learners which reads between the lines, and capable to cope with any sort of complexity they may encounter in their daily lives. *"questioning is the fundamental method used in teaching for critical thinking as it serves the purpose of deepening knowledge, critiquing different perspectives, and transforming ideas and actions rather than to acquire the right answers"* (Villaverde, 2004. Cited in Figen. K. 2010: 37).

### 1.6. Motivation

Learners' achievement and involvement in the learning process is determined by the quality of the classroom environment. During class time, teachers often try to create a comfortable atmosphere that renders learning less stressful and more enjoyable. A motivated learner is the one who enjoys learning and actively participate in the classroom. Whereas a demotivated learner feels all the time bored and waits for the school ring. Motivation is defined by Guay (2010) as the motives that explain our actions and whatever we do in our life. Garrison and Broussard (2004) view it as the hidden element which stands behind the majority of the decision that someone can take. During class time the tutor should play the

## **Review of the Literature**

---

role of a motivator, having as his and/or her ultimate goal stimulation of students' interest, besides to reducing anxiety, which is viewed as the reason that lies behind learners' weak performance, lack of self-confidence and resorting to inhibition rather than expressing their ideas, and taking part in the classroom discussion without being anxious.

Questions can serve as a tool by which tutors can turn the silence of the classroom into infinite discussions and lay the ground for more interaction between students. They are also a means through which teachers can initiate students' talk, so as they can get rid of their shyness and stress and showing more interest in the content of the material.

### **1.7. Bloom's Taxonomy of Educational Objectives**

Bloom's Taxonomy (1956) is used to categorize thinking. It consists in six cognitive levels. It can be employed to frame questions at different levels of thinking. These levels of thinking are classified into lower levels and higher ones.

#### **1.7.1. Low Level of Thinking Skills**

This level consists of three stages, they are as follows:

- **Knowledge**

Bloom (1956) defines knowledge as the recall of previously learned information from long term memory. It stands for the lowest level of learning in the cognitive domain. In the knowledge level, the learners are required to recall information. A focus is on the student's ability to recognize and/or to remember previously learned information. The verbs that the teachers generally use in this level are: define, know, name, recall, recognize, repeat, reproduce, select, and identify...etc. Some examples of the teacher's questions at the knowledge level are as follows: (Can you list the four...?. Who were the main...?).

## Review of the Literature

---

- **Comprehension**

Bloom (1956) defines comprehension as the ability to understand the significance of the information being exposed to, as well as a grasp of the content of the material. The students are expected to surpass the level of remembering and understanding the meaning of a fact and being able to interpret them. It stands for the lowest level of understanding that should be demonstrated by translating, interpreting, and expressing the main ideas. The main verbs that are used in this level are: review, predict, cite examples of, translate, paraphrase, rewrite, and give in own words, restate, and recognize...etc. The questions that the teachers are expected to use in this stage are: (what is the main idea of ...?. Can you explain what is happening ...?. What can you say about...?).

- **Application**

Bloom (1956) defines application as follows

The application category follows this rule in that to apply something requires “comprehension” of the method, theory, principle, or abstraction applied. Teachers frequently say if a student comprehends something, then he can apply it (p.120).

In the application level of Bloom’s Taxonomy, the students are required to apply the knowledge that they have acquired in an attempt to solve problems to other situations. Apply, practice, produce, solve, employ, prepare, modify, change, and utilize are the key verbs that are employed in the application level. Some examples of the teachers’ questions at the application level are as follows: (how would you use...?. How would you apply what you learned to develop...?. How would you solve...?).

### 1.7.2. High Level of Thinking Skills

This level contains three stages that are analysis, synthesis and evaluation.

- **Analysis**

Bloom defines this category as

Analysis emphasizes the breakdown of the material into its constituent parts and detection of the relationships of the parts and of the way they are organized. It may also be directed at the techniques and devices used to convey the meaning or to establish the conclusion of a communication (p.144)

In the analysis level, the learners go beyond the level of mere application and to break information into parts by recognizing reasons or causes. The learners are expected to analyze and to establish relationships between the parts. The verbs used in this stage are: analyze, compare, classify, break-down, distinguish, infer, determine, examine, and point out...etc. The questions that the teachers intend to use in this level are: (what are the parts of ...?. What is the relationship ...?. What motive is there...?).

- **Synthesis**

Bloom (1956) defines synthesis as joining components to form new ideas. And to come up with new structures that did not exist before. The learners are required to bring information together in order to create new idea. They are expected to make predictions and generate new theories. Combine, formulate, generate, organize, revise, synthesize, compose, devise and collect are the key verbs used in this level. Here are some questions that the teachers expected to use in this stage: (what would happen if...?. How would adapt\_ to create a different...?. Can you invent...?).

## Review of the Literature

---

- **Evaluation**

Evaluation is defined as “*the making of judgments about the value, for some purpose, of ideas, works, situations, methods, material...etc. it involves the use of criteria as well as standards for appraising the extent to which particulars are accurate, effective, economical, or satisfying*”(p. 185). The learners are expected to judge the information by themselves with minimal help from the teacher. They are required to assess information and arrive to a valuable conclusion. Assess, value, evaluate, judge, validate, conclude, justify, and compare are the main verbs that are used in this stage. Here are some examples of teachers’ questions that are employed at this level: (what is the value of...?. How would you justify...?. Why is it better...?) .

The questions that target low order thinking are called “low order questions”. Golkar (2003) expresses that LOQs are those questions where the teacher attempts to predict the student’s answers before asking the question. The ones that target high order thinking are labeled “high order questions”. Black (2001) states that only about twenty percent of a teacher’s questions are usually high-order.



**Figure 1: The Six Levels of the Cognitive Domain (Bloom 1956)**

### **1.8. The Revised Bloom’s Taxonomy**

#### **1.8.1. Low Order Thinking Skills**

Forehand (2010) says that in the revised version of Bloom’s Taxonomy, Anderson and Krathwhol (2001) replaced knowledge, which is the first thinking skill that learners should develop, by remembering. This skill seeks to reveal whether the students are able to

## **Review of the Literature**

---

remember and repeat what they have already studied in the classroom through defining, listing, memorizing, recalling, and repeating the information.

The second low order skill comprehension is renamed understanding. It refers to the ability of giving obvious explanations to concepts and to build relevant meaning during the process of communication. Understand is a matter of establishing a bound between the new knowledge and the prior one. This section displays whether the students understand the sense of what they have learned through classifying, explaining, identifying, interpreting, and translating what they have studied.

The name of the last element of low order skill which is application was kept. This part of the taxonomy presents whether the students are able to use the previously studied information in a new way via employing, solving, illustrating, and writing.

We can say that the classification of the low order thinking skills made by Anderson and Krathwhol is similar to the one made by Bloom (1956) in terms of what is expected from the learners to do and what abilities are supposed to develop. Cooper (2010) says that *“Frequently, a lesson is composed of countless questions that often require minimal effort and low-level thinking to answer”* (p.192). In other words, questions that target low- level thinking are highly used by the teachers. Cruickshank (2009) says that high order questions are difficult to frame. Thus the teachers who do not prepare the questions in advance resort to low level questions.

### **1.8.2. High Order Thinking Skills**

Similar to Bloom’s Taxonomy, Analysis is the first high order thinking skill in Krathwhol and Anderson’s taxonomy. Pickard (2007) argues that this stage allows the learners to differentiate between the diverse parts, and to understand the information that is

## Review of the Literature

---

stated through breaking the studied information into parts using comparison, contrast, critics and questions.

Unlike to Bloom's classification, evaluation is the skill that comes just after analysis. In this stage the students are supposed to assess the information and the value of a piece of work following logical justifications.

### 1.8.3. Creation

Creation is the new skill that is added by Krathwhol and Anderson and which does not exist in the old version. This unit of the taxonomy indicates whether the students are able to generate new information and ideas through constructing, designing, assembling, and making use of their prior knowledge. *"Create involves putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure. Objectives classified as Create involve having students produce an original product"* (p.231). Tarlinto (2003) says that in this stage the students are probably expected to put into practice what they have studied and to produce either a piece of work or a speech. Sometimes Creation in the process of writing will be possible if the students are able to analyze and/ or to evaluate, because we can produce something original only if we carefully examine the previous works done on a specific topic. Then, we try to evaluate its content and to discover the area of deficiencies. Very often it is thanks to a weakness in the previous work that someone gets inspired and gives a pulse to his imagination and creation.



**Figure 2: Bloom's Revised Taxonomy (Anderson and Krathwhol, 2001)**

## **Review of the Literature**

---

There are many viewpoints about questions that direct the learning process. In the classroom, the student may possibly be requested to recall information, to surpass the level of remembering, to apply the knowledge that they have acquired, to analyze and establish relationships between the parts, to create new information and to judge it. Thus the questions that teachers can ask during a lesson will be absolutely different depending on the skill they are targeting. The use of creating questions will without doubt enhance the learners' critical thinking. This skill should be installed in learners through the use of appropriate questions.

### **Conclusion**

In this chapter we have cited some definitions of questions and their importance in teaching and learning, and their classification according to different researchers, as well as, definitions of critical thinking and motivation. In this part of the dissertation, the theoretical framework that we rely in our study is described.



### **Introduction**

Before describing the research design used in the present dissertation, it is of interest to remind the readers about the aim of our investigation. The goal that we seek to achieve throughout this study is to know whether teachers ask questions that help students developing their critical thinking skills, and how their involvement in the learning process could be determined by the type of questions a teacher may use during class time. This chapter is divided into two sections. In the first section, we try to explain the research methods employed in our dissertation followed by the procedures of data collection, in which a description of the data tools used to gather the information needed to answer our research questions, are specified. In the second section, an explanation of the data analysis method is provided.

### **2.1. Data Collection Procedures**

#### **2.1.1. Research Methods**

The mixed methods research, which is a combination between two data collection methods, is chosen as a research method for our study. Through the combination of the quantitative and the qualitative methods we will gather an important amount of data that will assist us in providing answers to our research questions and hypotheses. While the use of quantitative method helps us in generating numerical data, the use of qualitative method helps us in interpreting and describing the gathered information from participants taking part in our investigation.

For the sake of answering our research questions, two main instruments have been used to gather data: questionnaires and classroom observation.

#### **2.1.2. Questionnaires**

A questionnaire can be defined as a research instrument composed of a series of close-ended questions and open ended ones used by the researcher for the purpose of gathering

information from the respondents. Brown (2001) defines it as follows: “*questionnaires are any written instruments that present respondents with a series of questions or statement to which they are to react either by writing out their answers or selecting from among existing answers.*” (p.6). According to Richards et al. (2001) “*questionnaires are relatively easy to prepare. They can be used with a large number of subjects and they obtain information that is relatively easy to tabulate and analyze*” (p.60). In the present study a questionnaire will be handed to both teachers and students of third year Linguistics and ESP in the department of English at Mouloud Mammeri University.

### **2.1.3. Context and Participants of the Investigation**

Our investigation has taken place at the department of English at Mouloud Mammeri university of Tizi-Ouzou. It involves the participation of both teachers and students of Linguistics and ESP section. Teachers’ questionnaires consist in 15 questions including close-ended and open- ended ones. It has been handed to sixteen (16) teachers. The teachers’ questionnaire is divided into three sections: participants’ profile, teachers’ view towards questions, and types of questions. The first section has to do with teachers’ information. The third part deals mainly with the type of questions teachers tend to utilize during class time, and whether they use questions that stimulate learners’ critical thinking. Before distributing the questionnaire to our participants we have made a pilot study where we have handed five copies of our questionnaire to five teachers. Following their feedback, some items in the questionnaires have been refined and improved.

In order to reach valuable findings we have decided to design another questionnaire for students of third year linguistics and ESP section. Linguistics and ESP option has one section which contains five groups. There are one hundred sixty nine (169) students; consequently it was difficult to deal with such number. This has led us to deal only with sixty (60) students out of one hundred sixty nine students. A questionnaire of thirteen (13) elements

was distributed to them. The questionnaire contains two parts: the importance of teachers' questions, questions and critical thinking. The second part aims at revealing whether teachers employ a variety of questions during class time and above all those that stimulate learners' curiosity. In order to avoid ambiguity, and to be sure of our questions' clarity, we conducted a pilot study with seven students. Relying on their feedback some changes have been made.

### **2.1.4. Classroom Observation**

Observation allows researchers to gather information about any given topic, and generally involves watching Participant' behavior. *"Observations are most often used to collect data on how learners use language in a variety of settings, to study language learning and teaching processes in the classroom, and to study teachers' and students behavior"* (p.162)

An observation often involves the recording of data using particular instruments, and allows the researcher to become an active participant of the event under study. Richards et al (1996) hold that: *"observation involves visiting a class to observe different aspects of teaching"* (p.12). During classroom observation the role of the observer should be limited only to data gathered for academic purposes.

### **2.1.5 Context and Participants of the Investigation**

The investigation is carried out in the department of English at Mouloud Mammeri University. We attended 16 tutorials from April 26<sup>th</sup>, 2016 until May 15<sup>th</sup>, 2016. 16 teachers of Linguistics and ESP have allowed us to observe their tutorials. In order not to disturb the students from their lectures we sit at the back of the classroom. We have attended 16 lectures with 16 teachers. During the classroom observation, we have used a checklist that is composed of 3 items. The points that have been taken into consideration are the types of questions used by teachers under observation as well as the quality of students' participation

and the degree of their motivation, in addition to the manner by which students handle their teachers' questions.

## **2.2. Procedures of Data Analysis**

### **2.2.1. Quantitative Analysis**

For the analysis of the data gathered from the questionnaires, the statistical package for social sciences (SPSS) was used. SPSS is widely used in social sciences when dealing with statistical analysis. It converts data into graphs, charts and pie charts.

### **2.2.3. Qualitative Analysis**

The qualitative analysis of the collected data is done through applying the theoretical framework cited in our review of the literature. Bloom's Taxonomy of Educational Objectives and the revised version are an outstanding device that can help teachers in framing their questions in attempt to involve learners in all the levels of thinking ranging from the lowest levels named knowledge, comprehension and application to the higher ones labeled analysis, synthesis and evaluation. Following these taxonomies, questions can be divided into two main types. Low order questions and high order ones. In lower order questions, teachers can ask remembering, understanding and applying questions. In these types of questions learners are generally not expected to deepen in their thinking to come up with answers, however in higher level questions, the learners are asked questions in which they are required to analyze, synthesize and evaluate the information. It is this type of questions that trigger learners' thinking and stimulate their creativity. In fact, creativity is the skill added by Krathwhol and Anderson (2001) when they reviewed Bloom's classification. In the present study, we will classify the questions gathered from the classroom observation and those used in the questionnaires according to the different thinking skills they target.

For the interpretation of the results obtained from the open- ended questions of the two questionnaires, Qualitative Content Analysis (QCA) is used. It is defined by Mayring (2014)

## **Research Design**

---

as “*a systematic procedure of assignment of categories to portions of text*” (p.31). QCA allows researchers to interpret the information gathered from open-ended questions.

### **Conclusion**

This methodological chapter has focused on the research method we tend to use in our study, in addition to the research tools and instruments employed in our investigation which consist of two questionnaires handed to both teachers and students of third year Linguistics and ESP at the department of English at MMUTO. Data collection procedures is followed by another part called data collection analysis in which we have explained how our collected data are interpreted and analyzed using Statistical Package for Social Sciences (SPSS) and Bloom Taxonomy as an analytical frame work and Qualitative Content Analysis.

## Presentation of the Findings

---

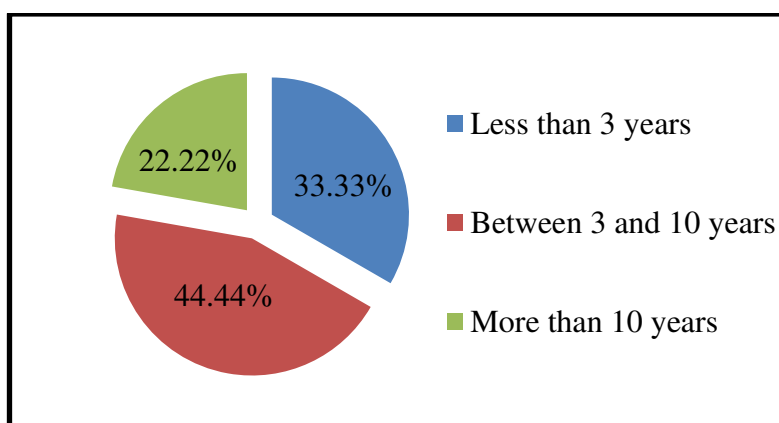
### Introduction

This chapter presents the results reached through the questionnaires that are administered to the teachers of Third Year Linguistics and ESP and their students, in addition to the classroom observation. It is divided into three main sections: the first section is devoted to the presentation of the data gathered from the teachers' questionnaires, followed by students' questionnaires, while the third section is about presenting the findings of the classroom observation.

### 3.1. Results of the Teacher's Questionnaires

#### Section One: Background Information

##### Q 01: How long have you been teaching?



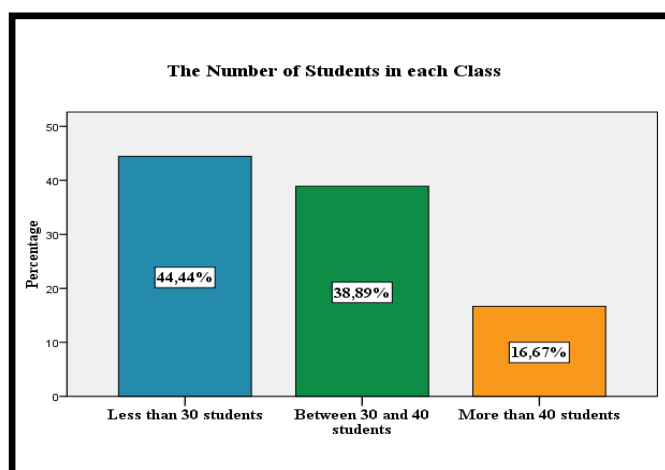
**Diagram3: Teachers' Experience**

Diagram1 shows that the majority (44. 44%) of the teachers have an experience of 3 to 10 years in teaching English whereas (33. 33%) have an experience of less than 3 years. Not more than (22. 22%) of the teachers have been teaching for more than 10 years.

## Presentation of the Findings

---

**Q2: In each of your classes, there are:**

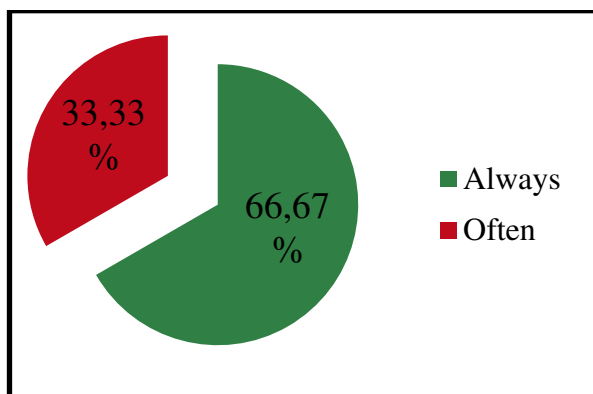


**Diagram4: Number of Students in each Classroom**

In diagram 2, it seems that (44. 44%) of the teachers have less than 30 students in each of their classes. (38. 89%) have between 30 and 40 whereas (16. 67%) have more than 40 students.

**Section Two: Teachers' view towards questions:**

**Q 03: How often do you ask your students questions during a lecture/TD?**

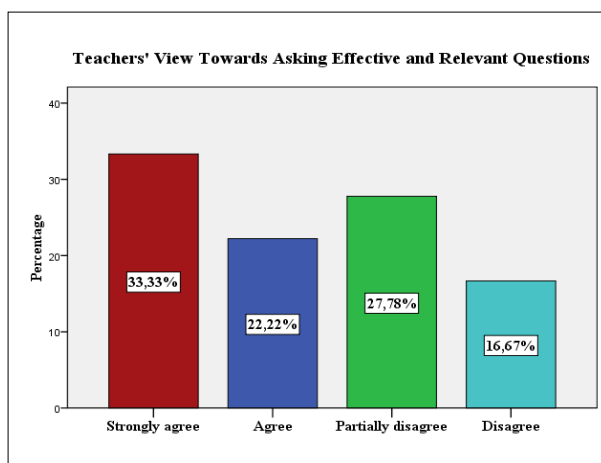


**Diagram5: Frequency of Questions Occurrence in Third Year Linguistics and ESP Classes.**

The aim of this question is to know whether teachers of third year Linguistics and ESP employ questions during class time. The results show that the majority of the participants (66. 67) have replied by “always” whereas the rest (33.33%) have answered by “Often”.

## Presentation of the Findings

**Q 04: It is said that a good teacher is the one who asks effective questions.**



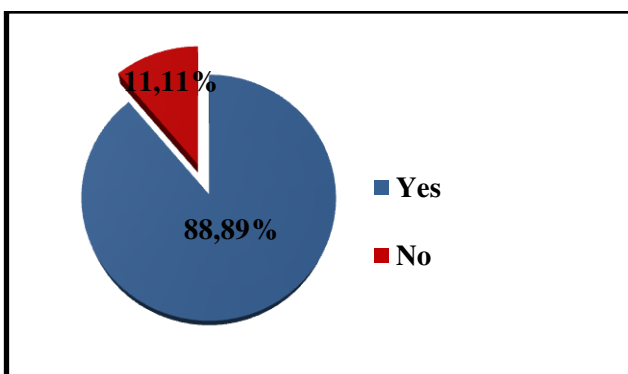
**Diagram6: Teachers' View towards Asking Effective and Relevant Questions**

From the data gathered, we can see that only (33. 33%) of the teachers strongly agree that a good teacher is the one who asks effective question, (27. 78%) partially agree. (22. 22%) agree, whereas (16. 67%) of them disagree.

**Q 5: In your opinion, what are the functions of teachers' questions in the classroom?**

The data gathered from this question show that the primary functions of questions are checking students' understanding and encouraging them to participate in the classroom. In addition to that, questions keep learners actively involved in the learning process.

**Q 6: Do you address questions to the whole class and encourage responses from volunteering and non-volunteering students? Why?**



**Diagram7: Students' Participation in the Learning Process**

From diagram 5 we notice that (88. 89%) of the participants have replied by "yes" because they think that all the learners should receive equal learning opportunities and questions are

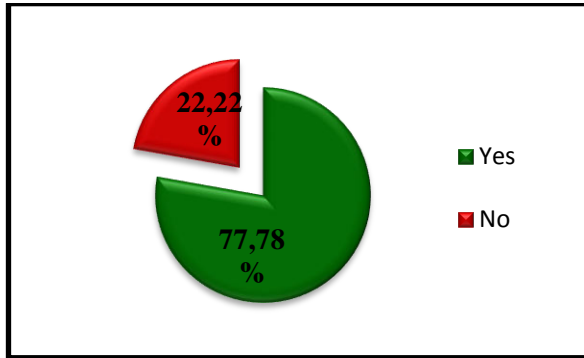


## Presentation of the Findings

---

supposed to be answered by every one without any exceptions, While (11. 11%) of them have answered by “no” without justifying their answers.

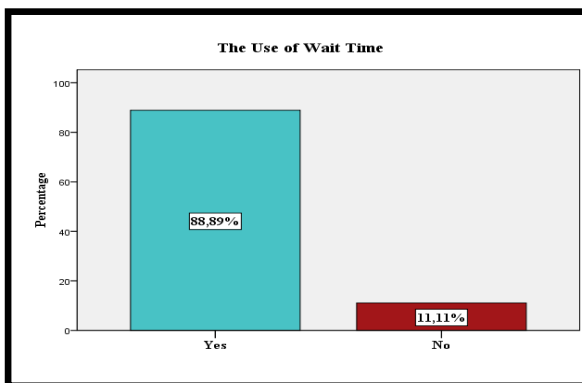
**Question 7: Do you encourage your students to ask questions at any moment during the lecture/TD?**



**Diagram 8: Encouraging Students' Participation**

As shown in this diagram, the majority of the respondents (77. 78%) say that they encourage their students to ask questions during class time. However, (22. 22%) of them reply by “no”.

**Q 8: Do you give your students time to think before answering a question?**



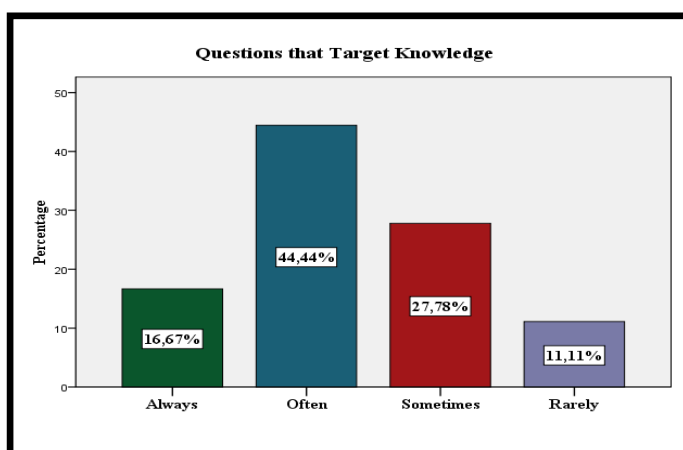
**Diagram9: The Use of Wait Time**

The data gathered from this question show that (88. 89%) use wait time which gives an opportunity for students to think before answering any question. They justify their answer by saying that wait time goes hand in hand with questions and it allows students to come up with relevant responses. However, (11. 11%) of them reply by “no” without justifying their answers.

**Section Three: Types of questions:**

## Presentation of the Findings

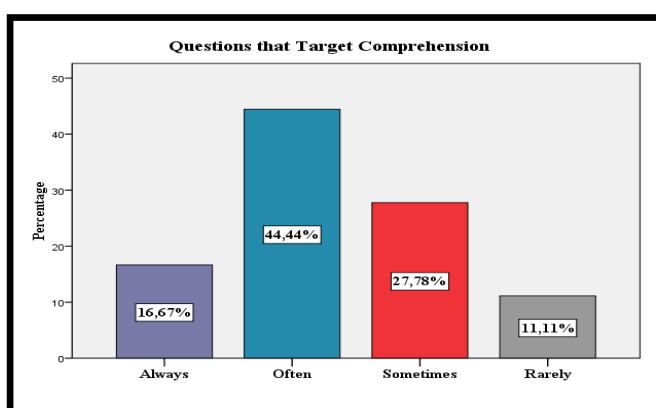
### Q 9: How often do you use this type of questions: “How would you define...?”



**Diagram10: Questions that Target Knowledge**

On the basis of the gathered data, we notice that (44. 44%) of the teachers often use this type of questions, while (27. 78%) of them sometimes employ them. Only (16. 67%) have answered by “always”, (11. 11%) reply by “rarely”.

### Q10: How often do you ask this kind of questions “How would you explain...?”

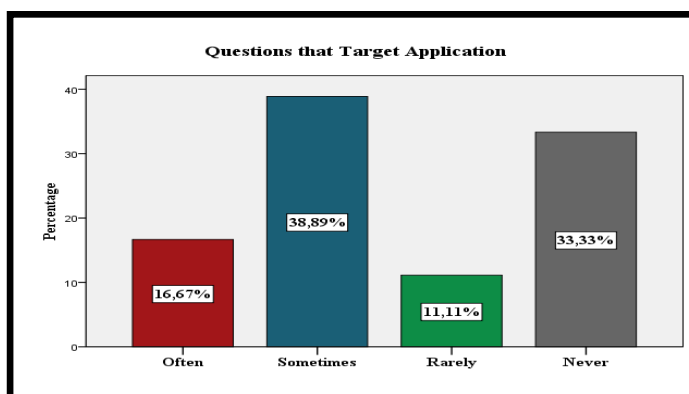


**Diagram11: Questions that Target Comprehension**

The data displayed in diagram 9 shows that (44. 44%) of the participants often ask questions that target comprehension. (27. 78%) sometimes use them, whereas (16. 67%) of them reply by” always”. (11. 11%) rarely employ questions that target comprehension.

### Q 11: How often do you ask your students “How would you solve...?”

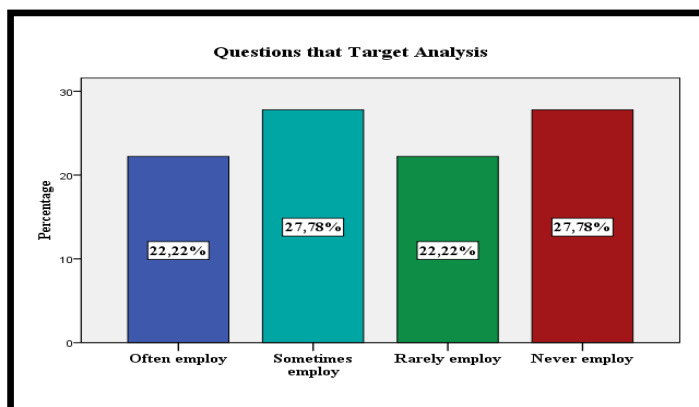
## Presentation of the Findings



**Diagram12: Questions that Target Application**

The aim of this question is to see whether teachers address to their learners questions where they are required to apply the learned information to other situations. From the data gathered, we notice that the highest percentage stands for “sometimes” with (38. 89%), then “never” with (33.33%), while (16. 67%) goes with “often”. The lowest percentage stands for “rarely” with (11. 11%).

**Q 12: How often do you employ this kind of questions “How would you categorize...?”**

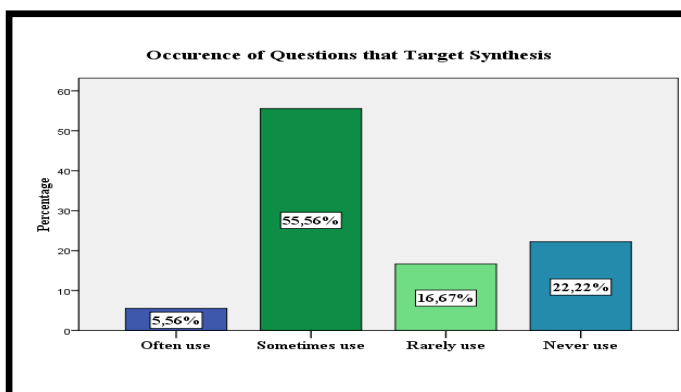


**Diagrams13: Questions that Target Analysis**

According to the data gathered, we notice that equal percentages are perceived in “often” and “rarely” with (22. 22%). The frequencies sometimes and never also have obtained the same percentages (27. 78%).

## Presentation of the Findings

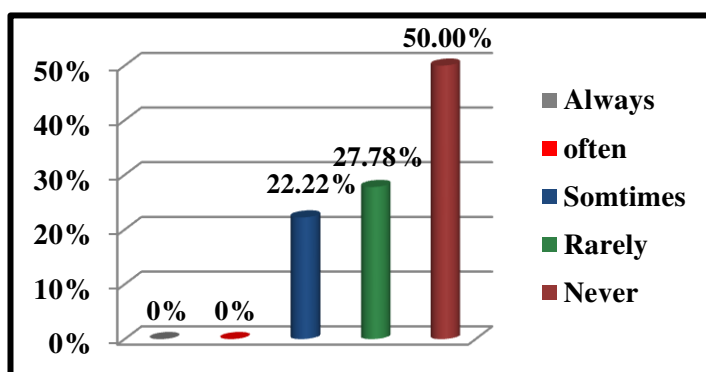
**Q 13: “What judgments can you make...?” Is a question that:**



**Diagram 14: Occurrence of Questions that Target Synthesis**

The aim of this question is to reveal whether teachers use questions that demand students to analyze. The results show that the high percentage (55. 56%) stands for “sometimes” followed by ” never” with (22. 22%), then “rarely” with (16.67%) and finally “always” with (5. 56%).

**Q 14: How often do you employ this type of question: “How would you improve...?”**



**Diagram15: Occurrence of Questions that Target Evaluation**

On the basis of the gathered data, we see that (50%) of the teachers never employ this type of question, while (27. 78%) of them answer by “rarely”, the others (22. 22%) have answer by “sometimes”

## Presentation of the Findings

---

**Q15: In your opinion, what are the main reasons that lie behind students' critical thinking enhancement?**

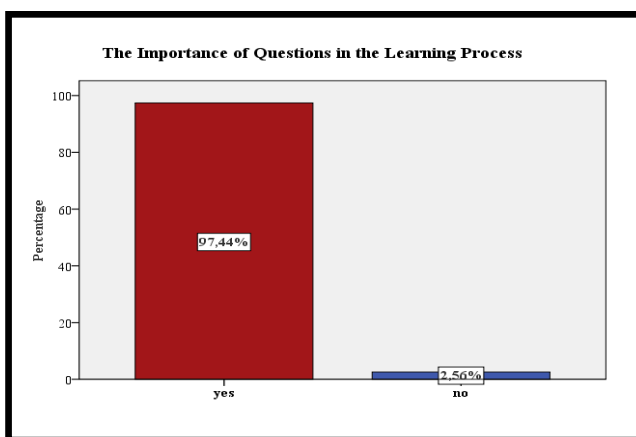
This question aims at knowing some of the strategies followed by teachers in an attempt to assist their students enhance their critical thinking. The results show that the majority of the teachers opt for asking effective questions that challenge students' way of thinking, in addition to problem solving activities and encouraging students to be creative, to construct their own knowledge and provide them with some quotations to analyze.

### 3.2. Results of the Students' Questionnaires

Students' questionnaire has been designed for third year students of Linguistics and ESP. It is made of fourteen (14) questions. Sixty (60) questionnaires were distributed to the students, but only forty (40) handouts have been collected.

#### Part one: Importance of Teachers' Questions

**Q1: Do you think that questions play an important role in the learning process? Why?**



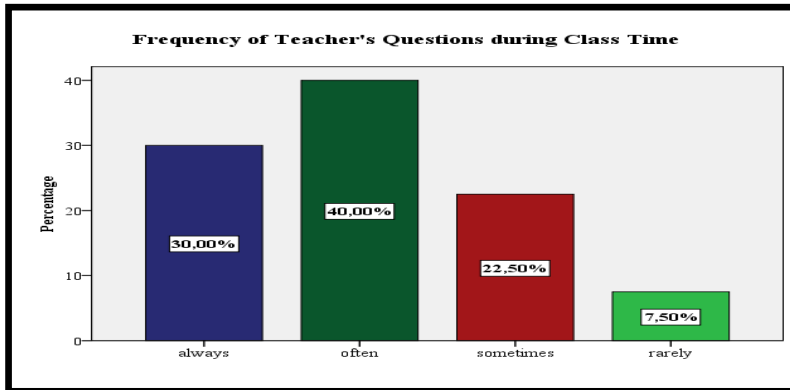
**Diagram 14: The Importance of Questions in the Learning Process**

From diagram 14 we notice that the majority of the students (97. 44%) agree that questions play an important role in the learning process, whereas, only (2. 56%) of them disagree. (97. 44%) of the participants who have answered “yes” justify their answers by saying that questions are a useful way to get knowledge and they help them to enhance their

## Presentation of the Findings

thinking skills. Whereas, the other (2. 5%) say that there is no need to ask questions and they do not find the questions interesting and important in the learning process.

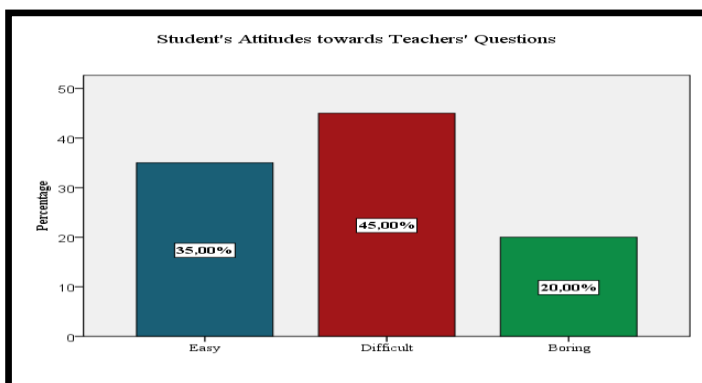
### Q2: During class time, how often do your teachers ask you questions?



**Diagram 15: Frequency of Teachers' Questions during Class Time**

This question aims at knowing the rate of teachers' questions throughout a tutorial. We notice that around (40%) of the students say that their teachers often ask them questions. While (30%) of them reply by "always", (22.5%) of the students answer by "sometimes", and the rest around (7.5%) answer by "rarely".

### Q3: What can you say about your teachers' questions?

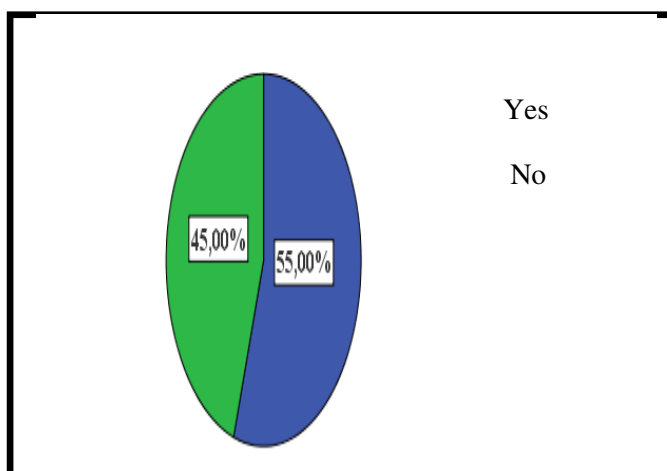


**Diagram 16: Students' Attitudes towards Teachers' Questions**

This question aims to know the students' view concerning their teachers' questions during a tutorial. Diagram 16 shows that (35%) of the students see that the questions asked by their teachers are easy while, (45%) of them perceive them as being difficult, (20%) of the students believe that they are boring.

## Presentation of the Findings

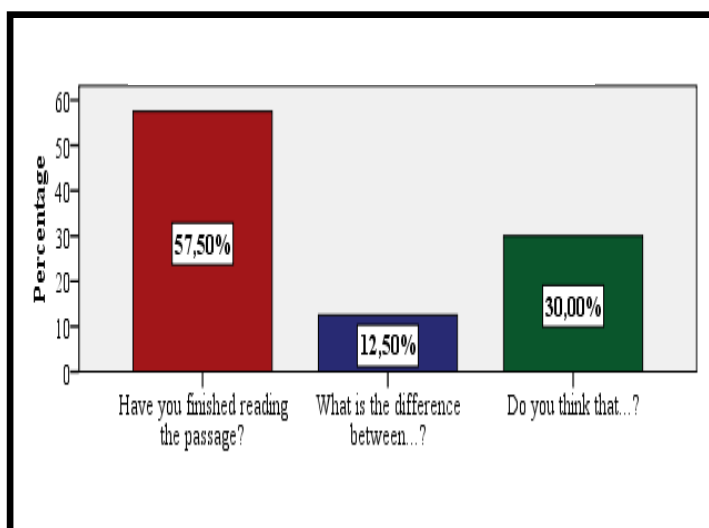
**Q4: Do your teachers give you enough time to think when the question is difficult to answer?**



**Diagram 17: Providing Wait-Time for the Students before Answering the Question**

This question aims to know whether the teachers increase wait time when the questions are difficult, (55%) of the students answer by “yes”, and (45%) of them reply by “no”.

**Q5: From these suggestions, what is the one that is the most used by your teachers?**



**Diagram 18: Types of Questions Commonly Used by Teachers**

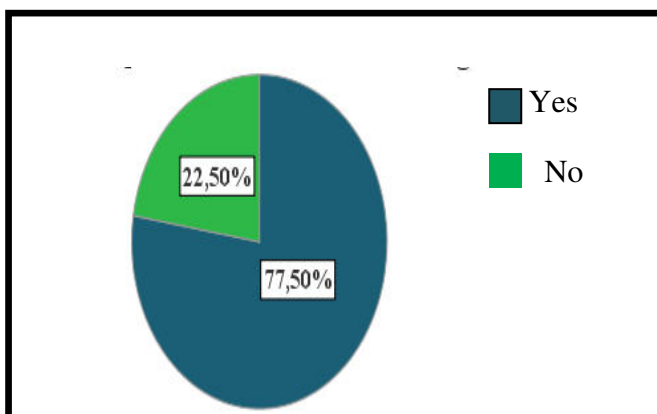
The purpose of this question is to know the types of questions mostly used by teachers. Procedural questions come first with (57.5 %), followed by divergent with 30% and in the last position comes convergent with (12. 5%).

## Presentation of the Findings

---

### Part two: Questions and Critical Thinking

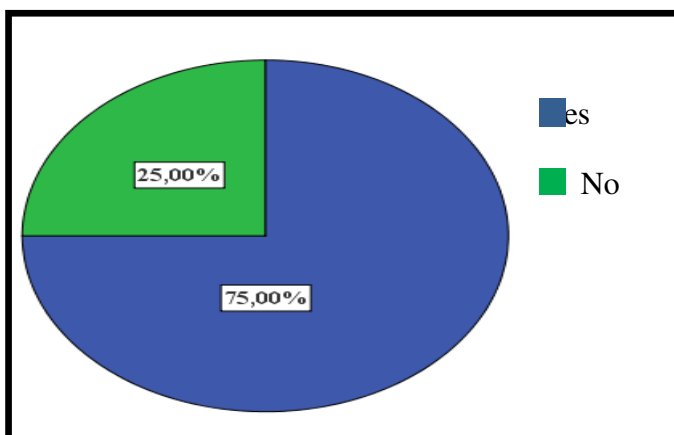
**Q6: Do your teachers employ this type of question: “What do you know about...?”**



**Diagram 19: Questions that Denote Knowledge Level**

The aim of this question is to see whether questions that target knowledge are used by tutors. The gathered data reveal that the majority of the students (77. 5%) answer by “yes” while (22. 5%) reply by “no”.

**Q7: Do your teachers use questions like: “What can you say about...?”**



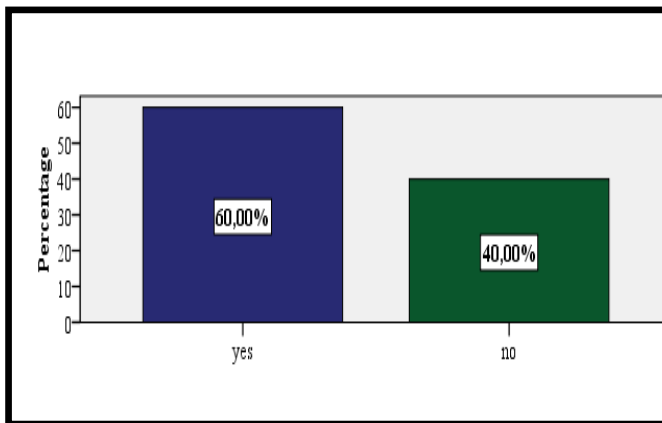
**Diagram 20: Questions that Denote Comprehension Level**

Diagram 20 shows that (75%) of the students say that their teachers employ questions that target comprehension. However, only (25%) of them answer that they do not employ them in the classroom.



## Presentation of the Findings

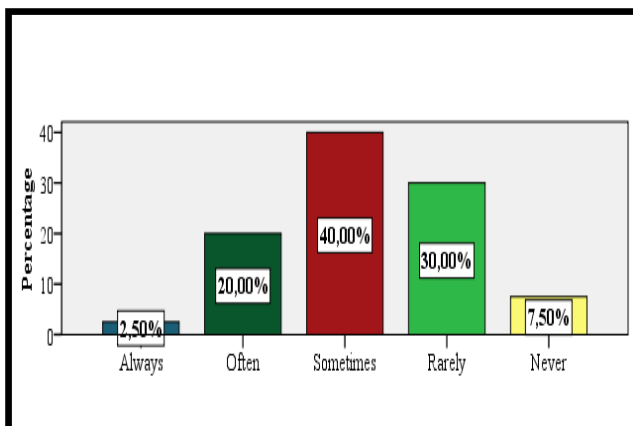
**Q8: Do your teachers ask you to apply your previous knowledge to the other situations?**



**Diagram 21: Questions that Denote Application Level**

From the data presented above, we see that around (60%) of the participants say that their teachers employ this kind of question whereas (40%) have answered by “no”.

**Q9: How often do your teachers ask you this kind of questions “What is the relationship between...?”**



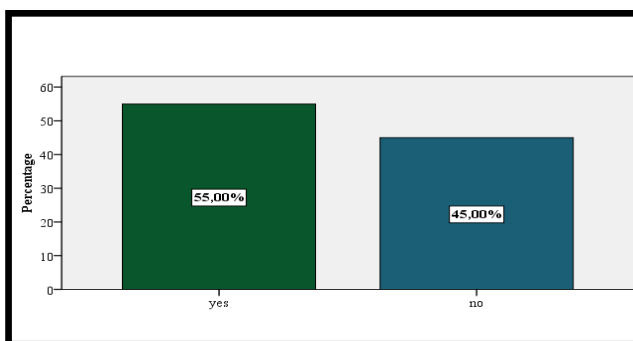
**Diagram 22: The Rate of Using the Analysis Level**

On the basis of the gathered data, we can see that (40%) of the students have answered that their tutors sometimes employ analytical questions, (30%) select “rarely”. Others around (20%) have chosen “often”, (7.5%) have opted for “never” and only (2. 5%) of the students have selected the choice “always”.

## Presentation of the Findings

---

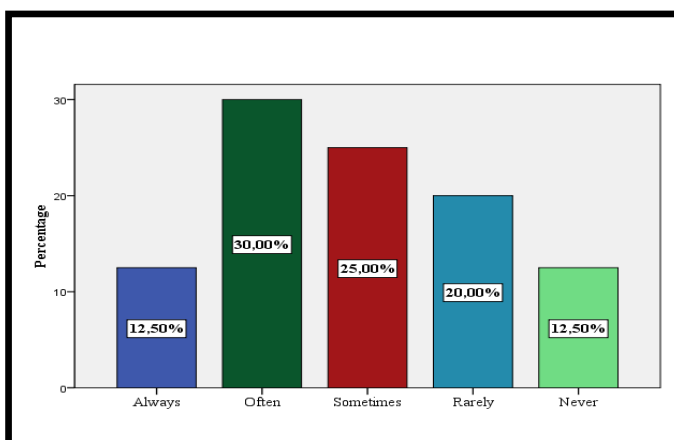
**Q10: During class time, do your teachers ask you questions that require combining elements and coming up with new idea?**



**Diagram 23: The Rate of Using the Synthesis Level**

The results in figure 23 are almost balanced between the two answers. (55%) of the respondents have replied by “yes” and the others have replied by (45%) “No”.

**Q11: How often do your teachers ask you to justify a choice and to assess someone’s view?**



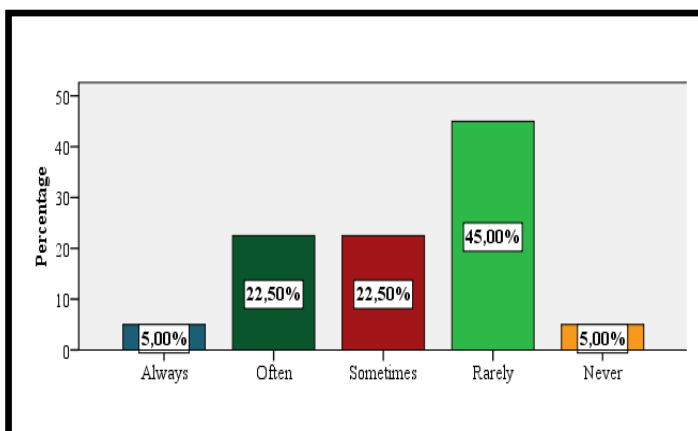
**Diagram 24: The Rate of Using the Evaluation Level**

The reason why we included this question is to know whether teachers employ questions that target evaluation in the classroom. From the collected data, we have noticed that the majority of the students (30%) have said that their teachers often use this type of question. (25%) have replied by “sometimes”. (20%) answer by “rarely”. On the other hand, the equal percentages are acquired in “always” and “never” with (12.5%).

## Presentation of the Findings

---

**Q12: How often do your teachers ask you to generate new information which is completely different from the previously learned one?**



**Diagram 25: The Rate of Using the Create Level**

This question aims to know the occurrence of questions that target creation. From diagram 25 we note that the high percentage (45%) represents “rarely”. The equal percentages are perceived in “often” and “sometimes” with (22.5%). The rates for “always” and “never” acquire a similar percentage with (5%).

**Q13: What do you expect from your teachers to do in order to help you to develop your thinking skills?**

This question is an open ended one in which we have given an opportunity for the participants to give their own opinion concerning how teachers can help them developing their thinking skills. From the results obtained, we notice that the majority of the participants want their teachers to let them express themselves freely and give their points of view, to do more oral presentations, and to prepare the lessons by themselves.

**Remark:** One (1) student did not answer the question.

## Presentation of the Findings

### 3.3. Results of the Classroom Observation

Classroom observation is the second research tool employed in our study. We started observing third year Linguistics and ESP classes from April, 26 to May 15, 2016. Since our aim is to explore the extent to which teachers' question help in developing learners' critical thinking, we used a checklist which consists of three concepts. The items have been observed in terms of their frequency ranging from "Always" to "Never". In other words, we have tried to classify each item according to the number of times that is employed by each of the observed teachers. After attending 16 lectures with 16 teachers, we have gathered a corpus of 82 questions. These questions are presented in the diagram below and classified according to the levels of thinking they target relying on bloom's classification of the cognitive domain and the revised version.

Points to be observed	During a lesson, the teacher ask his and/or her students questions	The teacher invites his and /or her students to ask questions	The teacher uses wait time
<b>Numbers of teachers</b>  <b>Frequencies</b>	Always → 12/16  Often → 4/16	Sometimes → 9/16 Rarely → 4/16 Never → 3/16	Sometimes → 2/16 Rarely → 6/16 Never → 8/16

**Table 1: Results of the Classroom Observation about Questions and Wait Time**

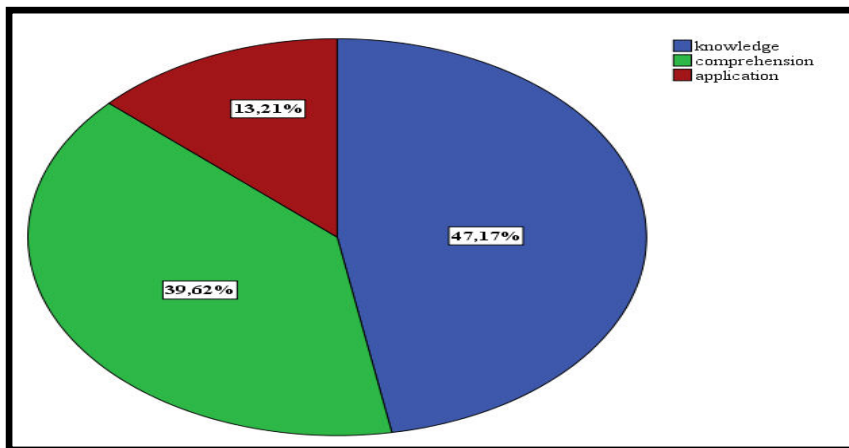
The data gathered from classroom observation shows that 12 teachers out of 16 always employ questions during classroom discussion, whereas the four remaining teachers often question their learners. One can say that questions are highly manifested in third year Linguistics and ESP classes while 9 of the observed teachers sometimes encourage their students to ask questions, 4 of them rarely do it. The 3 remaining never invite students to ask

## Presentation of the Findings

---

questions. Wait time which constitutes an important part of the art of questioning is not always used by teachers. Only 2 teachers used it frequently after addressing questions to their learners, 6 of the observed ones rarely employed it and the rest i.e. 8 never give time to their learners to think after asking them questions.

### 1. Low Order Questions

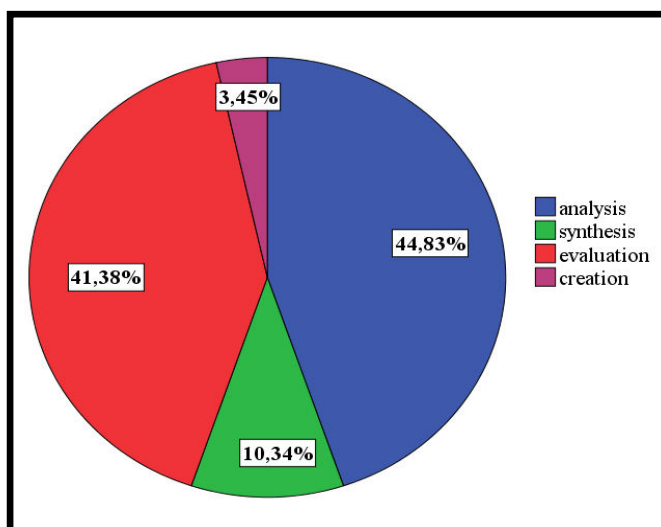


**Diagram 26: Questions that Target Low Order Thinking Skills**

The data gathered from the classroom observation shows that questions that target knowledge are in the highest position with a percentage of (47.17%), followed by comprehension questions (39.62%) while application questions represent only (13.21%) and come in the last position. From these results we conclude that teachers of third year Linguistics and ESP employ questions that require students to recall the previously learned information, to interpret ideas and to apply what they have learned.

## Presentation of the Findings

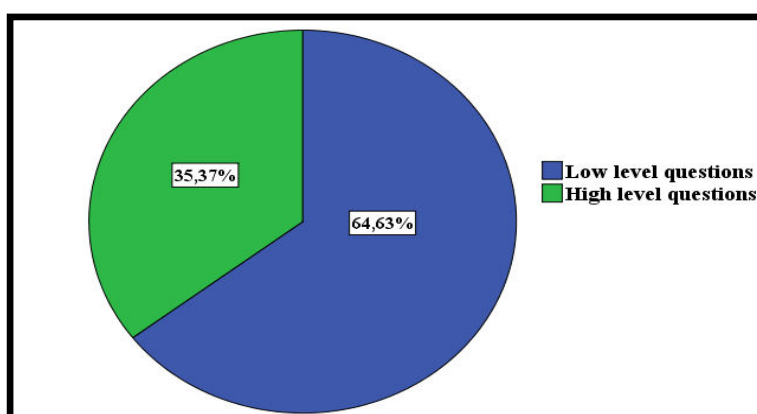
### 2. High Order Questions



**Diagram 27: Questions that Target High Order Thinking Skills**

Diagram 27 shows that questions that require learners to analyze and distinguish between the constituents of information come in the first position with (44. 83%) of the total number of the questions used by the tutors, followed by evaluating questions with (41. 38%) whereas questions that demand learners to make predictions and to synthesize. Those that expect students to produce something original are rarely employed by the teachers with a percentage of (10. 34%) While questions that target creation has a percentage of (3. 45%)

### 3. Low Level Questions vs. High Level Questions



**Diagram 28: Low Level Questions vs. High Level Questions**

On the basis of the collected data, we can see that the majority of the questions employed by the teachers of third year Linguistics and ESP target low order thinking skills

## **Presentation of the Findings**

---

with a percentage of (64. 63%) whereas only (35. 37%) of them are high order questions. (i.e.) teachers rarely employ questions that stimulate learners' curiosity and creativity.

### **Conclusion**

This chapter deals with the presentation of the findings of the two questionnaires designed for the teachers and the students of third year Linguistics and ESP at the department of English at MMUTO, in addition to the classroom observation. It is worthy to mention that there are slight contradictions in the results obtained. The following chapter is devoted to the interpretation and the discussion of the findings.

## **Discussion of the Findings**

---

### **Introduction**

This chapter is devoted to the discussion of the findings obtained from the two questionnaires submitted to both teachers and students of third year Linguistics and ESP; in addition to the results gathered from the classroom observation. The data gained from these two methodological instruments will be discussed and interpreted relying on the literature mentioned in the chapter labeled “Review of the literature”, in order to provide answers to the research questions stated in the general introduction.

### **4.1. Discussion of the Results of the Teacher’s Questionnaires**

#### **Participants’ Identification**

This section contains two questions about teachers’ experience and the class size. The results obtained show that (44. 44 %) of the teachers have an experience of three to ten in teaching; (22.22%) of them are accustomed with classroom routines; they have an experience of more than 10 years. (33. 33%) of them are novice teachers in the beginning of their carriers. These results lead us to say that asking thought provoking questions will be effortless for experienced teachers and it will not be hard for them to implement Bloom’s Taxonomy in framing questions that target high order thinking skills, contrary to novice ones who may encounter difficulties in addressing questions that stimulate students’ critical thinking. It is worth to mention that this remains a personal opinion involving no subjectivity or bias.

As concerns class size or the number of students in each class, the results show that (44. 44%) of the teachers teach in classes with less than 30 students, (38. 89%) say that the class is composed of 30 to 40 students. (16. 67%) work with more than 40 students per class. We find the need to integrate this question in our questionnaire because we personally think that crowded classes make from teaching a hard job, and students may not receive equal



## **Discussion of the Findings**

---

learning opportunities. During class time, the teachers cannot call on all the students to answer his/her questions.

### **Teachers' View towards Questions**

As shown in the previous chapter (diagram 3), (66. 67%) of the informants always ask their students questions during class time; whereas the others (33.33%) often use them. In other words, most of classroom discussion is devoted to questions and teachers use them frequently. Moyer and Milewicz (2002) argue that questioning is the most frequently used technique by teachers in the classroom. Black (2001) adds that teachers spend thirty-five to fifty percent of their instructional time asking the learners questions. This allows us to say that teachers are aware of the role that questions play in the learning process, and that a big amount of class time is devoted to questions. Concerning the answers to the fourth question, which seeks to know whether teachers agree with the statement “a good teacher is the one who asks effective questions”. Only (33. 33%) of the informants have expressed their strong agreements towards that view. Here the term “effective questions” stands for thought provoking questions. Croom and Stair (2005) say that effective questions are those that provoke high thinking skills. Questions of that type are generally difficult to frame and they require a certain level of proficiency. Henningsen and Stein (1997) argue that unskilled questions have one function which is checking students' existing knowledge. Perhaps for (16. 67%) who have replied by ‘disagree’ have another attitude towards the characteristics of a good teacher, and do not consider thought provoking questions as a part of their competency, or perhaps encounter problems in framing questions that enhance learners' critical thinking.

### **Functions of Teachers' Questions**

As regards the functions of questions in the learning process, the majority of the informants have agreed on the fact that questions enable teachers to verify their students' comprehension. They are considered as the best way by which they can keep their learners

## Discussion of the Findings

---

involved in the learning process and above all to test their intellectual capacities. One of the participants has said that *“the primary function of questions is encouraging students’ participation”*. Most of the functions stated by the teachers correspond to the ones provided by Richards and Lockhart (1996). Almost all the participants have said that questions encourage students’ participation in a lesson. It is a way by which teachers can grab students’ attention and keep them focused during the lectures. Only one of the informants have mentioned that questions can serve as a thought provoking device by saying *“questions help students to think critically because the primary goal of teaching and learning is not pouring knowledge into learners’ mind, it is rather giving them opportunities to think in a critical way”*. This goes Gall et al. (1987) who claimed that questions help in stimulating learners’ thinking, However it seems like teachers do not take notice of one of the most important functions of questions which is stimulation of students’ critical thinking.

During class time, Most of the informants call on students to answer their questions. Teachers believe that their questions should be answered by every learner without exception. This does not really fit with what has been stated by Richards and Lockhart (1996) *“they may address their questions to only a few of the students lying within their action zone”* (p.185). One of the informants has said that *“a question is supposed to be answered by every student, so the participation of all is encouraged”*. Therefore students have equal chances to be called by their teachers as they do not work only with bright students.

As regards whether teachers invite their students to ask questions, the obtained results show that (88, 89 %) of the informants encourage their learners to ask questions during the classes. The way by which they proceed differs from one to another. One of the informants has said that *“I always encourage my students to ask questions by asking them whether everything is clear and whether they have any questions”* another have replied by *“do you have any question?, Is something that I let to the end of the lecture (after explaining the*

## Discussion of the Findings

---

lesson)”. Richards and Lockhart (1996) believe that “*In some classes over half of class time is taken up with question- and answer exchanges*” (p.185). In other words, class discussion is a mixture of questions and answers initiated either by the teacher or the students. In contemporary classes, we find students asking more questions than their teachers do, because teachers are aware of their role which is limited to the one of facilitator. According to Richards and Lockhart (1996) being a facilitator would be possible only if teachers encourage autonomous learning. Teachers are there only to facilitate learning.

As concerns the use of wait time, our informants stress on its importance. One of the participants has said that “*students need time to think in order to come up with valuable answers*” Another one has added that “*wait time gives the learners a chance to answer all kind of questions regardless to their level of complexity, and they can express themselves freely*”. A third one has added “*all questions regardless to their level of complexity should be accompanied with wait time*”. From these answers, we deduce that teachers are aware of the importance of wait time as being an irreducible part of the art of questioning. These results are in line with what Cruickshank (2009) says “*Using wait time allows students to establish a certain level of comfort in the classroom and encourages them to voice their personal opinions more freely*” (p.373).

As regards the type of questions employed by teachers during class time, questions that target knowledge, comprehension and application are frequently used by teachers. According to Bloom (1956) knowledge, comprehension and application constitute low order thinking skills. At this level the framed questions do not generally require learners to prolong in their thinking to answer the questions. In questions that target knowledge, the learners are asked to recall the formerly studied information. In Bloom’s classification of thinking skills, knowledge comes in the initial position, as it is the first ability that students develop. Then, the students move step by step until they reach high order thinking skills, where they

## Discussion of the Findings

---

experience something different with varied extents of complexity. The gathered results reveal that low order questions occur repeatedly in classes.

As far as high order questions are concerned, the results show that questions that target analysis, which is the first high order thinking skill in Bloom's Taxonomy, are sometimes manifested in third year Linguistics and ESP. However (27%) of the informants never address questions that require students to analyze. This considerable percentage leads us to conclude that some of the teachers do not seem to be aware of the fact that questions that target analysis serve as an opening gate to high order thinking skills.

In Bloom's Taxonomy of high order thinking, the skill that comes after analysis is synthesis. Diagram 12 shows that (5. 56%) of the informants utilize this type of questions from time to time, and no one uses them regularly. It seems that teachers do not take into account questions that install one of the main skills that encourage students to think critically. Concerning evaluation which constitutes the final skill in Bloom's classification, diagram 13 shows that no one has chosen always and often. Only (22.22%) have answered by sometimes. However, (27.78%) rarely ask students to judge and to assess the information and (50%) never do it. From this we conclude that teachers take no notice of questions that have as their goal providing personal judgments and criticizing someone's ideas.

To help students to develop their high order thinking skills, teachers propose the use of problem solving activities, increase the length of thinking time and using questions that target evaluation and creativity where the students can judge the information being exposed to, and to produce something original which differs from the previously learned elements. Lesley (2004) states that: *"skilled questions can generate high level thinking and discussion, and also provide an excellent model for children so that they can adapt self-questioning strategies. Allowing time for reflection and providing opportunities for discussion also contribute to the thinking process"*.

### 4.2. Discussion of the Results of the Students' Questionnaires

#### Teachers' Questions

In this section of the discussion accounts for the attitudes students hold towards questions in general and more particularly to their teachers' questions. The obtained results show that (97.44%) of the informants who have answered the question are of the opinion that questions play a significant role in the learning process. One respondent says that *"questions help the student to think and to better understand the lectures"*. Another adds *"questions help us to better communicate with our classmate and to discuss each other's point of view"*. A third one states that *"in addition to checking understanding and aiding to think, without questions the students will feel all the time bored and dispassionate"*. As it is stated by Yang (2006) *"the teacher's questions can be the most powerful device to lead, extend, and control communication in the classroom"* (p.196). It seems that students recognize the value of questions as being an integral part of the learning process. Yet, the conclusions that can be brawn from students' responses go beyond simple statements that reveal a certain degree of awareness. But it also demonstrates that the students are able to judge and evaluate their teachers' ways of teaching via the amount of questions displayed during classroom discussion.

As concerns the results regarding students' impression towards their tutors' questions, the answers differ from one student to another. In diagram 16, most of the informants (45%) find their teachers' questions difficult, (20%) have said boring, and only (35%) have said easy. According to Ur (1996) one of the characteristics of an effective question is its clarity, being interesting and being easily answered by all the learners. In other words, in order for teachers to ask good questions, these ones should at least be: easy, motivating and available to all learners. However, teachers may encounter many drawbacks while doing their job and maybe the worst one is working in crowded classes. This fact has an impact on both the

## Discussion of the Findings

---

quality of teaching and learning. Maybe those who opt for difficult do not listen attentively to the teachers' explanations. Thus when they ask them a question they find difficulties in answering.

As regards thinking time, the results show that (55%) of the students hold that their teachers give them time to think about the response. This is without doubt remarkable, because wait time allows the students to analyze the question and to think twice before responding. However, even the remaining percentage which is (45%) grabs the attention, as it stands for the respondents who have said that teachers do not give them time for reflection. In the answers to the previous question, (45%) of the informants find the questions asked by their tutors difficult. In such situation, the use of wait time is mandatory, because complex questions require profound thinking. Complex questions usually demand the augmentation of wait time as it has been clearly stated by Richards et al. (1992).

During class time, teachers employ a variety of questions that differ in terms of their functions. Learning which occurs in classes where teachers utilize a single kind of questions is indisputably fruitless. Nevertheless the results obtained show that the type of questions teachers employ more while teaching is procedural, which comes in the summit with (57, 5%). In general, procedural questions do not relate to the content of the lesson. They have to do with classroom procedures and routines. Examples of such questions are "have you brought your book?" "Are you listening?" or "someone to read the text, please". The results also show that (30%) of the questions that teachers use are divergent or thought provoking and (12, 5%) are convergent. This led us to say that half of the questions employed by the teachers do not help the students to develop their thinking skills.

Following Bloom's Taxonomy, questions can be framed at different levels of thinking ranging from lower level which comprises knowledge, comprehension and application; to higher level of thinking which includes synthesis, analysis and evaluation. In low order

## Discussion of the Findings

---

thinking, questions do not necessitate to dig out the mind in order to come with a response. It is in high order thinking, where the students struggle with their reasons to act in response to teachers' questions whatever its complexity. *"questioning is the fundamental method used in teaching for critical thinking as it serves the purpose of deepening knowledge, critiquing different perspectives, and transforming ideas and actions rather than to acquire the right answers"*(Villaverde, 2004. cited in Figen. K. 2010: 37). The obtained results show that questions that target low order thinking are most used by teachers. This means that students are called to remember what they have already studied, and very often to apply it to other situations such in the case of applying grammatical rules through doing a sequence of exercises.

It is worth to mention that learners should surpass this level in order to get to the following one where their analytical thinking is set off, and which lay the ground to judgments full of logic and reason. Besides, (20%) of the informants have said that their teachers provide them with analytical questions from time to time, while(30%) have answered by rarely. The difference in the results is maybe due to the fact that sometimes there is not enough time to ask analytical questions as they demand increasing wait time. As concerns the two remaining levels of high order thinking, the results show that questions that denote synthesis and evaluation are sometimes used by tutors. In other words, students' high thinking skills are stimulated. This is very supportive for them as they become critical thinkers. It seems that a small number of teachers ask thought provoking questions in their lectures. A fact that restricts class debate to statements like "have you understood?" "Is it ok so far?" or "let's move to something else, we have to finish with this today". It is worth to remember that not all the questions come in an interrogative form. For instance, the last statement in the above mentioned example is considered as a question only if it is said with a certain degree of intonation.

## **Discussion of the Findings**

---

Concerning the use of questions that target creation, the results show that only (5%) of the informants have answered by always, (22, 5%) have said often and (22, 5%) have replied by “sometimes”. According to Anderson and Krathwhol (2001), creation belongs to high order thinking skills and it comes just after evaluation. It is the new skill that does not exist in Bloom’s taxonomy. It seems that some teachers are aware of the importance of creating questions that should be integrated in learning. However, (45%) of the students have said that their teachers rarely employ this type of questions, thus students are not encouraged to think critically.

The conclusion that can be drawn from all this is that questions are regularly used by teachers. Questions that target low order thinking are highly present in linguistics and ESP classes with elevated percentages; however those that stimulate critical thinking are rarely employed.

### **4.3. Discussion of the Results of the Classroom Observation**

Classroom observation is the third data tool used to gather data by which we can answer the research questions stated in the general introduction as well as to confirm or disconfirm the findings of the two questionnaires.

On the basis of the gathered data, we have noticed that twelve teachers out of sixteen always ask their students questions; and four of them often do it. This leads us to say that most of classroom discussion is devoted to questions, and that almost all the respondents are aware of its value and significant role in the learning process. The final conclusion that can be drawn from such a result is that teachers tend to play the role of a partner in the classroom who encourages his learners to take part in the learning process. These results go in hand with those of the two questionnaires where the majority of teachers have affirmed that they use questions during their lectures.



## Discussion of the Findings

---

Richards and Lockhart (1996) assert that “*In some classes over half of class time is taken up with question- and answer exchanges*” (p185). In other words, class time is devoted to questions asked either by the teachers or the students. Teachers have to encourage students to ask questions in order to ensure a well involvement in the learning process. However four out of sixteen of the observed teachers rarely invite students to ask questions and three of them never do it.

As regards wait time, the results show that among the sixteen teachers who have been observed only two of them use thinking time. Six of them use it rarely; whereas the eight remaining never give their students time to think before answering the question. During the observation, we have noticed that teachers answer the questions by themselves without even addressing them to the learners and more particularly when the question is too difficult and requires a deep reflection. With one of the observed teachers who increase the length of thinking time, we have noticed that the majority of the students respond assertively. A kind of a debate is opened among the students and their teacher after each student’s response and they look more concerned in the content of the lesson. This goes with what is said by Richards et al. (1992) “*increasing wait time both before calling on students and after a student’s initial response often increases the length of the students’ responses, increases the number of questions asked by students, and increases student involvement in learning*” (p.90). This disconfirms the previous results which states that teachers give wait time to their learners before answering questions.

As concerns the type of questions the teachers tend to employ during class time, the collected data reveal that low level questions are manifested in Linguistics and ESP classes. In Questions that target knowledge comes first (47. 17%) followed by comprehension (39. 62%) and finally application with only (13. 21%) (See diagram 26). Teachers do not need to address

## Discussion of the Findings

---

questions like “what do you know about...?” or “have you understood the meaning of...?” and take no notice of applying questions.

As regards the use of questions that trigger learners thinking like analyzing and demand them to synthesize, evaluate and to produce something of their own, the results displayed in diagram 27 show that the percentages attributed to each of the high thinking skills are between (3. 45%) and (44. 83%). Questions that denote analysis and evaluation are in the top while those that designate creation and synthesis are in the bottom. What we have noticed during the observation is that when the question addressed requires students to dig out in high thinking levels, the teacher answers it by himself. In one of the lectures attended, there are two teachers who never utilize questions that boost learners’ thinking skills. They took the discussion from the beginning of the lesson until the end. This goes in hand with the results obtained from both the teachers and the students concerning the use of questions that stimulate learners’ critical thinking.

The results gathered from the classroom observation demonstrate that creation which is according to Anderson and Krathwohl (2001) belongs to high level thinking and comes just after evaluation, is not manifested in teachers’ questions. This skill which stands for learners’ ability to produce something new is totally neglected. Among a corpus of 82 questions, only one designates creation that is: “create a short song of your own words for someone that you really admire”. It is worth to mention that the majority of the students will soon hold a license degree and will start their career as teachers. So at this advanced stage of studies, questions that target creation should be integrated.

During the classroom observation, the quality of students’ participation has been taken into consideration. We have noticed that it differs from one group to another. With one of the groups under observation, students have been listening attentively to their teacher who has

## Discussion of the Findings

---

been reading a passage. After finishing, he has asked his students whether they have any questions and whether everything is clear. Then some students have begun to ask him questions but he has asked the others to provide the answers to their classmates' questions. The students were all participating and the teacher was just listening and intervening when necessary. After that he has provided his learners with a quotation said by Dell Hymes and asked them to analyze it and to say what they have understood from it. When the teacher said "*someone to answer the question*" all the hands go up. However this was only the group in which we have found motivation and an augmented participation. In the other groups, only one voice reigns over the silence of the class. It is the voice of the teacher who asks questions and the students do not answer.

Concerning the type of questions that motivate more the students we have noted that questions that target low level thinking as "what can you say about?" do not awaken students' interest and their participation decreases; whereas those that target high level thinking like "what do you think about?" result first in calm as the students are thinking about the answer then suddenly the quiet turns into an increased participation. Therefore students' participation is determined by the type of questions the teacher employs.

In order to overcome the weaknesses that we have met through the results of the questionnaires addressed to both students and teachers and even the classroom observation, we propose the following:

- Classroom discussion should be devoted to questions asked either by the teachers or the students.
- Teachers should ask their learner more questions that demand students to analyze, to synthesize and to evaluate.

## **Discussion of the Findings**

---

- Questions that target creativity should be integrated in teaching, as it gives the students an opportunity to generate their own works.
- Giving wait time for learners to think before answering the question is crucial and it is something that teachers have to take into consideration.
- Students should be given an opportunity to debate and to question.
- It is important to invite students to ask questions and to encourage students' participation.
- It is also outstanding for teachers to avoid working with only the students lying within the action zone and not involving the others in classroom discussion.
- Teachers should look for strategies that can help learners in developing their thinking skills.

## **Conclusion**

The chapter deals with the discussion of the findings obtained from the two questionnaires, and the classroom observation for the sake of answering the research questions stated in the general introduction. The interpretation of the results has helped us to confirm only the first hypothesis and to disconfirm both the second and the third one suggested in the general introduction. It seems that most of class time is given to questions. Both teachers and students have stressed the significance of question in the teaching and learning process, however questions that stimulate learners' curiosity and creativity are rarely manifested in linguistics and ESP classes. In fact the findings of the classroom observation allowed us to reveal that low order questions do not promote students' participation in the learning process. Besides, some teachers still play the role of an authoritarian in the classroom instead of being a partner or a guide. In addition, the teachers ignore the value of thinking

## **Discussion of the Findings**

---

time, and they answer most of the questions they formulate without even asking for volunteers.

In order to help the students to think critically the teachers may use problem solving activities.

Whereas the students opted for asking more questions that trigger their thinking.

## General Conclusion

---

Questions play a vital role in the teaching and learning process. It has been subject to many investigations carried out by researchers. Teaching students how to think critically is best done through asking thought provoking questions. At the university, students are generally exposed to information of varied degree of complexity. Therefore, for the sake of giving a hand to students to better assimilate the information, teachers pose questions that target different thinking skills.

In this study, a focus has been on investigating the extent to which teachers' questions help in stimulating learners' critical thinking. In other words, it seeks to know whether teachers ask their students high order questions. For the sake of answering the research questions stated in the general introduction and to confirm/ disconfirm the proposed hypotheses, we have designed two different questionnaires for both teachers and students of third year Linguistics and ESP. Furthermore; the classroom observation, which has been conducted with sixteen teachers, has allowed us in gathering a corpus of 82 questions (see appendices). The collected data from the research instruments employed were analyzed both quantitatively and qualitatively.

The results, which are interpreted in the discussion chapter, reveal that all the participants in the present investigation agree on the crucial role that questions play in the learning process. During class time, questions are frequently asked by teachers. In fact in diagram one (96%) of the teachers have affirmed that they regularly ask students questions which lead us to say that learners are given an opportunity to actively participate in the learning process. A fact that has been asserted by the students who have said that teachers often ask them questions.

When it comes to the type of questions the teachers tend to employ more, the results gathered from both the questionnaires and the classroom observation are almost the same.

## **General Conclusion**

---

Questions that target low order thinking skills which include knowledge, comprehension and application are often if not always used in the classroom.

When it comes to questions that target high order thinking skills, the obtained results from the participants show that this type of questions is sometimes asked by tutors. Creation which according to Anderson and Krathwhol (2001) belongs to high order thinking skills is rarely manifested in teachers' questions. This skill allows learners to produce something new be it written or spoken. It is outstanding to encourage students to generate and to create their own works, because to do so they are supposed to think critically.

To sum up all what is said in the discussion chapter, questions which are an integral part of learning often occur in third year linguistics and ESP classes. Both teachers and students are aware of the role that questions play in the teaching and learning process which is not only limited to check understanding but also to stimulate students' interest and curiosity. Concerning the type of questions that is more used by the teachers, the results reveal that those that do not require students to think are recurrent, while those that demand students to think critically are sometimes if not rarely used by the teachers. This can be explained by time restrictions and crowded classes. As concerns the extent to which questions can determine students' motivation and their involvement in the learning process, the data gathered from the classroom observation allows us to find out that when the students are asked to analyze, to put things together, and to judge giving their owns interpretations, students' participation increases. However, when the questions are what can you say about...? What do you know...? Students' participation decreases. Thus, students' motivation can be influenced by the type of questions employed by teachers.

Our research was subject to many limitations that made of it difficult task to accomplish, the major limitation is the absence of either students or teachers. As a

## **General Conclusion**

---

consequence, we have attended one lecture for each of the sixteen (16) teachers under observation. As concern the five other teachers either they work once a week, or they taught only in the first semester. The other limitation is that some of the students did not hand back the questionnaires.

Our wish is that our research will help in providing teachers with some clues in teaching critical thinking through implementing questions that target HOT, and open new perspectives for further research in this area of study.



## Bibliography

### Books

- Anderson, L.W, and Krathwhol, D.R. (Eds). (2001). *A Taxonomy of Learning, Teaching and assessing: A revision of Bloom's Taxonomy objectives*: Complete edition, New York: Longman.
- Bloom, B. (1956). *Taxonomy of Educational Objectives, Handbook 1: The Cognitive Domain*. New York: David McKay.
- Brown, D.J. (2001). *Using Surveys in Language Programs*. Cambridge University Press.
- Cohen, L., Manion, L., & Morrison, K. (1995). *A guide to teaching practice* (4th ed.). London & New York: Routledge. Press.
- Cruickshank, D., Jenkins, D., Metcalf K. (2009). *The Act of Teaching*. (5<sup>th</sup>ed.). New York: Denzin, N.K., & Lincoln, Y.S. (Eds.). (2000). *Handbook of qualitative research* (2<sup>nd</sup> ed). Thousand Oaks, CA: Sage. McGraw-Hill.
- Kindsvatter, R. Willen, W. and Ishler, M. 1988. *Dynamics of Effective Teaching*. New York: Longman.
- Richards, J., & Lockhart, C. (1996). *Reflective Teaching in Second Language Classrooms*. Cambridge: Cambridge University Press.
- Richards, J.C., Platt, J. & Platt, H. (1992). *Dictionary of Language Teaching & Applied Linguistics*. Longman
- Richards, J.C., & Rodgers, Theodor S. (2001). *Approaches and Methods in Language Teaching*. (2<sup>nd</sup>eds), the United States of America: Cambridge University Press.
- Silinger, H.W & Shohamy, E. (2000). *Second Language Research Methods*. New York: Oxford, (Oxford Applied Linguistics)

- Ur, P. (1996). *A Course in Language Teaching: practice and theory*. Uk: Cambridge University press.
- Wilen, William W. (1991). *Questioning Skills for Teachers*, (3<sup>rd</sup>ed). National Education Association, Washington DC.

### **Journal Articles**

- Arends, R. I. (1991). *Learning to teach*. New York: McGraw-Hill, (Chapter 3).
- Black, S. (2001). *Ask me question: how teachers use in the classroom*. American School Board Journal, 188, 43-45.
- Brock CA (1986). *The Effect of Referential Questions on ESL Classroom Discourse*. TESOL Quarterly 20(1) 47-58
- Brualdi, A.C. (1998). *Classroom Questions. Practical Assessment, Research and Evaluation*, 6(6)
- Chance, p. (1986). *Thinking in Classroom: a survey of programs*. New York: teachers college, Columbia University.
- Chin, C. (2006). *Classroom interaction in science: teacher questioning and feedback to students' responses*. International Journal of Science Education, 28 (11), 1315–1346.
- Chin, C. (2006). *Classroom interaction in science: teacher questioning and feedback to students' responses*. International Journal of Science Education, 28 (11), 1315–1346.
- Cooper, R. (2010). *Those Who Can Teach*. (12<sup>th</sup>.ed). Massachusetts: Wadsworth Cengage Learning.
- Croom, B., & Stair, K. (2005). *Getting from q to a: effective questioning for effective learning*. The Agricultural Education Magazine, 78, 12-14
- Danielson, C. (1996). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

- Denise Tarlinto (2003). *Creating Evaluating Analyzing Applying Understanding Remembering BLOOM.S REVISED TAXONOMY Creating Generating new ideas*. Retrieved from <http://slideplayer.com/slide/6356429/> accessed on 18September 2016.
- Evans, R. (2000). *Providing a learning-centered instructional environment*. Paper contributed to the Teaching in Community Colleges Online Electronic Conference. “A Virtual Odyssey.” Kapiolani Community College: Honolulu Hawaii.
- Figen, K. *An Assessment of Teachers’ Conception of Critical Thinking and Practices for Critical Thinking Development at Seventh Grade Level*. The Department of Educational Sciences. Middle East Technical University, 2010.
- Gall, M.D., Ward, B.A., Berliner, D.C., Cahen, L.S., Winne, P.H., Elashoff, J.D., & Stanation, G.C. (1978). *Effects of Questioning Techniques and Recitation on Student Learning*. American Educational Research Journal, 15, 175-199.
- Garrison, B., & Broussard, A. (1990). *Academic Intrinsic Motivation in Young Elementary School Children*. Sagepublications.com Journal of Educational Psychology, 82(3), 525–538 America.
- Golkar, M. (2003). *Classroom observation: interaction time and question and answer patterns*. Indian Journal of Applied Linguistics, 29, 79-89.
- Guay, F., Chanal, J., Ratelle, C. F., Marsh, H. W., Larose, S., & Boivin, M. (2010). *Intrinsic, Identified, and Controlled Types of Motivation for School Subjects in Young Elementary School Children*. British Journal of Educational Psychology, 80(4), 711–735.
- Henningsen, M., & Stein, M.K. (1996). *Mathematical Tasks and Student Cognition: Classroom Based Factors that Support and Inhibit High-Level Mathematical Thinking and Reasoning*. Journal for Research in General science Education, 28, 524-549.

- Jokolo, M. A (2004). *Classroom Interaction in Advanced Level Biology Lesson*. Unpublished dissertation in partial fulfillment of the requirements for the degree of Master of Science Education, University of Dar es Salaam.
- Junoh, A. K., Muhamad, W. Z. A. W., Abu, M. S., Jusoh, M. S., & Desae, A. M. (2012). *Classification of Examination Marks according to Bloom's Taxonomy by Using Binary Linear Programming*. Paper presented at the 2012 International Conference on Innovation and Information Management (ICIIM 2012), Singapore.
- Lesley. D. (2004). *Learning to Think, Thinking to Learn. The brain and learning*. 1f6e16y. accessed on 06/01/2016.
- Leven, T. & Long, R. (1981). *Effective Instruction*. Washington DC: Association for Supervision and Curriculum Development.
- Mayring, P. (2014). *Qualitative Content Analysis: Theoretical Foundations, Basic Procedures of Software Solution*, Klagenfurt, Austria.
- Moyer, P.S., & Milewicz, E. (2002). *Learning to Question: Categories of questioning used by pre-service teachers during diagnostic General science interviews*. Journal of General science Teacher Education, 5, 293-315.
- Olson, G. (1997). *Motivation, Motivation, Motivation - Secondary School Educators*. Retrieved from [sysiwyg://934/http://7-12educators.about...12 educators/library/weekly/12educators/library/weekly/aa071897.htm](http://934/http://7-12educators.about...12 educators/library/weekly/12educators/library/weekly/aa071897.htm).
- Pate, R.T. & Bremer, N.H. (1967). *Guided Learning through Skillful Questioning*. Elementary School Journal, 67, 417-422.
- Perkins, D.N. (1992). *Smart Schools: From Training Memories to Educating Minds*. New York: Free Press, 69-90.

- Pickard, M. J. (2007). *The New Bloom's Taxonomy: an Overview for Family and Consumer Sciences*. Journal of Family and Consumer Sciences Education, 25(1), 45-55.
- Rosmarin, A. (1987). *The Art of Leading a Discussion*. In C.R. Christensen and A.J. Hansen (eds). Teaching and the Case Method. Boston: Harvard business school.
- Yang, M. (2006). *A Critical Review of Research on Questioning in Education: limitations of its positivistic basis*. Asia Pacific Education Review, 7 (2), 195-204.

## ***Appendix1 : Questionnaires for Teachers***

## Questionnaire:

Dear teachers,

This questionnaire is an important part of our research study. It focuses on enhancing students' higher order thinking skills and motivation through questioning. You are therefore kindly requested to fill in this questionnaire and give answers along with your own viewpoints and provide explanations when necessary. We ensure you that all the provided information will be used only for academic purposes. Your precious participation will be of great help. Thank you very much for your cooperation.

MEHANI NAIMA

RABHI KARIMA

### Section One: Background Information:

#### **Item 1:** How long have you been teaching English?

- ☐ Less than 3 years                      ☐ between 3 and 10 years
- ☐ More than 10 years

#### **Item 2:**In each of your classes, there are:

- ☐ Less than 30 students                      ☐ Between 30 and 40 students
- ☐ More than 40 students

### Section Two: Teachers' view towards questions:

#### **Item 3:** How often do you ask your students questions during a lecture/TD?

- ☐ Always                      ☐ Often                      ☐ Sometimes
- ☐ Rarely                      ☐ Never

#### **Item 4:** It is said that a good teacher is the one who asks effective questions.

- ☐ Strongly                      ☐ Agree                      ☐ Partially agree
- ☐ Disagree

**Item 5:** In your opinion, what are the functions of teachers' questions in the classroom?

.....  
.....  
.....  
.....  
.....  
.....

**Item 6:** Do you address questions to the whole class and encourage responses from volunteering and non-volunteering students? Why?

☐ Yes

☐ No

Why?.....  
.....  
.....  
.....

**Item 7:** Do you encourage your students to ask questions at any moment during the lecture/TD? If yes how do you do it?

☐ Yes

☐ No

.....  
.....  
.....

**Item 8:** Do you give your students time to think before answering a question?

☐ Yes

☐ No

**Section Three: Types of questions:**

**Item 9:** How often do you use this type of question "How would you define...?"

☐ Always

☐ Often

☐ Sometimes

☐ Rarely

☐ Never



**Item 10:**How often do you use this question “How would you classify...?”

☐ Always ☐ Often ☐ Sometimes  
☐ Rarely ☐ Never

**Item 11:** How often do you ask your students “how would you solve...?”

☐ Always ☐ Often ☐ Sometimes  
☐ Rarely ☐ Never

**Item 12:**How often do you employ this kind of question “how would you categorize...?”

☐ Always ☐ Often ☐ Sometimes  
☐ Rarely ☐ Never

**Item 13:**“What judgment can you make...?” Is a question that:

☐ Always ☐ Often ☐ Sometimes  
☐ Rarely ☐ Never

**Item 14:**How often do you employ this type of question “How would you improve...?”

☐ Always ☐ Often ☐ Sometimes  
☐ Rarely ☐ Never

**Item 15:**In your opinion, what are the main reasons that lie behind students’ critical thinking enhancement?

.....  
.....  
.....  
.....

THANK YOU.

## ***Appendix2: Questionnaires for Students***

## Students' Questionnaire

Dear students,

We are conducting a research concerning the extent to which teacher's questions can help you to improve your thinking skills and enhance your engagement in the learning process. We want to take your opinions into consideration about this topic. Please try to give honest answers to these questions and do not even have to write your name on it. We ensure you that all your provided information will be used for academic purposes. Thank you very much for your collaboration.

### Part one: Importance of Teachers' Questions

**Item 1: Do you think that questions play an important role in the learning process? Why?**

☐ Yes

☐ No

Please justify.....  
.....  
.....  
.....

**Item 2: During class time, how often do your teachers ask you questions?**

☐ Always

☐ Often

☐ Rarely

☐ Never

**Item 3: What can say about your teachers' questions?**

☐ Easy

☐ Difficult

☐ Boring

**Item 4: Do you teachers give enough time to think before answering the question?**

☐ Yes

☐ No

**Item 5: From these suggestions, what is the one that is mostly used by your teachers?**

☐ Have you finished reading the passage?

☐ What is the difference between.....?

☐ Do you think that .....?

**Part two: Questions and Critical Thinking**

**Item 6: Do your teachers employ questions like “what do you know about...?”**

☐ Yes

☐ No

**Item 7: Do your teachers use questions like “What can you say about...?”**

☐ Yes

☐ No

**Item 8: Do your teachers ask you to apply your previous knowledge to the other situations?**

☐ Yes

☐ No

**Item 9: How often do your teachers ask you this type of question “What is the relationship between...?”**

☐

Always

☐

Sometimes

☐

Often

☐

Rarely

☐

Never

**Item 10: During class time, do your teachers ask you questions that require combining elements and coming up with new idea?**

☐ Yes

☐ No

**Item 11: How often do your teachers ask you to justify a choice and to assess someone’s view?**

☐

Always

☐

Sometimes

☐

Often

☐

Rarely

☐

Never

**Item 12: How often do your teachers ask you to generate new information which is completely different from the previously learned one?**

☐

Always

☐

Sometimes

☐

Often

☐

Rarely

☐

Never

**Item 13: what do you expect from your teachers to do in order to help you developing your thinking skills?**

.....

.....

.....

.....

.....

.....

Thank you

## ***Appendix3: Checklist***

<b>Points to be Observed</b>	During a lesson, the teacher ask his and/or her students questions	The teacher invites his and /or her students to ask questions	The teacher uses wait time
<b>Numbers of Teachers</b> <b>Frequencies</b>			

## Lower Level Questions

Levels	knowledge	Comprehension	Application
Questions	<p>1/why they did not rely on NA?</p> <p>2/ who really conducted NA?</p> <p>3/ do you remember the context that you have studied in high school?</p> <p>4/ what is EP?</p> <p>5/ how many languages exist in the world today?</p> <p>6/ how many languages are in danger?</p> <p>7/where did the story take place?</p> <p>8/ what is happening? Where? Why?</p> <p>9/ how can we define semiotics?</p> <p>10/how can we define a sign?</p> <p>11/who are the important figures of semiotics?</p> <p>12/what is the definition of signifier and signified?</p> <p>13/do you remember what is educational psychology?</p> <p>14/what is behaviorism?</p> <p>15/do you know the meaning of quaint?</p> <p>16/do you know what is a land mark?</p> <p>17/what are the emotions used in pathos?</p> <p>18/what is a theoretical frame work?</p> <p>19/can you recall me what we have done last time?</p> <p>20/ what are the names of the theoreticians mentioned in translation?</p> <p>21/what is the role of translation in media?</p> <p>22/ do you know what is dubbing?</p> <p>23/ what is a system?</p> <p>24/ do you know what an acronym is?</p> <p>25/what is a style?</p>	<p>1/ can you explain?</p> <p>2/What is meant by this sentence?</p> <p>3/What do you mean by NA?</p> <p>4/What is the idea that comes first?</p> <p>5/what is the explanation here?</p> <p>6/have you understood?</p> <p>7/have you something to add?</p> <p>8/what did the sister say?</p> <p>9/how can you translate this sentence in French?</p> <p>10/how can we interpret a sign?</p> <p>11/do you understand the meaning of peeling paint?</p> <p>12/ what can you say about?</p> <p>13/what is denotative meaning?</p> <p>14/interpret the findings presented in the table.</p> <p>15/sacred vs. secular translation, what does it means?</p> <p>16/expand the following phrases.</p> <p>17/paraphrase the items underlined in the sentences below.</p> <p>18/explain the differences in functions between the two words?</p> <p>19/what do we mean by the rules of use?</p> <p>20/what do we mean by communication competence?</p> <p>21/what do we mean by how to use the language?</p>	<p>1/you write a small paragraph explaining this sentence.</p> <p>2/ give me an example.</p> <p>3/write a short paragraph.</p> <p>4/put the word red in two different contexts.</p> <p>5/give me an example about adaptation.</p> <p>6/ form one phrase composed of post modifiers and head word.</p> <p>7/ change the form of the phrases below.</p>



## Higher Level Questions

Levels	Analysis	Synthesis	Evaluation	Creating
Questions	<p>1/You underline all the key elements.</p> <p>2/What is the difference between ESP and EGP?</p> <p>3/ what kind of films can be this film?</p> <p>4/have you checked a subtitle?</p> <p>5/what is the key point?</p> <p>6/make a comparison between the Saussurean and Peircean definitions of sign</p> <p>7/ please, underline the key verbs</p> <p>8/what is the difference between inductive and deductive?</p> <p>9/what are the functions of reason?</p> <p>10/what is your distinction?</p> <p>11/ c'est quoi la différence entre l'approche et la théorie ?</p> <p>12/ what is the difference between signification and meaning?</p> <p>13/what is the difference between literary and scientific translation?</p>	<p>1/What do you notice in those situations of those contexts?</p> <p>2/ could you suggest an appropriate research questions to the topic?</p> <p>3/suggest a hypothesis to this research question.</p>	<p>1/what is the consequence of this awareness?</p> <p>2/do you agree with her?</p> <p>3/do you think that language and identity are equal?</p> <p>4/who think that a seminar is a waste of time?</p> <p>5/give me an argument.</p> <p>6/give me other opinions.</p> <p>7/do you think that this is the argument?</p> <p>8/what do you think about performance?</p> <p>9/do you have any comments.</p> <p>10/what is the best performance for you?</p> <p>11/what is the value of a sign?</p> <p>12/comment on Dell Hymes quotation.</p>	<p>1/ Create a short song of your own words for someone that you really admire.</p>