



**A STUDY ON TEACHER QUESTIONS:
DO THEY PROMOTE CRITICAL THINKING?**

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.....

*For the devoted teachers,
from whom we learned a lot.*

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ÖĞRETMEN SORULARI ÜZERİNE BİR ÇALIŞMA: ÖĞRETMEN SORULARI ELEŞTİREL DÜŞÜNCEYİ TEŞVİK EDİYOR MU?

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ÖZ

Bu çalışmada, Gazi Üniversitesi ve Ondokuz Mayıs Üniversitesi ELT programlarındaki konuşma derslerinde sorulan yüksek ve düşük seviyeli soruların miktarı, yüksek seviyeli sorulardan sonra verilen bekleme zamanı ve soruların her bir ders saatine dağılımı belirlenmiştir. Çalışma için, Gazi Üniversitesi ve Ondokuz Mayıs Üniversitesinden 4 öğretim elemanının dersleri araştırmacı tarafından gözlemlenmiş ve bu öğretim elemanları tarafından sorulan sorular Bloom'un taksonomisine göre sınıflandırılmıştır. Her bir öğretim elemanının sorduğu yüksek seviyeli sorulardan 10 tanesi rastgele seçilmiş ve öğrencilere bu soruları yanıtlamaları için verilen süre hesaplanmıştır. Son olarak, soruların her bir ders saatine dağılımı belirlenmiş ve bulgular yorumlanmıştır.

Toplanan veriler yorumlandığında, konuşma sınıflarında sorulan yüksek seviye düşünme ve muhakeme yeteneği gerektiren soruların oranının yüksek olmadığı bulunmuştur. Düşüncenin analiz, sentez ve değerlendirilmesini ön görmeyen düşük seviyeli soruların oranı ise yüksektir. Bunun yanı sıra, öğrencilere zor sorulardan sonra cevaplarını hazırlama ve muhakeme etmeleri için verilen bekleme zamanı verilmesi gereken ideal zamandan daha kısadır. Son olarak, soruların ders saatlerine göre dağılımları belirlenmiştir ve öğretim elemanlarının sorularının çoğunu ikinci saatte, en az sayıda soruyu ise üçüncü saatte sordukları sonucuna ulaşmıştır.

Bilim Kodu:

Anahtar Kelimeler: Eleştirel Düşünce, Yüksek Seviyeli Sorular, Bekleme Zamanı, Konuşma Sınıfları, Konuşma Derslerinde Sorular

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ABSTRACT

In this thesis, the amount of higher-order thinking and lower-order thinking questions in the speaking classes of ELT programs at Gazi University and Ondokuz Mayıs University, the approximate wait-time provided after the higher-order questions and the distribution of the questions to each class hour were determined. For this study, the speaking classes of four instructors from Gazi University and Ondokuz Mayıs University were observed by the researcher and these questions asked by these instructors were categorized according to the taxonomy of Bloom (1956). Selecting 10 higher-order questions randomly among the questions they asked for each instructor and calculating the time allowance for students to think and reply, the approximate wait-time provided by the instructors was calculated. Lastly, the distribution of the questions for each hour was determined, and the findings were interpreted.

The data gathered revealed that the amount of higher-order thinking questions asked in the speaking classes which require high-quality thinking and reasoning skills is not high. The amount of the lower-order thinking questions which do not require analysis, synthesis and evaluation of the thought is high though. Besides, the wait-time provided for the students to prepare and reason their answers after the challenging questions provoking critical thought was lower than the ideal wait-time that should be allowed. Lastly, the distribution of the questions for each class hour was determined, and it is found that the instructors asked most of their questions in the second hour of their classes, and they asked least number of the questions in the third hour.

Science Code:

Key Words: Critical Thinking, Questioning in ELT, Higher-order questions, Wait-time, Speaking Classes, Questions in Speaking Classes

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TABLE OF CONTENTS

ABSTRACT.....	vi
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xiii
LIST OF ABBREVIATIONS.....	xiv
CHAPTER ONE: INTRODUCTION.....	1
1.1 Introduction.....	1
1.2 Statement of the Problem.....	4
1.3 Significance of the Study.....	5
CHAPTER TWO: REVIEW OF LITERATURE.....	7
2.1 The History of Critical Thinking.....	7
2.2. Critical Thinking and Some Important Views on CT.....	9
2.2.1. The Delphi Report.....	12
2.2.1.1. The Cognitive Skills Dimension.....	14
2.2.1.2. The Dispositional Dimension of Critical Thinking.....	15
2.2.2. Socratic Questioning.....	16
2.3. Critical Thinking from Educational Perspective.....	22
2.4. Critical Thinking and Teacher Education.....	24
2.5. Critical Thinking and Language Education.....	26
2.5.1. CT and Basic Language Skills.....	29
2.6 Developing Speaking Skills for Student Teachers.....	36
2.6.1 SLA models and speaking skill.....	36

2.7 Questioning and Critical Thinking.....	41
2.7.1. Bloom’s Taxonomy.....	42
2.8. Conclusion	50
CHAPTER THREE: METHODOLOGY.....	51
3.1. Introduction.....	51
3.2. Context.....	51
3.3. Participants and Sampling.....	52
3.4. Research Design	54
3.5. Data Collection	55
3.6. Data Analysis.....	55
3.7. Conclusion	56
CHAPTER 4:	57
ANALYSIS AND INTERPRETATION OF THE DATA	57
4.1. Introduction.....	57
4.2. An Overall Evaluation of the Questions	57
4.2.1. Instructor A.....	59
4.2.2. Instructor B.....	61
4.2.3. Instructor C.....	63
4.2.4. Instructor D.....	65
4.3. The Distribution of the Questions According to Each Class Period.....	67
4.4. The Wait Time Provided by the Instructors after the Questions	69
4.5. Interpretation of the Data	70
4.5.1. The Amount of Higher-Order Questions Asked by the Instructors	70
4.5.2. The Amount of Lower-Order Questions Asked by the Instructors	72
4.5.3. The Distribution of the Questions According to Each Class Period?	73
4.5.4. The Amount of ‘Wait-Time’ Provided by the Instructors after the Questions	74
4.6. Conclusion	74
CHAPTER 5: CONCLUSION.....	79
5.1. Introduction.....	79
5.2. Summary of the Study.....	79
5.3. Pedagogical Implications	81
5.4. Further Research	82
REFERENCES	85

APPENDICES.....	93
Appendix 1.....	94
Appendix 2.....	96
Appendix 3.....	97

LIST OF TABLES

Table 1. The Consensus List of CT Cognitive Skills and Sub-Skills.....	16
Table 2. Affective Dispositions of Critical Thinking.....	18
Table 3. Universal Intellectual Standards: Questions that Can Be Used to Apply Them...21	
Table 4. Elements of Thought Model.....	22
Table 5. The Taxonomy of Socratic Thinking.....	23
Table 6. Structure of the Original Taxonomy.....	45
Table 7. Revised Version of Cognitive Process Dimension.....	47
Table 8. The Useful Verbs and Sample Questions for the Taxonomy.....	49
Table 9. Background Information about the Instructors.....	55
Table 10. The Demographic Features of the Students.....	55
Table 11. The Distribution of the All Questions According to the Taxonomy.....	59
Table 12. The Distribution of the Untaxonomic Questions.....	60
Table 13. The Distribution of the Questions as Percentages.....	60
Table 14. The Percentages of Higher-Order and Lower-Order Questions.....	61
Table 15. The Distribution of the Questions of Instructor A.....	62
Table 16. The Percentages of the Questions of Instructor A.....	63
Table 17. The Percentages of Higher-Order and Lower-Order Questions of Instructor A.....	63
Table 18. The Distribution of the Questions of Instructor B.....	64
Table 19. The Percentages of the Questions of Instructor B.....	65

Table 20. The Percentages of Higher-Order and Lower-Order Questions of Instructor B..	65
Table 21. The Distribution of the Questions of Instructor C.....	66
Table 22. The Percentages of the Questions of Instructor C.....	66
Table 23. The Percentages of Higher-Order and Lower-Order Questions of Instructor C..	67
Table 24. The Distribution of the Questions of Instructor D.....	68
Table 25. The Percentages of the Questions of Instructor D.....	68
Table 26. The Percentages of Higher-Order and Lower-Order Questions of Instructor D..	69
Table 27. The Distribution of the Questions for Each Class Hour.....	70
Table 28. The Wait-Time Provided After the Selected 10 Evaluation Questions.....	71
Table 29. The Categorization of Statement Questions.....	73

LIST OF FIGURES

Figure 1. The box approach to critical thinking.....	13
Figure 2. The process of learning implicit knowledge by Ellis.....	42
Figure 3. An Illustration of the Taxonomy of Cognitive Domain.....	46
Figure 4. The distribution of the questions to each class hour.....	69

LIST OF ABBREVIATIONS

CT	Critical Thinking
SIQ	Simple Interaction Questions
St-Q	Statement-Question
Rht.	Rhetoric Question
SLA	Second Language Acquisition

CHAPTER ONE: INTRODUCTION

1.1 Introduction

In the last decade, education has advanced towards a more critical view of classroom teaching and learning from traditional approaches. The great improvements in the technology have removed the borders between cultures, countries and accordingly people's thinking systems. This has exerted influences on education. Since the 1990s, the concept of critical thinking (CT) has been considered to be one of the most important goals of education all over the world. It was included among the objectives of many courses at the university level and took place in their curricula.

Discussions about CT date further back from the 1990s; it is as ancient as Socrates. Socrates initiated the idea of CT a start 2500 years ago with the Socratic Method in which he helped the learners find the truth through questioning. Paul, Elder and Bartell (1997) mention that Socrates introduced the idea of not believing in the value of ideas without questioning them in terms of clarity, logical consistency and provability. This method is known as 'Socratic Questioning' and it is the oldest critical thinking method. Socrates set the tradition and it is followed by many scholars. Plato and Aristotle from ancient times, John Dewey, Ludwig Wittgenstein and Jean Piaget from the 20th century and Richard Paul as well as Peter A. Facione from present day are among the ones who have contributed to the school of critical thinking.

Today's understanding of critical thinking has been shaped by many scholars, whether mentioned or not. For this reason, there are many definitions of CT both simple and detailed. Dewey, who is considered as the father of modern CT, defines reflective thinking which is thought as an another term for CT, as "active, persistent, and careful considerations of a belief or supposed form of knowledge in the light of the grounds which support it and the further conclusions to which it tends" (1910, p.6). Ennis defines it as

“reflective and reasonable thinking that is focused on deciding what to believe or do” (1985, p.45). Paul, a contemporary CT scholar, mentions that CT is a “disciplined, self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thought” (1992, p.9). He (Ennis) stated that the elements of CT are purposes, questions, points of view, information, inferences, concepts, implications and assumptions. He also stated some standards to be applied to these elements: clarity, accuracy, relevance, logicalness, breadth, precision, significance, completeness, fairness, and depth (2007). Facione, who gave a shot in the arm to the issue with the dispositional dimension of CT, gives the definition as “purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or conceptual considerations upon which that judgment is based” (1990, p.3). He also defines it shortly as such: “judging in a reflective way what to do or what to believe” (2000, p.61). All these definitions show that critical thinking is an educated, rational and self-directed way of thinking.

The discussions about critical thinking have spread all over the world, to the educational fields as well. Many scholars came up with the idea of inserting CT into educational objectives of some courses. In the 1900s, Dewey’s criticisms against the traditional education system can be accepted as the beginning of CT in education. Later, in the 1950s, Bloom offered his taxonomy of thinking skills involving the knowledge, comprehension, application, analysis, synthesis and evaluation stages (1956). The last three stages of the taxonomy, which are analysis, synthesis and evaluation, are considered to be critical thinking skills under the name of higher-order thinking skills. Each stage has its own behavioral description which helps observe and measure the critical thinking skills clearly. A contemporary version of the taxonomy was provided by Krathwohl later.

Since it has been discussed for a long time, some methods have been offered to replace the traditional approaches with more critical ones. Among these are reflective learning, collaborative learning and cooperative learning; all of which are student-centered approaches rather than teacher-centered ones. These approaches are not directly related to CT, however, they give place to it in their procedures and classroom applications. For instance, Reflective thinking can be defines as:

“...deliberate process during which the candidate takes time, within the course of their work, to focus on their performance and think carefully about the thinking that led to particular actions, what happened and what they are learning from the experience, in order to inform what they might do in the future” (King, 2002).

It can be stated by this definition that reflective thinking has some common cores with critical thinking. It is also known that it is used as another term describing CT in some sources. It is clear that both reflective thinking and critical thinking is a deliberate attempt to improve learners' thinking systems by reflecting on what they learned, what they are learning, what they will learn in the future and how they feel about it.

Collaborative learning is also a technique by which students are expected to reveal their critical thinking abilities by collaborating and interacting with each other to achieve a common goal. Through discussions, exchange of ideas, and evaluation of others' ideas, it contributes critical thinking in the classroom, as can be understood from the following definition of it:

“Collaborative learning is learning that occurs as a result of interaction between peers engaged in the completion of a common task. Students are not only ‘in’ groups, they ‘work’ together in groups, playing a significant role in each other's learning. The collaborative learning process creates an understanding of a topic and/or process within a group which members of the group could not achieve alone. Students may work face to face and in or out of the classroom, or they may use information technology to enable group discussion, or to complete collaborative writing tasks” (“Collaborative Learning”, n.d., p.3).

For the reason that both of their bases are constructivism, collaborative learning and cooperative learning may seem to overlap. Cooperative learning can be defined as: “a process meant to facilitate the accomplishment of a specific end product or goal through people working together in groups” (Dooly, 2008, p.21). In cooperative learning, the teacher still controls what is going on the classroom, however, more student interaction is observed in collaborative learning because students have full responsibility of working together, building knowledge together and improve together (Dooly, 2008).

The relation of CT with language skills have been studied widely since it has gained importance in education. Especially the importance of critical reading and critical writing are studied much by the researchers, however, the speaking and listening skills have taken a backseat. The scholars who studied CT and skills preferred considering the speaking skill with one of the other skills. “The scholars who write about spoken CT mostly refer to it as *language*, which means they consider all the productive skills together, i.e., speaking and writing” (Tarakçioğlu, 2008, p.27). Actually, speaking is the most important skill to promote critical thinking in the daily life and for natural flow of thinking because “speaking is a core skill for both effective communication and critical thinking, because expression is part of the thinking” (Fisher and Scriven, 1997, p.102). For this reason, what

we express in daily life should be filtered by critical thinking to promote a better thinking and reasoning system.

Every people in the society do not necessarily write or read, however, all people speak and think continuously as a part of the daily life and what they think reflect on their words. This is the reason speaking skills should be improved by being educated in the frames of critical thinking.

Critical thinking started to be handled by educational authorities since it was found out that it plays an important role on improvement of the society through the people's minds. Educational experts agree that it should be considered as one of the educational objectives because good thinking is a fundamental need in the age of technology and infollution. The new era requires people to have open minds to all kinds of information as well as having a critical eye through them, and as Paul says "an open society requires open minds" (1993, p. 201).

1.2 Statement of the Problem

Critical thinking and its relation with education has been studied widely, especially in the last decade, however among numerous studies on CT (J. Dewey, 1910; Paul, 1990; Facione, 1990), only a few put a serious emphasis on the relation of speaking skill with critical thinking skills and how to reflect critical thinking on speaking skill.

In Turkey, the education system is based mostly on formal education, and critical thinking has taken its part in curricula long time ago as a result of technologic improvements, easy information access and the need for higher-quality thinking skills in the new era. For this reason, teaching critical thinking should be an objective in every field of education including ELT departments. ELT departments do not only teach language, they teach the culture of the target language, how to build communication between cultures, how to remove borders between societies and how to be unprejudiced towards new thoughts and perspectives. For this reason, ELT departments require analyzing, synthesizing and evaluating skills which are also higher-order skills for critical thought. It can be said that language, language teaching and critical thinking are interrelated. Language means articulating the sounds, turning them into sentences and using these sentences in contexts to able to build communication. Language is communication itself, and speaking skill is the inseparable part of a language. Therefore, critical thinking should be an important part of speaking classes in the ELT departments.

In this study, considering the need for CT in language classes and the teacher's role in the classroom, the following questions are aimed to address:

1. What is the amount of higher-order questions asked by the instructors in the speaking classes to improve critical thinking skills?
2. What is the amount of lower-order questions asked by the instructors in the speaking classes?
3. How is the distribution of the questions according to each class period?
4. How much 'wait-time' is provided by the instructors after the questions?

1.3 Significance of the Study

This study will contribute to the literature on critical thinking in ELT programs about which there are limited number of studies and researches conducted and it will also contribute to the understanding of the atmospheres in speaking classes. In the context of this study, the nature of questioning in language classrooms will be examined. The conclusions to be reached from this study might contribute to the understanding of the importance of teachers' questions in speaking classes in ELT programs as well as shedding light on teachers' behaviors on questioning in the classroom. This study draws attention to the quality of the questions asked by the instructors in speaking classes, the distribution of the questions to each class hour and the wait-time provided to the students to reason their answers.

The results of this study will provide educators a new perspective on the nature of speaking classes in ELT programs in Turkey. It will also shed light on the discussions whether the instructors promote critical thinking skills by asking higher-order questions in their classes or not. Therefore, this study is helpful to understand the significance of increasing the quality of teachers' questions to promote students' critical thinking skills.

CHAPTER TWO: REVIEW OF LITERATURE

2.1 The History of Critical Thinking

The intellectual roots of critical thinking are as ancient as the teachings and vision of Socrates who lived 2.500 years ago. He used a method including questions which require rational responses. He demonstrated that people may have power and high statues, however they may still be confused and irrational in deep inside. “He established the importance of asking deep questions that probe profoundly into thinking before we accept ideas as worthy of belief” (Paul et al., 1997). His method of questioning is “Socratic Questioning” and it is the best-known critical thinking strategy. In his questioning, he gave importance to the clarity and the logical consistency in the thinking process. Paul et al. mentions that:

Socrates set the agenda for the tradition of critical thinking, namely, to reflectively question common beliefs and explanations, carefully distinguishing those beliefs that are reasonable and logical from those which, however appealing they may be to our native egocentrism, however much they serve our vested interests, however comfortable or comforting they may be-lack adequate evidence or rational foundation to warrant our belief. He established the importance of seeking evidence, closely examining reasoning and assumptions, analyzing basic concepts, and tracing out implications not only of what is said but of what is done as well. (Paul, Elder&Bertell, 1997, para.3)

Plato, Aristotle and the, Greek sceptics followed the Socrates’ practice of critical thinking. They emphasized that the things are often different from how they appear to be, and only trained minds can see the deep rather than the surface. Therefore, the need to think systematically, to trace the implications deeply and broadly emerged. The thought that only thinking which is comprehensive, well-reasoned, and responsive to objections can take the people beyond the surface was propounded.

During the Middle Ages, the tradition of critical thinking was followed in the works of some thinkers like Thomas Aquinas. He gave place to his theory on thinking in his book “Summa Theologica” (1265-1274). He mentioned that the reasoning should be

systematically cultivated and “cross-examined.” He remembered to emphasize the potential power of reasoning as well.

Later in the 15th and 16th centuries, Thomas Moore and Francis Bacon from England, and René Descartes of France played important roles as the followers of critical thinking. In his book “The Advancement of Learning”, Bacon set up the foundation for modern science on empirical approach, rather than observations (1605). Bacon criticized English politics in his manuscript named “Utopia” (1627). After fifty years of time, Descartes wrote “Rules for the Direction of Mind” (1628) which can be called the second writing on critical thinking. In the Renaissance period, Machiavelli criticized the politics of the day critically in his book “The Prince”(1515). It was a milestone for modern critical political thought. Besides, Hobbes and Locke had the courage to question the traditional and dominant things in the thinking of their day.

In 17th and 18th century, Robert Boyle and Sir Isaac Newton contributed to critical thought. Boyle produced a work named “Sceptical Chymist”(1661), and, just after, Newton developed a framework of thought in which he criticizes the traditionally accepted world view.

18th century is an important century in which critical thinking was applied to many fields. Applied to economics, Adam Smith’s work “Wealth of Nations” (1776) should be mentioned. In the same year, it was applied to the traditional concept of loyalty to the king, and “Declaration of Independence” was produced. Applied to reason itself, “Critique of Pure Reason” was produced by Kant in 1781. It can be said that in this century, critical thinking and its tools were applied to many fields of science and philosophy.

When it comes to 19th century, it is the century in which critical thought was extended to human social life by Comte and Spencer. In this century, tools of critical thinking was applied to the problems of capitalism, and, as a result, Karl Marx criticized the economics and social life. It was applied to human culture and biology, it led to “Descent of Man” by Darwin (1871). Again, in this time, Sigmund Freud reflected critical thought to his works and John Dewey wrote “How we Think” (1910) and “Quest for Certainty”(1933).

As a summary, the tools and applications of critical thought have been increased throughout the history. Hundreds of philosophers, educators and scientists and various disciplines have contributed and handled it from different point of views. The next part will give information about these views.

2.2. Critical Thinking and Some Important Views on CT

It is mentioned in the previous part that many philosophers, educators and scientist from different disciplines have contributed to critical thinking since the first time it was suggested until today. The reason it was examined is that it is essential for humans to think, question, analyze and evaluation, even in their daily lives. According to Paul (1993) critical thinking is what every person needs to survive in a changing world. Lai mentions that the Partnership for 21st Century Skills has defined critical thinking as one of several learning and innovation skills necessary to prepare students for post-secondary education and the workforce, and Common Core State Standards reflect it as a cross-disciplinary skill vital for college and employment (2011). However, many significant studies indicate that higher education, in both abroad and our country, does not promote critical thinking effectively (İşpiroğlu, 1996; Paul et al., 1997).

The literature on critical thinking is extensive, however, it has roots in two primary academic disciplines: philosophy and psychology (Lewis & Smith, 1993). Sternberg (1986) has added a third strand in the field of education. All these disciplines have developed their own approaches and definitions of critical thinking that reflect their understanding of critical thinking. Some differences between these definitions and approaches can be noted, however, there are some exact similarities for certain. One common point shared by different scholars from different disciplines is this: It is not a natural born ability, it can be improved. Another point is noteworthy here: It is assumed that the quality of how we think affects the quality of our lives inevitably, and everyone can learn how to improve the quality of his or her thinking continuously (Paul, 1993).

There are huge amount of definitions of critical thinking in the literature. According to Ennis (1985, p.45), critical thinking is “reflective and reasonable thinking that is focused on deciding what to believe or do”. Facione (2000, p.61) defined it as “judging in a reflective way what to do or what to believe”. And for Norris, it is defined as “deciding rationally what to do or what to believe (1985).” Moreover, it is also defined as “the propensity and skill to engage in an activity with reflective skepticism” by Mcpeck in his work in 1981. When these definitions are concerned, it can be understood that critical thinking cannot occur without reflecting it on the actions done, the information produced or the decisions made.

For Paul and Elder critical thinking is: “that mode of thinking about any subject, content, or problem in which the thinker...takes charge of the structures inherent in thinking, and imposes intellectual standards upon them” (2001, p.1).

Some scholars remark the importance of “self” in their definitions. Lipman (1988, p.39) defines critical thinking as “skillful, responsible thinking that facilitates good judgment because it 1) relies upon criteria, 2) self- correcting, and 3) is sensitive to context”. For Paul (1992, p. 9), critical thinking is “disciplined, self-directed thinking that exemplifies the perfection of thinking appropriate to a particular mode or domain of thought”. Critical thinking is a concept related to each person’s own way of thinking. It supports that people should question the exterior thoughts or ideas, analyze, synthesize, evaluate and then make reasonable decisions in their own thinking systems. Bassham mentions these points in her definition of critical thinking:

Critical thinking is the general term given to a wide range of cognitive skills and intellectual dispositions needed to effectively identify, analyze, and evaluate arguments and claims, to discover and overcome personal prejudices and biases, to formulate and present convincing reasons in support of conclusions, and to make reasonable, intelligent decisions about what to believe and what to do. (2002, p.1)

As can be understood from the definition of Bassham, critical thinking is not only related to the process but also product as mentioned in previous paragraphs. It means that people are expected to make good judgments at the end of this purposeful, disciplined and self-directed thinking process. Bailin also mentions in his definition that critical thinking is “thinking aimed at forming a judgment” (Bailin, Case, Coombs & Daniels, 1999, p.287). According to Dewey (1933a), “the essential elements of critical thinking are maintaining a state of suspended judgment and conducting a systematic inquiry”. Besides, Facione (1999) mentions in another definition that critical thinking is:

“purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or conceptual considerations upon which that judgment is based” (p.26).

Among all these complex definitions, Harvey Siegel’s description of critical thinking stands out. According to Siegel, critical thinking is “appropriately moved by reasons.”

Lipman reflects on this definition as follows:

- a. By insisting that critical thinking be appropriate, Siegel makes sure that what one thinks is right when contextual considerations are taken into account.
- b. By appealing to the motivating force of reasons, Siegel guarantees that critical thinking is rational.

c. And by affirming that such thinking is the result of being moved by reasons, Siegel boldly acknowledges the crucial role of emotions: Critical thinking, for him, involves the passionate pursuit of rationality. (2003, p.61)

Lipman (2003) mentions that critical thinking is regarded as a simple deciding process by many of the experts on the issue and that for a simple thinking to be a critical one “We must broaden the outcomes, identify the defining characteristics, and show the connection between them.”

Gina Vallis describes critical thinking as “thinking out of the box”. Here, in this illustration, the box represents the thoughts and obstacles for a free-think. ‘Thinking out of the box’ means thinking independently; without taking the thoughts, obstacles, the society, the traditions into account. Additionally, it requires thinking about the box itself, in other words, people should question these thoughts, obstacles, the traditions that prevents them from thinking freely and critically. The illustration is given below:

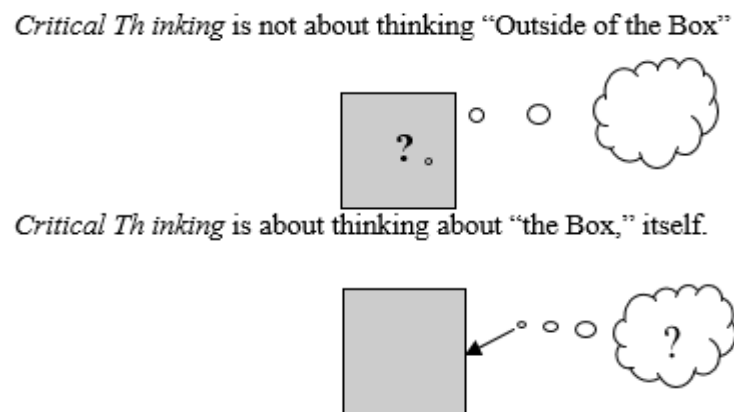


Figure 1: The box approach to critical thinking (Retrieved from the book *Reason to Write* by Gina Vallis.)

Some scholars, especially cognitive psychologists, in the following of behaviorist tradition and experimental research paradigm, focus on how people actually think rather than how they should think under ideal conditions (Sternberg, 1986). As a cognitive psychologist, Willingham defines critical thinking as “seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems, and so forth” (2007, p.8). He gives a list of the actions done by critical thinkers

in the process of critical thinking. Cognitive psychologists have strong tendency to define critical thinking by the types of actions or behaviors performed by the critical thinkers. According to these psychologists, critical thinking “is the use of those cognitive skills or strategies that increase the probability of a desirable outcome” (Halpern, 1998, p.450).

Lastly, the field of education participated in the discussions on critical thinking. The most important contribution to educational side of critical thinking is provided by Benjamin Bloom and his associates in 1956. He published his work “The Taxonomy of Educational Objectives” in 1956 and classified the levels of intellectual behavior in learning. It was used widely by the educators. Bloom’s taxonomy is a hierarchy which goes from a simple level which is *comprehension* to a more complex one; *evaluation*. The three highest levels -*analysis, synthesis, and evaluation*- are thought to represent critical thinking which assess higher order thinking skills. Detailed information will be given in the following sections.

2.2.1. The Delphi Report

After discussing some important definitions and views on CT above, a very important study realized by forty six scholars, experts and theoreticians on the conceptualization of critical thinking through a study method called “Delphi Method” should be given place. It is mentioned in the report that “The Delphi Method requires the formation of an interactive panel of experts. These people must be willing to share their expertise and work toward a consensus resolution of matters of opinion. In all forty- six people, widely recognized by their professional colleagues to have special experience and expertise in CT instruction, assessment or theory, made the commitment to participate in this Delphi project” (Facione, 1990, p.2).

The Delphi report includes some dimensions of CT covering the definitions, the sub-skills, the important points for teaching and the assessment of it. The definitions and the description of ideal critical thinker are provided as the following:

We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. CT is essential as a tool of inquiry. As such, CT is a liberating force in education and a powerful resource in one’s personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon. The ideal critical thinker is habitually inquisitive, well- informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking

results which are as precise as the subject and the circumstances of inquiry permit. ... developing CT skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society. (Facione, 1990, p.2)

The experts who participated in the rounds of the Delphi project were from different fields. Roughly half of the panelists were related to Philosophy (52%), the others were related to Education (22%), and the Physical Sciences (6%). However, it should be mentioned that, participation in the project does not mean agreeing all the findings. Likewise, a person is not required to have all the skills and sub-skills referred by the experts, or does not have to cultivate all the affective dispositions which characterize the 'good critical thinker'. What is articulated by the experts is the ideal.

Some cognitive skills are characterized as central or core CT skills by the experts. However, as mentioned in the previous paragraph, a person does not need to be proficient at every skill to be perceived as having CT ability. It is emphasized by Facione that "the experts to be virtually unanimous (N>95%) on including analysis, evaluation, and inference as central to CT. Strong consensus (N>87%) exists that interpretation, explanation and self-regulation are also central to CT" (1990, p.4). It is stated in the report that:

There is consensus that one might improve one's own CT in several ways. The experts agree that one could critically examine and evaluate one's own reasoning processes. One could learn how to think more objectively and logically. One could expand one's repertoire of those more specialized procedures and criteria used in different areas of human thought and inquiry. One could increase one's base of information and life experience. (p. 4)

As can be understood from the statement, Critical thinking is not regarded as a 'body of knowledge' to be delivered to the students like a school subject or like. It is a very basic concept which has applications in all areas of life and learning. It can occur in programs having much discipline-specific content or in contents rely on everyday events, both is a basis for developing CT skills. The Delphi Report mentions:

One implication the experts draw from their analysis of CT skills is this: while CT skills themselves transcend specific subjects or disciplines, exercising them successfully in certain contexts demands domain-specific knowledge, some of which may concern specific methods and techniques used to make reasonable judgments in those specific contexts. (p.5)

Although it is mentioned that CT can be applied in all areas of life, it requires some domain-specific knowledge to learn and apply these skills in many contexts. This domain-specific knowledge covers understanding the methodological principles and competence to engage them in practices, these are vital in these specific contexts. Facione (1989) says that

“The explicit mention of "evidential, conceptual, methodological, criteriological, or contextual" considerations in connection with explanation reinforces this point” (p.5).

2.2.1.1. The Cognitive Skills Dimension

An effective critical thinking process includes both cognitive skills dimension and dispositional dimension. It would be beneficial to put emphasis on them one by one. The consensus of cognitive skills and the sub-skills are introduced as follows:

Table 1: The Consensus List of CT Cognitive Skills and Sub-Skills (Facione, 1990)

Skill		Sub-Skills
1.	Interpretation	Categorization Decoding Significance Clarifying Meaning
2.	Analysis	Examining Ideas Identifying Arguments Analyzing Arguments
3.	Evaluation	Assessing Claims Assessing Arguments
4.	Inference	Querying Evidence Conjecturing Alternatives Drawing Conclusions
5.	Explanation	Stating Results Justifying Procedures Presenting Arguments
6.	Self-Regulation	Self-examination Self-correction

Critical thinking skills can be grouped and sub-classified in a number of ways, in other words, the classification which resulted from the Delphi Project is not the only way of grouping and sub- classifying of cognitive skills. As a matter of fact, the experts participated in the Delphi project and seemed to be in agreement with the sub-classification declared, published their own sub-classifications later.

Many of the CT skills and sub-skills identified are valuable, if not vital, for other important activities, such as communicating effectively. Also CT skills can be applied in concert with other technical or interpersonal skills to any number of specific concerns such as programming computers, defending clients, developing a winning sales strategy, managing an office, or helping a friend figure out what might be wrong with his car. In part this is what the experts mean by characterizing these CT skills as pervasive and purposeful. (Facione, 1990, p.5)

2.2.1.2. The Dispositional Dimension of Critical Thinking

Cognitive skills dimension is an important dimension of critical thinking, however, they are not enough to show one has critical thinking skills. It is required, for a so-called critical thinker, to be able to display critical thinking skills, which is called the dispositional dimension of critical thinking. For that, some certain behaviors can be called as critical thinking dispositions. It is evident that the two sub-skills *self-examination* and *self-correction*, which is under the skill *self-regulation*, are the examples of dispositional components of critical thinking. Facione claims:

Indeed each cognitive skill, if it is to be exercised appropriately, can be correlated with the cognitive disposition to do so. In each case a person who is proficient in a given skill can be said to have the aptitude to execute that skill, even if at a given moment the person is not using the skill. (1990, p.11)

There is a great need for many more experts to put the emphasis on personal traits, habits of mind, attitudes or affective dispositions which are obvious to characterize good critical thinkers, however, the experts in Delphi Project are in consensus regarding the definition of a good critical thinker:

To the experts, a good critical thinker, the paradigm case, is habitually disposed to engage in, and to encourage others to engage in, critical judgment. She is able to make such judgments in a wide range of contexts and for a wide variety of purposes. Although perhaps not always uppermost in mind, the rational justification for cultivating those affective dispositions which characterize the paradigm critical thinker are soundly grounded in CT's personal and civic value. CT is known to contribute to the fair-minded analysis and resolution of questions. CT is a powerful tool in the search for knowledge. CT can help people overcome the blind, sophistic, or irrational defense of intellectually defective or biased opinions. CT promotes rational autonomy, intellectual freedom and the objective, reasoned and evidence based investigation of a very wide range of personal and social issues and concerns. (Facione, 1990, p.12-13)

The dispositions listed in the Table below are regarded as a part of the conceptualization of CT by the majority (61%). The experts are in consensus that good critical thinkers exhibit these dispositions:

Table 2: Affective Dispositions of Critical Thinking (Facione, 1990)

Approaches to Life and Living in General	Approaches to Specific Issues, Questions and Problems
<ul style="list-style-type: none"> • inquisitiveness with regard to a wide range of issues, • concern to become and remain generally well-informed, • alertness to opportunities to use CT, • trust in the processes of reasoned inquiry, • self-confidence in one's own ability to reason, • open-mindedness regarding divergent world views, • flexibility in considering alternatives and opinions, • understanding of the opinions of other people, • fair-mindedness in appraising reasoning, • honesty in facing one's own biases, prejudices, stereotypes, egocentric or sociocentric tendencies, • prudence in suspending, making or altering judgments, • willingness to reconsider and revise views where honest reflection suggests that change is warranted. 	<ul style="list-style-type: none"> • clarity in stating the question or concern, • orderliness in working with complexity, • diligence in seeking relevant information, • reasonableness in selecting and applying criteria, • care in focusing attention on the concern at hand, • persistence though difficulties are encountered, • precision to the degree permitted by the subject and the circumstance.

2.2.2. Socratic Questioning

Socratic Questioning, or Socratic Inquiry, is a technique of questioning created by Socrates who is a Greek philosopher and teacher. This questioning model of Socrates was widely used in law, education and many other disciplines, and many academic studies were conducted based on Socratic Inquiry. Some of these studies are as follows: Paul's (1990) Socratic Questioning model, Adler's (1984) Paedeia Socratic Seminar programme, Van Tassel-Baska's (1986) Epistemological Concept Model and Lipman's (1980) model of Philosophy for Children.

Socratic Questioning aims fostering critical thinking through asking questions. It involves open-ended, higher level questions with more than one “right” answer designed to elicit discussion, debate and analysis in the learning environment. It requires students to do more than memorization. It is also designed to get the students to think and apply book learning in real life. Paul, Binker and Martin explain Socratic questioning as follows:

Socratic questioning is based on the idea that all thinking has a logic or structure, that any one statement only partially reveals the thinking underlying it, expressing no more than a tiny piece of the system of interconnected beliefs of which it is a part. Its purpose is to expose the logic of someone’s thought. Use of Socratic questioning presupposes the following points: makes claims or creates meaning; has implications and consequences; focuses on some things and throws others into the background; uses some concepts or ideas and not others; is defined by purposes, issues or problems; uses or explains some facts and not others; is relatively clear or unclear; is relatively deep or superficial; is relatively critical or uncritical; is relatively elaborated or undeveloped; is relatively monological or multi-logical. Critical thinking is thinking done with an effective, self-monitoring awareness of these points. (1989, p.32)

Socratic questioning works well with large groups and small groups, or even in one-by-one dialogues with the students. It draws students’ attention to what they think, believe or know. In Socratic questioning, students are independent learners who play active roles in learning process in contrast with most educational activities in which students are passive learners. Jackson defines it as such: “the heart of the Socratic method lies in professor-student interaction. In the most traditional sense, the professor calls upon a student and engages that student in a colloquy, either about a case or about some other problem. As the student answers, the professor poses other questions in an attempt to get the student to delve into the problem in more detail” (2007, p. 6-7)”.

The Socratic approach is used to get one to re-examine what they believe; it is not an approach used to present absolute information (Magee, 2001). Many times, the answer to the question of the student is known by the teacher or the owner of the question, however, it is expected from the learner to find the answer by following the right path. The questions asked to the learner may cause anger or annoyance, though the important point is that they are thought-provoking.

According to Paul, Socratic Questioning:

- raises basic issues
- probes beneath the surface of things
- pursues problematic areas of thought
- helps students to discover the structure of their own thought
- helps students develop sensitivity to clarity, accuracy and relevance
- helps students arrive at judgment through their own reasoning
- helps students note claims, evidence, conclusions, questions-at-issue, assumptions, implications, consequences, concepts, interpretations, points of view – the elements of thought. (1990, p. 270)

Paul and Elder (2007) emphasize that success in thinking does not occur unless good and well-designed questions are asked in the classroom to identify the components of thinking. For this, they suggest two significant Socratic Questioning models: Universal Intellectual Standards and Elements of Thought. Universal Intellectual Standards are the standards that must be applied to thinking whenever it is needed to check the quality of reasoning about a problem, issue, or situation. To think critically, these standards should be followed by the teachers while asking questions and students should internalize them. These standards are as such: clarity, accuracy, precision, relevance, depth, breadth, logic, significance and fairness. The following is the table of a list of eight key standards:

Table 3: Universal Intellectual Standards: And Questions That Can Be Used To Apply Them (Paul and Elder, 2001)

Standards	Questions
Clarity	<p>Could you elaborate further?</p> <p>Could you give me an example?</p> <p>Could you illustrate what you mean?</p>
Accuracy	<p>How could we check on that?</p> <p>How could we find out if that is true?</p> <p>How could we verify or test that?</p>
Precision	<p>Could you be more specific?</p> <p>Could you give more details?</p> <p>Could you be more exact?</p>
Relevance	<p>How does that relate to the problem?</p> <p>How does that bear on the question?</p> <p>How does that help us with the issue?</p>
Depth	<p>What factors make this a difficult problem?</p> <p>What are some of the complexities of this question?</p> <p>What are some of the difficulties we need to deal with?</p>
Breadth	<p>Do we need to look at this from another perspective?</p> <p>Do we need to consider another point of view?</p> <p>Do we need to look at this in other ways?</p>
Logic	<p>Does all this make sense together?</p> <p>Does your first paragraph fit in with your last?</p> <p>Does what you say follow from the evidence?</p>
Significance	<p>Is this the most important problem to consider?</p> <p>Is this the central idea to focus on?</p> <p>Which of these facts are most important?</p>
Fairness	<p>Do I have any vested interest in this issue?</p> <p>Am I sympathetically representing the viewpoints of others?</p>

Table 4: Elements of Thought Model (Paul & Elder, 2007)

Elements of Thought
<ul style="list-style-type: none">• Questioning goals and purposes• Questioning questions• Questioning information, data, and experience• Questioning inferences and conclusions• Questioning concepts and ideas• Questioning assumption• Questioning implications and consequences• Questioning viewpoints and perspectives

Questions of each category specifically focus on the purpose, questions, information, inferences and conclusions, concepts, assumptions, implications and consequences, and point of view in thinking respectively as can be seen in the table.

The taxonomy of Socratic questions, created by Richard Paul, is not a hierarchy in the traditional sense. The categories build upon each other, but they do not necessarily follow a pattern or design. One question's response will lead into another category of questioning not predetermined by the teacher/facilitator (Özmen, 2006). The table below shows the taxonomy of Socratic Thinking designed by Paul (1993):

Table 5: The Taxonomy of Socratic Thinking

1. Questions of Clarification

- What do you mean by?
- What is your main point ?
- How doesrelate to?
- Could you put that another way?
- What do you think is the main issue here?
- Let me see if I understand you; do you mean or?
- How does this relate to our discussion/problem/issue?
- What do you think Faizal meant by his remark?
- Mei Ling, would you summarize in your own words what Praveen has said?
..... Praveen, is that what you meant?
- Could you give me an example?
- Would this be an example:?
- Could you explain that further?
- Would you say more about that?
- Why do you say that?

2. Questions that Probe Assumptions

- Why do you think that is true?
- Do you have any evidence for that?
- What difference does that make?
- What are your reasons for saying that?
- What other information do you need?
- Could you explain your reasons to us?
- But is that good evidence to believe that?
- Is there reason to doubt that evidence?
- Who is in a position to know if that is so?
- What would you say to someone who said?
- Can someone else give evidence to support that response?
- By what reasoning did you come to that conclusion?
- How could we find out whether that is true?

3. Questions about Viewpoints or Perspectives

- You seem to be approaching this issue from perspective. Why have you chosen this rather than that perspective?
 - How would other groups/types of people respond? Why?What would influence them?
 - How could you answer the objection that would make?
 - What might someone who believed think?
 - Can/did anyone see this another way?
 - What would someone who disagrees say?
 - What is an alternative?
 - How are Kong Beng and Rosli's idea alike? Different?
-

4. Questions that Probe Implications and Consequences

- What are you implying by that?
- When you say are you implying?
- But if that happened, what else would happen as a result? Why?
- What effect would that have?
- Would that necessarily happen or only probably happen?
- If this and this are the case, then what else must be true?
- If we say that this is unethical, how about that?

5. Questions about the Question

- How can we find out?
 - What does this assume?
 - Would put the question differently?
 - Why is this question important?
 - How could someone settle this question?
 - Can we break this question down at all?
 - Is the question clear? Do we understand it?
 - Is this question easy or hard to answer? Why?
 - Does this question ask us to evaluate something?
 - Do we all agree that this is the question?
 - To answer this question, what questions would we have to answer first?
 - I'm not sure I understand how you are interpreting the main question at issue.
 - Is this the same issue as?
 - How would put the issue?
-

Adapted from the book : Paul, R. How to Prepare Students for a Rapidly Changing World,1993

2.3. Critical Thinking from Educational Perspective

There has always been a strand of educational thought of improving child's thinking should be the main business of the schools, not just an incidental outcome. Some educationalists and experts have argued that fostering child's reasoning and judgment skills is a necessity of democracy as a future citizen, and some have argued that the schools should prepare children to the world they will face when they grow up, and it was by fostering children's rationality.

In any way, many educationalists are in consensus that critical thinking is a necessity of school teaching. Sumner (1959, p.633) saw the essential link between education and critical thinking as below:

Criticism is the examination and test of propositions of any kind which are offered for acceptance, in order to find out whether they correspond to reality or not. The critical faculty is a product of education and training. It is a mental habit and power. It is a prime condition

of human welfare that men and women should be trained in it. It is our only guarantee against delusion, deception, superstition, and misapprehension of ourselves and our earthly circumstances. It is a faculty which will protect us against all harmful suggestion..... Our education is good just so far as it produces a well-developed critical faculty....

It can be understood from Sumner's point that the critical thought can be an outcome and aim of school education. It should train people to think better against persuasion, misconception and superstitions. Sumner also puts forward a conception of what a society would be like were critical thinking a fundamental social value:

The critical habit of thought, if usual in a society, will pervade all its mores, because it is a way of taking up the problems of life. Men educated in it cannot be stampeded by stump orators and are never deceived by dithyrambic oratory. They are slow to believe. They can hold things as possible or probable in all degrees, without certainty and without pain. They can wait for evidence and weigh evidence, uninfluenced by the emphasis and confidence with which assertions are made on one side or the other. They can resist appeals to their dearest prejudices and all kinds of cajolery. Education in the critical faculty is the only education of which it can be truly said that it makes good citizens. (1959, p.633)

Sumner saw the way to grow up good citizens who can develop critical thought through the critical education in schools. Paul (1993) says that "His concept of 'developed critical faculty' clearly goes much beyond that envisioned by those who link it to a shopping list of atomic skills. He understands it as a pervasive organizing core of mental habits, and a shaping force in the character of a person" (p.188).

The ATE (Association of Teacher Educators) Affective Education Commission defined affective education as follows below:

Affective education draws upon knowledge bases that include moral education, character education, conflict resolution, social skills development, self-awareness, and other related areas. Within these knowledge bases there are skills and dispositions that pre-service and in-service teachers must master, as mandated by state and national standards. Development of these skills and dispositions is a process that requires support within the cultural milieu. Assessment of the knowledge, skills, and dispositions occurs quantitatively and qualitatively, yet must be actualized in real world settings. (LeBlanc & Sherblom, 2004, p. 1, cited in LeBlanc & Gallavan, 2004, p. 13)

Much school learning relies on simple memorization, rather than logic and inquiry. Students are not to ask draw their own conclusions, they are given conclusions and constructions that someone else developed. They rarely use their logical power to question, analyze and reflect on. They rarely form standards of judgments, and rarely have the opportunity to decide what to learn, or which way to follow while thinking. In summary,

“students do not learn to think in critically reflective and fair-minded ways precisely because it is not taught, encouraged, or modeled in their instruction” (Paul, 1993, p.201). However, “Educational institutions should not primarily provide students with facts and specific systems of knowing or meanings. Students should be equipped with skills and knowledge, so they can become critical language learners who are cooperative, open-minded, reflective, and autonomous. Most educationists seem to agree that there is more than one system of meaning, and many ways to teach learners to think and reason well” (Thadphoothon, 2005, p. 3).

Richard Paul is also one of the believers of the thought that critical education is a social need and he asks this critical question: “If the schools do not rise to meet this social need, what social institution will? If this is not the fundamental task and ultimate justification for public education, what is?” (1993, p.201).

2.4. Critical Thinking and Teacher Education

“A good teacher makes you think...even when you don’t want to.”

Robert Fisher, 1998

“If we want critical societies, we should create them.” says Richard Paul in his work in 1993. In other words, if it is desired to grow future generations, the teachers should be trained first as critical thinkers. In most of the education systems, teachers are the cornerstone of the education and it is believed that the children learn most of what they know in the classroom. For this reason, what teachers bring to the classroom or how they raise the children mentally has indispensable outcomes on the future societies.

Popkewitz also puts the responsibility to teachers’ shoulder by saying “The professional teacher participates with the community and the child in order to reconstruct society” (2000, p.12). A recent trend in teacher development is based on the view which regards teachers as reflective practitioners, and they are expected to provide a continuous growth in the field they study.

Critical education brings critical societies, and critical education is provided by a critical teacher. However, to be honest, teachers and school administrators do not seem to have the higher order thinking skills to be able to present them to the students. Their own education severely lacked of intellectual abilities, intellectual traits, and intellectual standards. They

had no chance to learn reasoning. They are, very often, poor problem solvers, and generally cannot improve the point of views they stick to. Classroom instruction all around the world, at all levels, is still didactic, one-dimensional, indifferent and lack of inquiry. The worst thing is, if truth be told, teachers are not disturbed by these facts.

“Affective teacher education mindfully intertwines knowledge, skills, and dispositions or what teachers should know, do, and believe about teaching and learning while becoming a teacher” claims Gallavan and LeBlanc, and they continue: “A teacher’s understanding of affect and affective education is visible throughout the teacher’s development of the curriculum, the design of the instruction, the alignment of the assessments, and construction of the learning community” (2004, p.27).

The dispositions and the knowledge of the teacher or teacher candidate are somewhat unconcerned with the aim of this paper, however, when the skills dimension is taken into consideration, it should be made room for critical thinking skills. Many scholars agreed that critical thinking skills should be integrated into teacher education programs. Gallavan and LeBlanc stated (2004, p.115) that:

“Affective education encompasses many different teaching strategies, classroom approaches, and school programs. It includes efforts related to understanding and caring for oneself, interacting respectfully with others, critical thinking, decision-making, problem-solving, conflict resolution, violence prevention, abuse prevention, and so on.”

It is observable that many young children as they begin their formal education are lively, energetic, curious, imaginative and inquisitive. For some time, they keep these traits, however, as time passes, students start to become a part of standardized education system and quits imagining, producing ideas and questioning. The school, for the student, turns into a

....completely structured environment. Instead of events that flow into other events, there is now a schedule that things must conform to. Instead of statements that can be understood only by gleaning their significance from the entire context in which they occur, there is a classroom language that is uniform and rather indifferent to context and therefore fairly devoid of enigmatic intimations. (Lipman, 2003, p.13)

What John Dewey (1933c) mentions can be a good explanation for this problem:

The problem of method in forming habits of reflective thought is the problem of establishing conditions that will arouse and guide curiosity; of setting up the connections in things experienced that will on later occasions promote the flow of suggestions, create problems and purposes that will favor consecutiveness in the succession of ideas. (p.157)

In sum, the goal of critical thinking is to train people’s minds for questioning, questioning for themselves. In 21th century, people are bombarded with millions of misinformation

every day. People should be taught to realize what to give chance to learn and keep in mind and what to ignore. What Lipman mentions is a good explanation and conclusion for this precise argument:

If the purpose of critical thinking is not to help us decide what to believe, what can that purpose be? Insofar as the question of knowledge and belief is concerned, I would say that the role of critical thinking is defensive: to protect us from being coerced or brainwashed into believing what others want us to believe without our having an opportunity to inquire for ourselves. (Lipman 2003, p:47)

2.5. Critical Thinking and Language Education

Critical thinking is of particular importance when language education is regarded as an crucial part of general educational aims. While a foreign language is being taught, it is believed to empower the learners expand their worldviews, maybe develop a new point of view toward new ideas, new people and to create a more diverse and open-minded society. The National Council of Teachers of English (NCTE) Committee on Critical Thinking and the Language Arts defines Critical Thinking as ‘a process which stresses an attitude of suspended judgment, incorporates logical inquiry and problem solving, and leads to an evaluative decision or action’ (as cited in Lu, 2013, p.7). “This statement resonates with the previous discussion on Critical Thinking as a process of reflection on students’ own values and beliefs, enabling them to perceive possible solutions, and make good decisions” (Lu, 2013, p.7).

However, here raises a question: How can Critical thinking be taught in the language classroom?” Numerous methods were proposed to teach or develop critical thinking skills in the language classroom from the use of some approaches to the use of some technological tools and how to choose the best method or approach to use in the classroom.

According to Thadphoothon and Jones (2004) critical thinking in language learning has two components: thinking critically about language learning and using language for reasoning. First, it requires that learners think critically, or be reflective about their own language learning, i.e. using strategies, attitudes towards language learning as well as their perception of their own ability. Secondly, critical learners need to use appropriate language to reason, and when they reason, they need to do so appropriately. They claim that critical thinking has two essential elements, reasoning and self-reflection. Critical thinkers serve their purposes with reasoning and increase the quality of their thought with self-reflection (2004).

Reflection is a term used as a synonym for or similar to higher-order mental processes. Boud, Keogh and Walker refer to reflection as “a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciation” (1985, p.3). This definition suggest that reflection includes making inferences, generalizations, analogies, discriminations, and evaluations, as well as feeling, remembering, and solving problems in their own experiences. For Dewey (1933c, p. 9), reflection is “assessing the grounds of one’s beliefs,” which means assessing one’s own rights, faults and experiences. This assessment includes questioning and this may be applied to language learning process as well. One may assess how he/she has learned and what is the outcome of a certain behavior in a language classroom. Being reflective about their language learning and searching for appropriate use of English help learners think critically. They need to consider their preferences, intentions, strong and weak sides of themselves. They play active roles.

“Considering the concepts applicable to both ELT and CT, three different concepts should be taken into account, which are both related and different. These three concepts are: Learner-centered learning, cooperative learning, and collaborative learning” (Hall & Hewings, 2001, cited in Özmen, 2006). Improvement of communication skills, self-reflection and group work plays crucial roles for these concepts, as well as critical thinking.

In teacher-centered approaches, the learners are regarded as empty vessels that can be filled with whatever information is given, however, in student-centered approaches students are not regarded as empty vessel. Rather, students come to the class with their own interests, backgrounds, beliefs and point of views. Focus is not on what is taught, the focus is on how effective teaching should be. Student learning is the main concern of the teacher who recognizes that each student learns in their own ways and with her/his own learning style. Students are active participants of the classroom and reflection in learning is crucial.

Student-centered instruction [SCI] is an instructional approach in which students influence the content, activities, materials, and pace of learning. This learning model places the student (learner) in the center of the learning process. The instructor provides students with opportunities to learn independently and from one another and coaches them in the skills they need to do so effectively. The SCI approach includes such techniques as substituting active learning experiences for lectures, assigning open-ended problems and problems requiring critical or creative thinking that cannot be solved by following text examples, involving students in simulations and role plays, and using self paced and/or cooperative (team-based) learning. Properly implemented SCI can lead to increased motivation to learn, greater

retention of knowledge, deeper understanding, and more positive attitudes towards the subject being taught. (Collins & O'Brien, 2003, cited in Froyd&Simpson, 2008)

In these classes, “Learning is not about passivity and order; it is about the messy process of discovery and construction of knowledge” (Johnston, 2004, p.22). Students are encouraged to participate in the learning process actively and the classroom procedure are prepared according to their needs, interests and abilities rather than standards that forcing them to be copies of one desired model. Rallis (1995) emphasizes that “if a child does not meet a standard, ‘the child is not dismissed as a failure; rather the teacher considers what can be done to enable this child to learn” (p. 226).

Collaborative Learning is another concept applicable to both CT and ELT. Collaboration is a philosophy of interaction and personal lifestyle where individuals are responsible for their actions, including learning, and they respect the abilities and contributions of their peers (Panitz, 1999). Dooly (2008, p.1) mentions that in collaborative learning “students are responsible for one another's learning as well as their own and that reaching the goal implies that students have helped each other to understand and learn.” A group of students discussing an issue in the classroom or students from different schools working together over internet are both examples of collaborative learning.

Many scholars are in consensus with the idea that organizing students in groups has a more powerful effect on learning than studying as individuals. Therefore, collaborative learning has more potential to improve students’ engagement, knowledge, transfer as well as their communication skills. Since students work in groups and group work requires some amount of discussion and exchange of ideas, it certainly helps improving critical thinking skills via communication. Meaningful interaction is a crucial element in language learning and collaborative learning provides meaningful interaction. Its basic principles is focused on instructor who (1) Explore a theory, (2) View examples, (3) Practice the principle, (4) Collaborative with other learners and finally, (5) Reflect on what has been learned (Cifuentes, 2001). It is visible that these steps are very similar to the ones in critical thinking, and this may be an example of the relation between critical thinking and collaborative learning.

Cooperative learning is a specific kind of collaborative learning with a primary focus in face-to-face interaction and small groups with a structured activity in which each student is responsible for his work individually; however, they are assessed as a whole. Felder and

Brent defines critical thinking as such: “The term cooperative learning (CL) refers to students working in teams on an assignment or project under conditions in which certain criteria are satisfied, including that the team members be held individually accountable for the complete content of the assignment or project” and mentions the outstanding elements of cooperative learning as follows:

Relative to students taught traditionally—i.e., with instructor-centered lectures, individual assignments, and competitive grading—cooperatively taught students tend to exhibit higher academic achievement, greater persistence through graduation, better high-level reasoning and critical thinking skills, deeper understanding of learned material, greater time on task and less disruptive behavior in class, lower levels of anxiety and stress, greater intrinsic motivation to learn and achieve, greater ability to view situations from others’ perspectives, more positive and supportive relationships with peers, more positive attitudes toward subject areas, and higher self-esteem. (Felder & Brent, p.1)

Dooly also has a definition of cooperative learning in which she compares the teacher role in collaborative and co-operative learning:

Cooperative learning is a process meant to facilitate the accomplishment of a specific end product or goal through people working together in groups. Inevitably, cooperation and collaboration seem to overlap, but in the cooperative model of learning, the teacher still controls most of what is going on in the class, even if the students are working in groups. Collaborative learning, on the other hand, is aimed at getting the students to take almost full responsibility for working together, building knowledge together, changing and evolving together and of course, improving together. (2008, p.1)

Cooperative learning works well because the students learn by doing rather than simply watching and listening. Beyond that, in traditional methods, weak students show the tendency to give up soon; however in cooperative learning, they keep going with the help of other group members, and has the opportunity to learn and get socialize at the same time. Slow students get motivated to finish their task timely. The collaboration, interaction, and discussions among the members foster critical thinking skills.

2.5.1. CT and Basic Language Skills

In language learning, there is a strong relationship between critical thinking and four basic language skills. There are lots of scholars and studies that interrelate critical thinking and four language skills (Fisher&Scriven,1997; Neilsen, 1989; Paul,1990; Risinger, 1987). Each of these four components is crucial for a healthy communication. These four basic skills are related to each other by two parameters:

- The mode of communication: oral or written
- The direction of communication: receiving or producing the message

These language skills can also be grouped as receptive and productive skills. Receptive skills are listening and reading, and productive skills are speaking and writing. It can be said that listening and reading skills are related to the input; speaking and writing skills are related to the output in the communication process. In this part, some information will be given about four language skills and how related they are with critical thinking.

2.5.1.1. CT and Reading

Reading skill is the ability to read the text, understand it and reach some conclusions. It requires making inferences about the text which is a common feature of reading skill and critical thinking. There are many reasons why improving students' reading skills. Harmer mentions in his book that

.. to read English texts is an important part of the teacher's job. In the first place, many of them want to be able to read texts in English either for careers, for study purposes or simply for pleasure.... Reading is useful for other purposes too: any exposure to English is a good thing for language students. At the very least, some of the language acquisition, and, if the reading text is especially interesting and engaging, acquisition is likely to be even more successful.... Reading texts also provide good models for English writing. When we teach the skill of writing, we will need to show students models of what we are encouraging them to do... Reading texts also provide opportunities to study language: vocabulary, grammar, punctuation, and the way we construct sentences, paragraphs and texts. Lastly, good reading texts can introduce interesting topics, stimulate discussion, excite imaginative responses and be the springboard for well-rounded, fascinating lessons. (1998, p.68)

The relationship between reading and CT has been discussed by the educators and scholars for long time. Reading skill is one of the basic and oldest skills used in language teaching. Critical thinking and reading abilities are important for the improvement of higher-order thinking skills because reading is the most common way of delivering information. People gain the information through their reading skills and reason them to be able to develop their own way of thinking.

To understand the relationship between critical thinking and reading skill, it is important to define the sub-skills and applications of critical thinking mentioned by the scholars. Some of these are as follows:

critical reading training through exercises on identifying underlying assumptions, generating reasoned conclusions from facts, exploring writers' perspectives, building connections, reasoning deductively and inductively, understanding descriptive and prescriptive arguments

and counterarguments, analyzing and critiquing arguments, understanding errors in reasoning, creating strategies for solving problems, recognizing and locating research, and evaluating evidence. (Rasool, et al.,1993 cited in Tarakçıoğlu, 2008)

Smith (1991) points out the questions asked in the classroom. He states that to promote critical thinking, the teacher should follow a path in which the questioning strategy plays a crucial role. For this reason, teacher questions about the reading passages or reading materials should not require to memorize, restate or paraphrase only. The students should be asked to analyze and evaluate the material. They should be encouraged to improve ideas on what is read, or provide thoughts. The higher-order questions which require analyze, synthesize and evaluation stages in Bloom's taxonomy should be provided.

2.5.1.2. CT and Writing

Teaching writing skill has always been important in foreign language teaching process. The reasons for this include reinforcement, language development, learning style and its being a skill in its own right (Harmer, 1998). Besides these, it should be mentioned that writing skill is a production of a long teaching/learning process in which the outcomes can be observed. It is a good reinforcement for students to see their mistakes in their writing, and students' language development can be observed and recorded using these writings. It is good for the students who learn slower than others, and who need more time to think to reflect on. And, by far the most important reason, writing is a basic language skill just as important as the other skills. "Students need to know how to write letters, how to put written reports together, how to reply to advertisements etc." says Harmer (1998, p.79).

Writing is one of the skills which are directly related to critical thinking. If they are prepared well, writing assignments and tasks are one of the most important tools for critical thinking. First, it should be realized that there is a relationship between reading and writing skills. They both have equivalent skills such as supporting, contradicting, vague, clear, false, insightful, prejudiced or conforming ideas and reconstructing meaning (Paul, 1990). Another relationship between these two skills is writing can be applied to develop reading skills, or reading can be used as a preliminary for writing. For instance, students can be given reading material first, and asked to reflect on the passage which is an activity of constructing meaning.

Writing is the display of a thinking mind since it is a kind of reflection. It is the most visible way to show the organized and evaluated thought. Writing fosters critical thinking skills excellently. It helps students think about an issue in a great depth, and organize their thoughts neatly. It asks students to express their views and opinions, analyze and evaluate them with great self-reflection which requires higher order thinking. Even a simple explanation or review of the ‘facts’ requires the writer to select necessary facts, organize them in an effective way, and present them in a comprehensible way. To improve critical thinking skills in writing, teachers should encourage students to find creative solutions to problems and make remarkable judgments, ask for a critical analysis. In sum, teachers should ask for synthesis and evaluation.

2.5.1.3. CT and Listening

For most of the people, second or foreign language knowledge means being able to speak or write in that language, because these skills are productive skills which have visible outcomes. Because of this reason, listening and reading skills were overtaken by speaking and writing skills for a long time. Listening skill gained importance in 1960s, and it became fashionable in 1980s with the gaining prominence of Krashen’s theory of comprehensible input (Nunan, 1999). Rost (1994, cited in Nunan, 1999) points out that, since it provides input for the learners, listening is vital in language classrooms.

Listening comprehension is regarded as one of the receptive skills. When listening comprehension is mentioned, not hearing but understanding what is heard is the focus. There are two kinds of listening: interactive listening and non-interactive listening. ‘Interactive listening’ includes face-to-face conversations, or the situations in which people can ask for clarification, repetition etc. On the other hand, listening to radio, TV, films etc. can be listed as ‘non-interactive’ listening situations. In these kinds of situations, people had no chance to ask for clarification or repetition.

Rost (1994, cited in Nunan, 1999 p.200) mentions the important reasons for emphasizing listening in his work. One is mentioned above: it provides input for the learner. The rest is as follows:

- Spoken language provides a means of interaction for the learner. Because learners must interact to achieve understanding, access to speakers of the language essential.

- Authentic spoken language presents a challenge for the learner to attempt to understand language as native speakers actually use it.
- Listening exercises provide teachers with the means for drawing learners' attention to new forms (vocabulary, grammar, new interaction patterns) in the language.

One can think critically only if the required knowledge is gained, and listening has the same importance as reading and writing since it is a receptive skill providing knowledge. For the same reason, it is to be a critical listener and improving the ability to catch the necessary information in the flow of speech. One difficulty that critical listeners may encounter is that while listening there is no chance to go back and listen again (Paul, 1990).

There are different types of listening: active listening, passive listening, reflective listening and appreciative listening. Among these, reflective listening is the one which has common roots with critical thinking. Active listening is a communication technique which is used in counselling and training which requires the listener to feed back to the speaker, comment on what the speaker told, restate or paraphrase. Active listening is a structured way of listening. Since it involves interacting and organizing one's thought, evaluation process and responding to the speaker, it also promotes critical thinking.

There is a strong connection between being a critical thinker and a critical listener. A critical listener gathers the information from the speaker, analyzes and evaluates it and gives feedback, same as critical thinkers do. For this reason, being a critical listener has great importance in critical thinking process.

2.5.1.4. CT and Speaking

The desire to communicate that language is the underlying reason for learning a foreign language. The ability to function in a foreign language is generally evaluated in terms of being able to communicate in that language. On this note, Abbot supports this idea and remarks that "... Just as the proof of the pudding is in the eating, so the proof of language learning lies in the learner's ability to perform, communicate in the foreign language" (1981, p.87).

For an effective communication, speaking skill is a cornerstone. There are different kinds of non-verbal communication, however, much communication elements occur in verbal activities which take speaking skill one step beyond the other skills. To be able to speak in another language, one needs to know how to articulate the sounds in a comprehensible

way, some vocabulary and grammar. These elements, in a well-organized manner, construct Chomsky's linguistic competence. However, linguistic competence is not sufficient for a person who wants to communicate capably in another language. For this reason, the communicative competence of Hymes (1974) should be taken into consideration. Communicative competence is concerned with the sociolinguistic and conversational skills that enable the speaker decide where, when and how to speak as well as including linguistic competence. In short communicative competence is; a linguistic term that refers to one's knowledge of syntax, morphology, phonology, as well as social knowledge about how and when to use the required utterances appropriately.

Canale and Swain (1980) mentioned communicative competence as a synthesis of a system of knowledge and skill needed for communication. This system includes three components:

- grammatical competence: words and rules
- sociolinguistic competence: appropriateness
- strategic competence: appropriate use of communication strategies

This system of Canale and Swain is compared with Linguistic competence of Chomsky, his *competence* is only equivalent to grammatical competence proposed by Canale and Swain. When *performance* is taken into consideration, they point to same issue of uttering sentences in real communicative situations.

Ten years after Canale and Swain introduced their framework for communicational competence, Bachman proposed a different model in which he claims that various components interact with each other and with the context in which language occurs (Bachman, 1990, p.81). His model, 'communicative language ability, has three central parts which are language competence, strategic competence, and psychophysiological mechanisms. The language competence and strategic competence had similarities and differences when compared to the system of Canale and Swain.

Language competence covers two parts: organizational competence and pragmatic competence. And the organizational competence which consists of knowledge of linguistic units and the rules of joining them together on the sentences and texts is divided into two as grammatical competence and textual competence. The grammatical competence here is equal to the grammatical competence proposed by Canale and Swain. Bachman's textual competence has parts from Canale and Swain's discourse competence and strategic competence. Pragmatic knowledge includes illocutionary and sociolinguistic competence,

which are the knowledge of communicative action and how to carry out the action, and how to use language appropriately in a social context, respectively.

Another model presented by The Common European Framework of Reference (CEFR) which promotes well-built relationships, communication and cooperation among the EU member states, provides a comprehensive basis for the design of learning, teaching and testing materials in foreign language teaching. For this, it proposes a series of competences including communicative language competence. This model provides three competences as linguistic, sociolinguistic and pragmatic.

Linguistic competence refers to the dimensions of language as a system, for example: the use of lexical, syntactic, semantic resources, in order to form well-structured messages. Sociolinguistic competence is concerned with the sociocultural conditions of language use in so much that it determines the rules of politeness, the norms governing linguistic behavior between different social groups (sexes, classes, etc.), and the differences in register and dialects. Pragmatic competence comprises the functional use of linguistic resources (production of language functions, speech acts), as well as the mastery of discourse, cohesion and coherence, and the identification of text types and forms, irony, and parody. (Furko & Monos, 2013, p.134)

The importance of the adoption of communication-oriented foreign language teaching, or application of communicational approaches in a foreign language classroom has been mentioned by SLA researchers and educators since the beginning of second language teaching. Speaking skill, in other words, the communication competence is the visible product for language learning process and a proof for a fruitful learning process.

People are born with the ability to speak, and it is a must to build communication in the society. At a certain age, people start speaking naturally. With an inner urge, they use their oral communication skills to express their thoughts. Speaking is a core skill for both effective communication and critical thinking, because “expression is part of the thinking” (Fisher & Scriven, 1997, p. 102). It is a powerful way to deliver the message and thoughts and it goes through the analyzing, evaluation and self-reflection stages. For this reason, critical communication must have the same features as validity, concision, clarity etc.

Speaking has much importance among the other skills; to be able to express any thought, one should have gone through all the stages of critical thinking, and while speaking, he reviews his own thinking. So, critical communication is a “skilled and active critical review” (Fisher & Scriven, 1997, p.102).

Communication and critical thinking are connected in various ways. Firstly, the ability to criticize, to reason a problem, to develop an argument, to evaluate proposed ideas and

create counter-arguments are important for daily communication; they are of value for the sake of critical thinking. People who can think critically and look at the problems from different perspectives are definitely better communicators in the society. Secondly, critical thinkers examine the way other people think, how they handle a problem and how they reason it before responding.

Among all four skills, speaking is the most important one for an effective communication because what people express orally is actually what they think, and they go through the stages of critical thinking before they put their thoughts into words, this is the reason why critical thinking is connected to speaking skills and should be improved.

Since performing a second language has a significant importance, SLA models and their relation with speaking skill will be discussed in the following part.

2.6 Developing Speaking Skills for Student Teachers

2.6.1 SLA models and speaking skill

It is certain that a child or adult's second language learning process is different from a child's acquisition of first language. Different scholars suggested different approaches to development of speaking skills and different schools of language acquisition arose. When it comes to approaches on second language learning, it should be touched on *behaviourism* theory of the 1940s and the 1950s. Behaviourists explain all kinds of learning in terms of imitation, practice, reinforcement and habit formation, language learning included. According to them, all learning, whether verbal or non-verbal, takes place through the same process. They believe that learners receive linguistic input from the speakers around them, and they built associations between the input they received and the words or objects. They repeat the associations, the associations become experiences. The learners tend to repeat these experiences more and more as they receive encouragement or positive feedback for their imitations. Children imitate the sounds and patterns they hear, they receive reinforcement which encourages them to continue what they do, and they form 'habits' of correct language use. Imitation and practice, for this reason, are regarded as primary processes in language development in behaviourist theory. However, it lacks the explanation of more complex grammatical structures of the language and requires going beyond imitation and practice.

Chomsky, who is a linguist, claims that, as a reaction to the inadequacies of behaviourist theory, in *innatism* theory that children are biologically programmed to learn a language and suggests that language develops in the same way that other biological functions of human beings develop. For Chomsky, all the children will learn the language as the biological basis is ready in the same way they learn walking. He claims that children are born with a special ability for language, which can be referred as *Language Acquisition Device (LAD)*. It may be described as an imaginary 'black box' which exists in the brains of all human beings which contains the universal principles of all languages. As the children are exposed to the natural language, they match the structure of this language with the innate knowledge of basic grammatical structures. This is how *LAD* works. Chomsky and his followers preferred to use the term *Universal Grammar (UG)* rather than *LAD* later. *UG* is considered to consist of the common principles of all languages. What students expected to do, if they are born with *UG*, is to learn how and in what ways the particular language spoken around them makes use of these principles (Chomsky, 1981). Besides *UG*, Chomsky drew attention to separation of *competence* and *performance*. Chomsky's linguistic theory is concerned with an ideal speaker-listener, who knows the language of the community perfectly and is not affected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors, no matter random or characteristic, in applying his knowledge of language in actual performance (Chomsky, 1965, p.3). In this definition, Chomsky characterizes *competence* as an idealized capacity, and *performance* as the production of actual utterances. Lyons (1996) claims that competence, being an ideal, is located as a psychological or mental property or function. In short, competence is the knowledge of how the language works and performance is the display of this knowledge.

Another innatist theory of second language acquisition was proposed by Stephen Krashen (1982). His theory had a great influence on second language teaching. The theory called 'Monitor Model' is constituted by five hypotheses:

- 1- The acquisition-learning hypothesis

Krashen suggests that there are two ways in second language learning. These are 'acquisition' and 'learning' and these two terms are completely different from each other. Acquisition, for Krashen, is an unconscious process of language learning which is similar to the way children pick their first language. In acquisition, children are exposed to samples of language, with no attention on rules and language forms. However, learning is a

conscious process with a strong attention on grammar rules and language forms. Krashen claims that *acquired* language is more natural and available for communication in which learners are not expected to remember grammar rules and forms of language.

2- The monitor hypothesis

Krashen argues that the learned system acts as a monitor to control the accuracy of the learners while the acquired system acts as an initiator for speaker's utterances. Learners use the monitor when they are focused on being 'correct' on what to say, for this reason, writing may be conducive for monitor use as it allows more time to give attention to form.

3- The natural order hypothesis

Krashen proposes that the second language learners, like first language learners, acquire the language items in a predictable sequence. Krashen observed that the *natural order* of language items learned in the first language is independent of the order of the items learned in the classroom.

4- The input hypothesis

Krashen claims that learners are expected to acquire a language only when they are exposed to comprehensible input which is one step beyond of the learner's current level of competence. If the input contains high-level forms and structures for the learner, neither comprehension nor acquisition will occur. The input should be comprehensible, meaningful and just beyond the learner's current level of competence in the language.

5- The affective filter hypothesis

"The 'affective filter' is an imaginary barrier which prevents learners from acquiring language from the available input. "Affect refers to such things as motives, needs, attitudes, and emotional states. A learner who is tense, angry, anxious, or bored may 'filter out' input, making it unavailable for acquisition"(Lightbown & Spada, 1999, p.39). The available input may turn into an unavailable one for a tense, stressed, reluctant learner and the filter may be 'up', preventing the learner from acquiring the language.

As Krashen's "Input Hypothesis" was mentioned above, it would be great to move to Merrill Swain's "*Output Hypothesis*." Language learning is strongly related to production of language, and output is closely related to this process as well. According to Merrill

Swain, "The output hypothesis claims that the act of producing language (speaking or writing) constitutes under certain circumstances, part of the process of second language learning." It can be noticed from this definition that, Swain implements that these two skills, speaking and writing, could be grouped together to form a whole to be able to convey the meaning and build the communication.

According to Swain, there are three functions of output which are,

- 1- The noticing/triggering function: It refers to the awareness or 'noticing' what is needed to convey the meaning when they have trouble in building communication. With this function, learners realize there are some linguistic problems to be corrected, and it pushes the learner to look for the needed information for completing the new discovered gap.
- 2- The hypothesis-testing function: This function suggests that learners can apply the 'trial and error' method to test what they produce and expect a feedback. The hypothesis may be reprocessed if necessary.
- 3- The metalinguistic (reflective) function: With this function, language is seen as a tool to reflect on. The output enables them to control and internalize the knowledge reflected.

Stephen Krashen argues that the basic problem with the output hypothesis is to receive comprehensible output. Even if the learners speak, they rarely produce what comprehensible input theory claims to be useful and necessary to acquire new language forms. One another difficulty of comprehensible input theory is that students may feel uncomfortable when they are pushed to speak and, therefore, their affective filters may raise and hamper the language acquisition process.

Swain's 'Comprehensible Output' theory is closely related to Richard Schmidt's *Noticing Theory*. In his theory, Schmidt (1990) argues that learners cannot learn the grammatical features of the language they study unless they notice them. Noticing doesn't mean that the learners will automatically acquire the language, however, it will help learners to notice the grammatical form of their input. According to Schmidt (1995, p.20), "the noticing hypothesis states that what learners notice in input is what becomes intake for learning". To clarify the noticing theory of Schmidt, and to understand place of noticing in language acquisition process, the Ellis' model is useful.

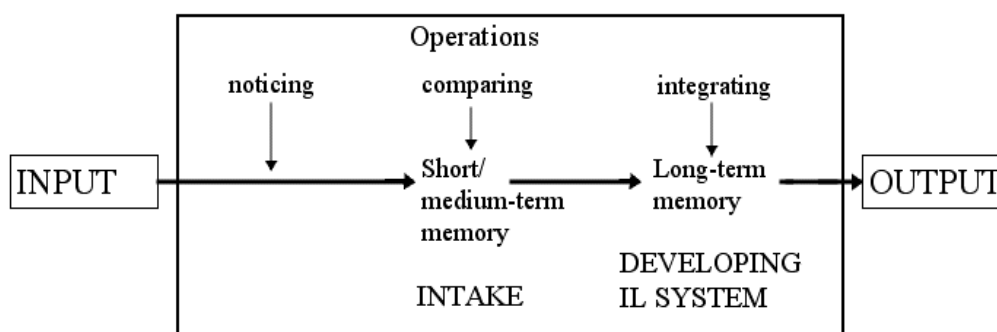


Figure 2: The process of learning implicit knowledge by Ellis.

In his model, Ellis claims that the input is received and noticed by the learner, it is turned into an intake in short-term memory. After that, the intake is absorbed into the inter-language system of the learner and becomes a part of long term-memory with the necessary changes. The *Noticing Theory* drew attention as well as criticism from the scholars, however, these are beyond this paper.

The social context, interaction and communication is also important for the acquisition of second language development. For this reason, the interaction hypothesis was proposed by Michael Long in his paper in 1996. The interactionist theorists claim that much second language acquisition takes place through conversational interaction and, like Krashen, they believe that comprehensible input is necessary for language acquisition (Lightbown & Spada, 1999). This theory is concerned with how the input is made comprehensible rather than the question of what it is. He claims modified interaction in which learners have to negotiate for meaning help comprehensible input to take place (Long, 1983).

“In his view, what learners need is not necessarily simplification of the linguistic forms but rather an opportunity to interact with other speakers, in ways which lead them to adapt what they are saying until the learner shows signs of understanding” (Lightbown & Spada, 1999, p.43).

The interaction hypothesis carries two major claims about the role of interaction in second language acquisition. These claims are:

- 1- Comprehensible input is necessary for L2 acquisition.
- 2- Modifications in interactional structure of conversations make input comprehensible (Ellis, 1991).

2.7 Questioning and Critical Thinking

Curiosity has its own reason for existence.

The important thing is not to stop questioning.

Albert Einstein

The value of questioning in teaching has been known by the educators for centuries. Thinking is driven by the questions. Thinking is useless when it goes to nowhere and questions determine the path they go. Deep thoughts come to the surface by the help of questions. Questions are crucial for any kind of education, they are the milestones of classroom instruction. Ornstein (1987) says that “the essence of good teaching is related to good questioning.” Good questioning helps students think more deeply, realize what is in the deep and bring the most precious to the surface, like pearl fishers.

Questioning is at the heart of critical thinking, and critical thinking is at the heart of education. This is the reason questions should be designed well before the class, rather than just being asked at the last minute. Teachers should spend time to design them in order to arouse interest in the class, to broaden students’ minds and help them think critically. Much importance needs to be given to the question-designing process to meet specific purposes. Teachers need to analyze the aims of the questions, plan how the questions will be posed, and anticipate how to handle both expected and unexpected responses (Chuska, 1995, p.12). In addition, saying “Asking questions is a slower means of teaching than lecturing”, Kloss (1988, p. 247) emphasizes much time and planning are needed as the questions are planned for the classroom, because questions are a part of teaching, they are not only classroom activities.

Teachers very often ask questions in the classes, questioning is the nature of classroom instruction. Studies reveal that teachers ask 350- 400 questions on average per day; however, less than 20% of these questions require critical thinking skills (Hudgins, 1977; Gall, 1970; Clegg; 1971; Hamblen, 1988). Most of the questions asked in a typical classroom require only memorization, many of them are yes-no questions and the rest seem to be rhetorical questions which are called low level questions. Kenneth suggests in his work (1983) that most of the students asked in the classroom were simple factual recall requiring yes or no answers. Less than 1% of the questions were open ended or required complex thinking which can be called high-level questions.

Low-level questions bring low-level answers and high level questions bring high level answers requiring application of critical thinking skills. Daines (1986, in Ramsey, Gabbard, Clawson, Lee & Hanson, 1990) reports that 93% of the questions asked by elementary and secondary teachers were at the literal level of comprehension, and 88% of the students' answers – regardless of the teaching style and grade level- were also at the lowest level of cognitive skills. Due to the fact that higher level questions lead students to higher level thinking, Ramsey et al. mention that attention should be given to preparing process to ask more higher-order questions that will provide more thinking and analysis (1990). “In other words, the questions that we ask, and how we ask them, and why we ask them, play an important part in determining the answers we receive” (Vallis, 2001, p. 46).

The term “critical thinking” has a great number of meanings which were listed in the previous section. In the broad sense, it refers to higher-level cognitive skills like analysis, synthesis, evaluation, making inferences and reasoning. In Bloom's taxonomy (1956), in which he divided the cognitive process into six categories, these skills are covered in the analysis, synthesis and evaluation levels.

2.7.1. Bloom's Taxonomy

Benjamin Bloom published his work “The Taxonomy of Educational Objectives” in 1956. He was the Associate Director of the Board of Examinations of the University of Chicago at that time. He needed a framework to facilitate exchange of test items among faculty across several colleges and he initiated the idea. He aimed to create banks of items which measure the same educational objective. He hoped that it would reduce the labor of preparing annual comprehensive examinations (Anderson & Krathwohl, 2001).

Bloom's taxonomy (1956) is a detailed classification of levels of intellectual behavior in learning containing three overlapping domains: the cognitive domain, the psychomotor domain and the affective domain. In the cognitive domain, he identified six stages. These levels are: *knowledge, comprehension, application, analysis, synthesis, and evaluation*. These domains and stages are still widely used in teaching and learning critical thinking skills.

The original taxonomy provided clear definitions for each of the categories in the cognitive domain. Each of these categories was divided into subcategories, except the level *Application*. The original taxonomy is shown in Table 1.

Table 6: Structure of the Original Taxonomy (Krathwohl, 2002)

Structure of the Original Taxonomy	
1.0 Knowledge	
1.0 Knowledge of Specifics	
1.11 Knowledge of terminology	
1.12 Knowledge of specific facts	
1.20 Knowledge of ways and means of dealing with specifics	
1.21. Knowledge of conventions	
1.22 Knowledge of trends and sequences	
1.23 Knowledge of classifications and categories	
1.24 Knowledge of criteria	
1.23 Knowledge of methodology	
1.30 Knowledge of universals and abstractions in a field	
1.31 Knowledge of principles and generalizations	
1.32 Knowledge of theories and structures	
2.0 Comprehension	
2.1 Translation	
2.2 Interpretation	
2.3 Extrapolation	
3.0 Application	
4.0 Analysis	
4.1 Analysis of elements	
4.2 Analysis of relationships	
4.3 Analysis of organizational principles	
5.0 Synthesis	
5.1 Production of a unique communication	
5.2 Production of a plan, or proposed set of operations	
5.3 Derivation of a set of abstract relations	
6.0 Evaluation	
6.1 Evaluation in terms of internal evidence	
6.2 Judgments in terms of external criteria	

The categories in Bloom's Taxonomy were ordered from simple to complex and from concrete to abstract (Krathwohl, 2002). It was assumed that the taxonomy represented a hierarchical order which requires mastering one level before moving to the next one. According to him, "Taxonomy represented a cumulative hierarchy; that is, mastery of each simpler category was prerequisite to mastery of the next more complex one" (2002, p.213). The categories *knowledge*, *comprehension* and *application* were listed first in the taxonomy for the reason that they require lower-order thinking skills, and the categories *analysis*, *synthesis*, and *evaluation* require higher-order thinking skills, core of critical thinking, and they were placed through the top of the triangle of cognitive domain.

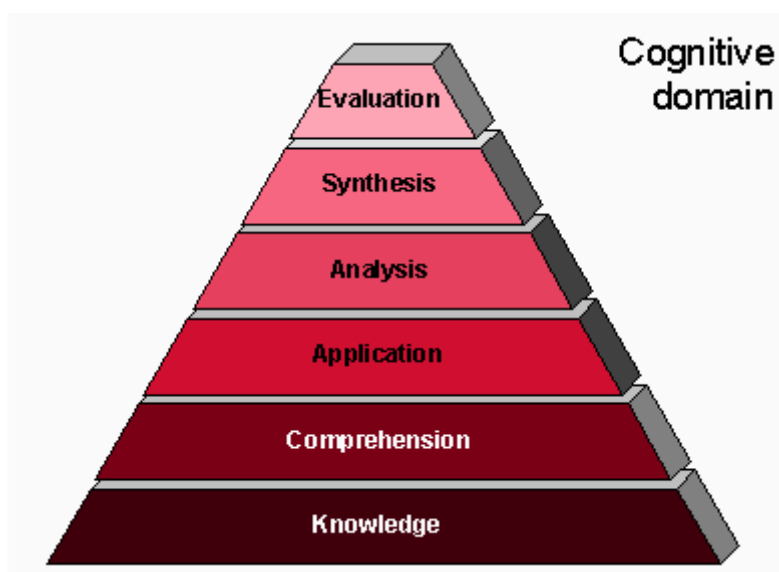


Figure 3: An Illustration of the Taxonomy of Cognitive Domain

Retrieved from <http://www.learningandteaching.info/learning/bloomtax.htm>

At the very first time it was introduced, the term 'taxonomy' was not familiar in educational fields, and people did not understand it well. For that reason, it was not given much importance, however, it gained importance later and it was used by the educators widely. It was used by the educators to teach their students how to classify student objectives, activities, and assessments (Krathwohl, 2002).

The revision of the original taxonomy was published 45 years later by Krathwohl. In this revised taxonomy, he provided a revised version of the "Knowledge Dimension" and a new dimension which is "The Cognitive Process Dimension" given in Figure 5.

Table 7: Revised Version of Cognitive Process Dimension (Krathwohl, 2002)

Structure of the Cognitive Process	
Dimension of the Revised Taxonomy	
1.0 Remember-	Retrieving relevant knowledge from long term memory.
1.1.	Recognizing
1.2	Recalling
2.0 Understand-	Determining the meaning of instructional messages, including oral, written, and graphic communication.
2.1	Interpreting
2.2	Exemplifying
2.3	Classifying
2.4	Summarizing
2.5	Inferring
2.6	Comparing
2.7	Explaining
3.0 Apply-	Carrying out or using a procedure in a given situation.
3.1	Executing
3.2	Implementing
4.0 Analyze-	Breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure of purpose.
4.1	Differentiating
4.2	Organizing
4.3	Attributing
5.0 Evaluate-	Making judgments based on criteria and standards.
5.1	Checking
5.2	Critiquing
6.0 Create-	Putting elements together to form a novel, coherent whole or make an original product.
6.1	Generating
6.2	Planning
6.3	Producing

Bloom suggests that, the stages in his taxonomy was interdependent, however, they seem to be independent rather than interdependent. For instance, his taxonomy presupposes mastering one stage before moving to another one. However, evaluation stage may be followed after any stage for self-reflection. Krathwohl (2002) has tried to overcome this problem in his new version of taxonomy by replacing the evaluation stage before the creation stage.

As previously mentioned, from the time it was first introduced until now, Bloom's taxonomy and new version of taxonomy by Krathwohl has widely been used by educators. Dalton and Smith (1986) has contributed to the area by providing sample question stems and potential activities and products table for each step. The useful verbs and sample questions are as follows:

Table 8: The Useful Verbs and Sample Questions for the Taxonomy

Knowledge	
Useful Verbs	Sample Questions
tell	What happened after ...?
list	How many ...?
describe	Who was it that ... ?
relate	Can you name the ... ?
locate	Describe what happened at...?
write	Can you tell why ... ?
find	Find the meaning of ... ?
state	What is ...?
name	Which is true or false ... ?
Comprehension	
Useful Verbs	Sample Questions
explain	Can you write in your own words...?
interpret	Can you write a brief outline ... ?
outline	What do you think could of happened next ... ?
discuss	Who do you think ... ?
distinguish	What was the main idea ... ?
predict	Can you distinguish between ... ?
restate	What differences exist between. ..?
compare	Can you provide an example of what you mean ... ?
describe	Can you provide a definition for ... ?
Application	
Useful Verbs	Sample Questions
solve	Do you know another instance where ... ?
show	Could this have happened in ... ?
use	Can you group by characteristics such as ... ?
illustrate	What factors would you change if ... ?
construct	Can you apply the method used to some experience of your own ... ?
complete	What questions would you ask of ... ?
examine	From the information given, can you develop a set of instructions about ... ?
classify	Would this information be useful if you had a ... ?

Analysis

Useful Verbs	Sample Questions
analyze	Which events could have happened ...?
distinguish	What might the ending have been?
examine	How was this similar to ... ?
compare	What was the underlying theme of ... ?
contrast	What do you see as other possible outcomes?
investigate	Why did ... changes occur?
categorize	Can you compare your ... with that presented in ... ?
identify	Can you explain what must have happened when ... ?
explain	What are some of the problems of ... ?
separate	Can you distinguish between ...?
advertise	What were some of the motives behind ... ?
	What was the turning point in the game?

Synthesis

Useful Verbs	Sample Questions
create	Can you design a ... to ... ?
invent	Why not compose a song about ...?
compose	Can you see a possible solution to ... ?
predict	If you had access to all resources how would you deal with ... ?
plan	Why don't you devise your own way to deal with ... ?
construct	What would happen if ...?
design	How many ways can you ... ?
imagine	Can you create new and unusual uses for ... ?
propose	Can you write a new recipe for a tasty dish?
devise	Can you develop a proposal which would ... ?

Evaluation

Useful Verbs	Sample Questions
judge	Is there a better solution to ...?
select	Judge the value of. ..
choose	Can you defend your position about ... ?
decide	Do you think ... is a good or a bad thing?
debate	How would you have handled ... ?
verify	What changes to ... would you recommend?
recommend	Are you a ... person?
assess	How would you feel if ... ?
rate	How effective are ... ?
determine	What do you think about ... ?

Retrieved from <http://www.nmmu.ac.za/cyberhunts/bloom.htm>

“Questions are fundamental to education, improving questioning skills is fundamental to any restructuring of education. Other restructuring efforts will be a waste of time if they result only in more level questions” (Chuska, 1995, p.12). The intent of education is to foster students’ thinking abilities. Therefore, in order to improve their thinking skills, they should be asked higher-order questions which fall into analysis, synthesis and evaluation stages requiring higher-order answers. Questions from higher-order stages promote students’ critical thinking skills because they require analyzing, synthesizing, making inferences and find out their own path by self-reflecting.

It is clear that questions are important, however, it should be kept in mind that questions are not sufficient alone. The teacher, the environment and many things affect the quality of the question and questioning technique. First of all, “the teacher should establish an open, humane, and supportive classroom atmosphere”(Chuska, 1995, p.22). Students should feel that they will not be humiliated or judged by their questions or answers. They should be complimented for asking good questions. The students should be listened carefully. They should not feel that they are asked questions just because it is a part of the class. The teacher should make eye-contact with the students, but not more than a few seconds to not to make them feel tense. In this way, the students will be encouraged to ask more questions.

It is also very important that students are expected to talk in the class, not the teacher. The teacher should not be on the stage all the time they lecture, they should only lead the discussion or guide the students. If the teacher dominates the class, students come to believe that their role is only to listen, not to participate. Besides, it is crucial that students should be given time to organize their thoughts after asking the questions. Rowe (1986) suggests that a three to four-second time period after a question leads more comprehensive, higher-quality answers. This time period is called *wait time*. Due to the fact that students need to think about the answer received from a peer or the teacher, providing wait time after each answer is also important.

2.8. Conclusion

In this chapter, detailed information on CT, its relation with teacher education and language education, is provided. Besides, some SLA models are mentioned to reveal the inter-relation of speaking skill and second language acquisition. Not only speaking skill, but also its relation with all four language skills is referred. The importance of questioning strategy and Bloom's taxonomy are also argued because of their relation with higher-order thinking skills and speaking skill.

CHAPTER THREE: METHODOLOGY

3.1. Introduction

In this chapter, the methodology designed and applied in this research is discussed in detail. The first part focuses on *context* in which general information about the research is given. In the following part which is *participants*, the participants involved in the study, their demographic features, are described in detail. In the part *research design*, the model of the research is outlined and some information was given on how the research was conducted. In the next part *data collection*, it was explained how the data was collected, what criteria were used to gather it and how the gathered data analyzed. Lastly, in *data analysis* part, the gathered data was analyzed in detail.

3.2. Context

The context of this study includes the ELT programs of Gazi University and Ondokuz Mayıs University. At Gazi University, there are around a thousand students and 39 faculty staff in the ELT department: 1 professor, 8 associate professors, 7 assistant professors, 13 instructors and 10 research assistants. In the ELT department of Ondokuz Mayıs University, there are 500 students approximately and 14 faculty staff: 1 associate professor, 6 assistant professors, 5 teaching assistants and 2 research assistants. The curriculum in both universities include courses related to linguistics, language teaching, classroom management, skills teaching, literature and some major courses on educational sciences, educational philosophy and testing. Almost all the courses are taught in English, except the ones which are not major area courses like educational sciences and philosophy.

The participants of this study are the freshmen of the both Gazi and Ondokuz Mayıs universities. These students are accepted to these departments by the University Students' Selection and Emplacement Exam (LYS) and Language Proficiency Exam (YDS). In this exam, the students are required to answer multiple-choice questions; there is no question

measuring speaking, listening or writing skills. The study was conducted in the spring term of 2013-2014 academic year, therefore, students had taken the Speaking-I, Pronunciation-I, Advanced Reading-Writing-I and Contextual Grammar-I classes in the fall term.

The speaking classes are given to the students in the first year of their university education. Almost all the students in both universities study in prep-class for a year and they continue studying in the department. In prep-class students mainly have speaking, writing, reading and listening classes and they are expected to master these skills at the end of one-year-training. For this reason, students are expected to come to the speaking classes with higher oral skills at the first year, and this requires instructors to come to the class with high-quality planning and teaching.

3.3. Participants and Sampling

The participants of this study are 4 instructors from different age groups and 94 students from first-graders of ELT departments of Gazi University and Ondokuz Mayıs University. The study includes only the instructors as a sample group, the observation done on the students is very limited. “The sample is the group of participants whom the researcher actually examines in an empirical investigation” (Dörnyei, 2007, p.96).

The selection of the instructors and the group of students to be observed of the present study was done on a random basis, which means *random sampling* procedure was applied in the selection of the participants. “The assumption underlying this procedure is that the selection is based entirely on probability and chance, thus minimizing the effects of any extraneous or subjective factors”(Dörnyei, 2007, p. 97). Years of experience of the teachers are between 5 to 25 years (their experiences in higher education were considered) and two of the lecturers were male and two of them were female. The gender of the students and the lecturers is not determined as a differential feature in the study. The demographic features of the students are given in table below (The instructors are given letters as nicknames to keep their privacy):

Table 9: Background Information about the Instructors

Age			Experience in Higher Edu.			Qualifications		
25-30	30-40	40-50+	1-5	5-15	15-25	BA	MA	PhD
A	D	B,C	A	D,B	C	C	A, B	D

Table 10: The Demographic Features of the Students

	School of Graduation				Gender			Distribution		
	Anatolian Teacher	Anatolian High	Regular High	Other	Female	Male	Unspecified	Gazi Uni.	Ondokuz Mayis Uni	
Frequency	32	49	10	3	77	15	2	51	43	
Percentage	34,04	52,12	10,63	2,12	81,92	15,96	1,88	54,26	45,74	
Total:	94 Students									

When the high schools that students graduated are taken into consideration, it is seen that 32 students graduated from Anatolian Teacher Training High Schools, 49 students from Anatolian High Schools, 10 students from Regular High Schools and 3 students did not specify which school they graduated from.

Even it is not a differential feature in this study, the gender of the participants are determined as 81,92% female (77 students) and 15, 96% male (15 students). 1.88% is unspecified.

In the following part, how the research is designed is explained in detail.

3.4. Research Design

This research was designed as a case study. “A case study is a specific instance that is frequently designed to illustrate a more general principle”(Nisbet & Watt, 1984, p. 72). It can be said that case study is a study of a situation in the time of action. “The single instance is of a bounded system, for example child, a clique, a class, a school, a community. It provides a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply by presenting them with abstract theories or principles” (Cohen, Manion & Morrison, 2007, p. 253). It ensures the observation of the facts and relation of them with the recognized theories and principles using first-hand knowledge and observation. Case studies give the researcher and the reader the chance to see the whole rather than the sum or parts of the situation; the researcher gains the opportunity to participate in the dynamics of the environment.

“There are two principal types of observation – participant observation and non-participant observation” (Cohen et al., 2007, p. 258). In the former one, the observer is a participant of the group, helps varying the activities that will be observed. Non-participant observers, on the other hand, keeps aloof from the preparation or the conducting of the activities, never interferes the process. In this study, the researcher is a non-participant observer who sits at the very back row of the classroom recording the classroom instruction, taking notes. Non-participant observation is better way to keep the classroom atmosphere natural than participant observation. “The best illustration of the non-participant observer role is perhaps the case of the researcher sitting at the back of a classroom coding up every three seconds the verbal exchanges between teacher and pupils by means of a structured set of observational categories” (Cohen et al., 2007, p. 259).

In this study, both qualitative and quantitative research methods are applied. “Quantitative research involves data collection procedures that result primarily in numerical data which is then analyzed primarily by statistical methods.... Qualitative research involves data collection procedures that result primarily in open-ended, non-numerical data which is then analysed primarily by non-statistical methods.” (Dörnyei, 2007, p.24) If both of the quantitative and qualitative data are analyzed in a research study, then the method is called *mixed methods*. Dörnyei states that “A mixed methods study involves the collection or analysis of both quantitative and qualitative data in a single study with attempts to integrate the two approaches at one or more stages of the research process” (2007, p. 163). In other words, a mixed methods research involves the analysis of both quantitative and qualitative

data. Thus, this research is a mixed methods research. For the research to be conducted, the researcher prepared a rubric to observe teachers' questions in speaking classes (Appendix 1). The rubric is prepared based on the taxonomy of Bloom (1956) and aimed to analyze and classify the questions asked by the instructors according to the stages of the taxonomy and determine the cognitive levels of the questions. Detailed information about the taxonomy is given in the previous chapters.

3.5. Data Collection

The main data for the research were collected via classroom observation. For the study, four groups of students were observed, two groups for each instructor. No information about the point to be observed was given to the instructors to not to affect the reliability of the study. All the groups were observed for 3 hours, which means all the instructors were observed for 6 hours. The total amount of time of classroom observations is 24 hours, in other words- 1440 minutes.

All the class discussions were recorded by the researcher and the students were asked to complete a short questionnaire (see Appendix 2), which aims to collect data about their demographic features.

3.6. Data Analysis

In this study, both qualitative and quantitative data were included. Given that the Data Analysis part offers the description of the qualitative data, it is then critical to provide information on qualitative inquiry. For Dörnyei (2007) "Qualitative data is usually involves recorded spoken data (for example, interview data) that is transcribed to textual form as well as written (field) notes and documents of various sorts" (p.19). Qualitative data gives information about the features of a thing which cannot be expressed in numbers. "Qualitative data analysis involves organizing, accounting for and explaining the data; in short, making sense of data in terms of the participants' definitions of the situation, noting patterns, themes, categories and regularities" (Cohen et al., 2007, p.461).

As for the qualitative aspect of the analysis process of this study, all the questions asked by the teacher were determined, and the non-instructional questions were taken in, other unrelated questions – the ones related to daily lives, or the greetings etc- were excluded. The instructional questions were categorized according to the "Sample Question Stems Table by Dalton and Smith" (1986). This is also called 'typological analysis', which is a

classification process “wherein data are put into groups, subsets or categories on the basis of some clear criterion” (Cohen et al., 2007, p. 473).

“Quantitative data is most commonly expressed in numbers (for example, the score of a language aptitude test or the number of times a student volunteers in class)” (Dörnyei, 2007, p.19). As the quantitative part of the analysis, the percentage of all kind of questions in each category of the taxonomy was calculated by the researcher and these categories were compared to each other to be able to reach conclusions on how much higher-order or lower-order questions were asked in the classes.

For the inter-reliability of the study, the researcher worked with one of her colleagues who had 8 years of teaching experience. Her colleague worked on some parts of the recordings and analyzed the questions. His analysis was compared to the analysis of the researcher and the mean percentage was found to be 91%. To calculate the inter-reliability, the formula suggested by Tawney and Gast (1984) was used. The formula is:

$$\frac{\text{The number of the agreements}}{\text{The number of agreements + disagreements}} \times 100$$

As mentioned before, the researcher tried to find out the percentage of the higher-order questions asked by the instructors in this study. Besides, she provided information about the wait time provided after the higher-order questions.

3.7. Conclusion

This chapter provided information about the participants, the design, the data collection and analysis procedures of the study. In the next chapter, detailed information about the gathered data and the analysis process will be provided.

CHAPTER 4:

ANALYSIS AND INTERPRETATION OF THE DATA

4.1. Introduction

In this chapter, the gathered data will be analyzed and interpreted. The first part provides an overall evaluation of the questions. In the subparts, the instructors and their questions will be examined individually. In the following parts, the distribution of the questions to class hours and the wait-time provided after higher-order questions will be examined.

4.2. An Overall Evaluation of the Questions

In this part of the study, the overall evaluation of the gathered data is made. First of all, it was found out that 588 questions were asked by the four instructors in total during 24 class hours. Only instructional questions were included in this number, non-instructional questions were excluded. The number of the questions for each stage and category is given in the table below:

Table 11: The Distribution of the All Questions According to the Stages of the Taxonomy

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Rhetorical	SIQ	Statement- Question
Number of questions	81	84	1	3	1	213	27	121	57
Total:	588 questions								

Apart from the stages in the taxonomy, the instructors asked statement questions, simple interaction questions and rhetoric questions. As the questions were categorized, it was found that the instructors asked:

Table 12: The Distribution of the Untaxonomic Questions

	Statement Questions	Simple Interaction Questions	Rhetoric Questions
Number of questions	55	121	27
Total:	203		

As the number of each level of questions was turned into percentages, the percentage of each stage of questions can be introduced as follows:

Table 13: The Distribution of the Questions as Percentages

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Stat-Ques.	Rhetoric	SIQ	Stat-Q. + Stage
Percentages of each stage of questions (%)	13.77	14.28	0.17	0.51	0.17	36.22	3.74	4.59	20.57	5.49
Total:	100%									

According to the table, of these questions, 13.77% is knowledge stage questions; 14.28% is comprehension stage; 0.17% is application stage; 0.51% is analysis stage; 0.17% is synthesis stage and 36.22% of 588 questions is evaluation stage questions.

Besides these, 3.74% of 588 questions were determined as statement questions; 4.59% is rhetoric questions and 20.57% is simple interaction questions (SIQ). Of all these percentages, 5.49% of the questions were determined as the questions which are both *statement-and-a-stage* questions which have more than one quality.

As the aim of this study is to determine the quality of the questions asked in oral communication classes in terms of critical thinking, it would be useful to show the numbers as percentages. As can be seen in the graphic below, 62.56% of 588 questions asked in these classes are lower-order questions which include knowledge, comprehension, application stages of the taxonomy besides simple interaction questions (SIQ), rhetoric questions and statement questions which do not require higher-order thinking, and 36.95% of the total amount of questions is higher-order questions which represent analysis, synthesis and evaluation stages of the taxonomy and require higher-order thinking skills. The graphic of the percentages is given as such:

Table 14: The Percentages of Higher-Order and Lower-Order Questions

	Higher-order questions	Lower-order questions
Percentages of higher-order and lower-order questions	37.415	62.585
Total:		100%

After an overall evaluation of the gathered data, the instructors and the questions they asked during the six class hours they were observed will be handled one by one. To be able to secure the privacy of the instructors, they are named as A, B, C and D and all the instructors are referred as 'he' in the study.

4.2.1. Instructor A

Instructor A is a young instructor with 5-year-experience. In his classes, students feel free to speak, comment on each other and they voluntarily participate in classroom activities. Their interaction with the instructor is close and sincere. They are allowed to eat and drink without disturbing the class. The instructor avoids giving direct feedback, but he prefers immediate correction of grammar mistakes and mispronunciation. When asking a question

or expecting a comment from the students, he does not create a nervous classroom atmosphere.

After the 6 class hours he was observed, it was found out that she asked 170 questions in total. The number of questions for each level of the taxonomy of Bloom is shown in the graphic below:

Table 15: The Distribution of the Questions of Instructor A

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Rhetoric	SIQ	Statement- Question	St-Q+Comp.	St-Q+Eval.	St-Q+Rht.
Number of questions	22	58	0	16	0	24	2	29	4	12	1	2
Total:	170 questions											

According to the graphic, Instructor-1 asked 22 questions for knowledge stage, 58 questions for comprehension stage, 16 questions for synthesis stage, 24 questions for evaluation stage. Besides, 4 statement questions, 2 rhetoric questions, 29 simple interaction questions were asked by him. Except from these questions, 13 of 170 questions were *statement-and-a-stage* question, and 2 of the questions were both rhetoric and in statement form.

As for the percentages, it is seen in the graphic below that, 12.94% of all questions belong to the knowledge stage; 34.11% of the questions belong to the comprehension stage; 9.41% of all the questions belong to the analysis stage; 14.11% of these questions belong to the evaluation stage of the taxonomy. Besides these, 17.05% of the questions are simple interaction questions which were asked to foster interaction in the classroom, 1.17% is rhetoric questions and 8.8% of all the questions were statement questions in a certain level (1.17% is rhetoric-statement questions, 0.58% is evaluation-statement questions, 7.05% is comprehension-statement questions). The percentages are given in the Table 16:

Table 16: The Percentages of the Questions of Instructor A

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Stat-Ques.	Rhetoric	SIQ	Stat-Q. + Stage
Percentages of each stage of questions (%)	12.94	34.11	0	9.41	0	14.11	2.3	1.17	17.05	9.97
Total:										100%

When the percentages of each stage and quality of the questions are taken into consideration, it is seen that 24.1% of these questions are higher-order questions requiring higher mental abilities, and 75.9% of the questions are lower-order questions as can be seen in the Table 17:

Table 17: The Percentages of Higher-Order and Lower-Order Questions of Instructor A

	Higher-order questions	Lower-order questions
Percentages of higher-order and lower-order questions	24.1	75.79
Total:		100%

4.2.2. Instructor B

Instructor B is an instructor with 15 year of experience. In his classes, there is a tense atmosphere in the classroom. He had some discouraging behaviors towards the students

such as talking too much, being a side in the discussions rather than remaining impartial, calling students as “ms, mr” rather than by their name etc. He prefers making immediate and direct correction of pronunciation and grammatical mistakes. The discussion topics are old-fashioned like tsunami and there are not much student-students or student-teacher interaction and group or pair work.

It was found that he asked 129 questions during the classes she was observed by the researcher. He asked 45 questions for knowledge stage; 16 questions for comprehension stage; 1 question for application stage; 5 questions for analysis stage; and 17 questions for evaluation stage. Apart from these, he asked 15 statement questions, 9 simple interaction questions and 8 rhetoric questions. Besides, 11 comprehension-statement questions and 2 knowledge-statement questions are included in the 129 questions asked by this instructor. The number of questions for each level is shown in the following table:

Table 18: The Distribution of the Questions of Instructor B

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Rhetoric	SIQ	Statement- Question	St-Q+Know.	St-Q+Comp.
Number of questions	45	16	1	5	0	17	8	9	15	2	11
Total:	129 questions										

Table: The number of questions for each stage of the taxonomy and each categorization

As for the percentages, the percentage of knowledge questions is 34.88; comprehension questions is 12.40; application questions is 0.77; analysis questions is 3.87 and the percentage of evaluation questions is 13.17. Of these questions, 11.62% is statement questions; 6.9% is simple interaction questions and 6.20% is rhetoric questions. Besides,

8.5% of all questions is comprehension-statement questions and 1.5% is knowledge-statement questions. The percentages are given clearly in the Table 19 :

Table 19: The Percentages of the Questions of Instructor B

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Stat-Ques.	Rhetoric	SIQ	Stat-Q. + Stage
Percentages of each stage of questions (%)	34.88	12.4	0.77	3.87	0	13.17	11.62	6.2	6.9	10
Total:										100%

When the percentages are taken into consideration, it is found out 17.04% of the 129 questions is higher-order questions which foster thinking skills and 82.77% of these questions are lower-order questions.

Table 20: The Percentages of Higher-Order and Lower-Order Questions of Instructor B

	Higher-order questions	Lower-order questions
Percentages of higher-order and lower-order questions	17.04	82.77
Total:	100%	

4.2.3. Instructor C

Instructor C is a 25-year-experienced instructor. He is an understanding and encouraging instructor. He welcomes the grammar and pronunciation mistakes and corrects them indirectly and this makes students feel relaxed while speaking and discussing in the classroom. He asked 116 questions throughout the classes he was observed. 15 of these questions are knowledge stage questions; 10 questions are comprehension stage questions;

9 questions are analysis stage questions and 47 questions are evaluation questions according to the taxonomy. Apart from the stages in the taxonomy, 4 statement questions, 35 simple interaction questions, 5 rhetoric questions and 1 statement-and-a-stage question (statement-rhetoric) were asked by this instructor as can be seen in the graphic below:

Table 21: The Distribution of the Questions of Instructor C

	Knowledge	Comprehens	Application	Analysis	Synthesis	Evaluation	Rhetoric	SIQ	Statement- Question	St-Q+Rht.
Number of questions	5	10	0	9	0	47	5	35	4	2
Total:	116 questions									

When it comes to the percentages of each level and type of questions, of these questions, 4.3% is knowledge questions; 8.6% is comprehension questions; 7.7% is analysis questions and 40.51% of all the questions is evaluation questions.

The percentages of statement questions is 3.4%, simple interaction questions is 30.17%, rhetoric questions is 4.3% and the percentage of statement-and-a-stage (statement-rhetoric) questions is 0.86. The table showing the percentages of the question levels and types is as follows:

Table 22: The Percentages of the Questions of Instructor C

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Stat-Ques.	Rhetoric	SIQ	Stat-Q. + Stage
Percentages of each stage of questions (%)	4.3	8.6	0	7.7	0	40.51	3.4	4.3	30.17	0.86
Total:										100%

As can be seen in Table 23, of these questions, 48,21% is higher-order questions requiring higher mental abilities, and 51,79% of the 116 questions asked by Instructor C are lower-order questions which requires lower cognitive skills.

Table 23: The Percentages of Higher-Order and Lower-Order Questions of Instructor C

		Higher-order questions	Lower-order questions
Percentages of higher-order and lower-order questions		48.21	51.63
	Total:	100%	

4.2.4. Instructor D

Instructor D is a 15-year-experienced instructor with PhD degree. He is understanding and sincere as well as being funny. He often makes jokes in his classes and it feels students comfortable in the classroom. The students are allowed to eat and drink. He prefers correcting grammar and pronunciation mistakes indirectly. He does not take a side in the discussions; he prefers supporting all the sides to spark the debates.

For this study, it was found that he asked 210 questions throughout the classes he was observed. 9 of these questions belong to knowledge stage of the taxonomy, 4 of them belong to analysis stage, 1 belongs to synthesis stage and 125 of 210 questions are evaluation questions. Besides these, 5 evaluation-statement, 1 knowledge-statement, 5 simple interaction-statement, 48 simple interaction questions and 12 rhetoric questions were asked by the instructor D. In the following table, the number of questions for each stage and category is given:

Table 24: The Distribution of the Questions of Instructor D

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Rhetoric	SIQ	Stat-Q+Eval.	St-Q+Know	St.Q- SIQ
Number of questions	9	0	0	4	2	125	12	48	5	1	5
Total:	210 questions										

As for the percentages, it is easily seen that evaluation questions has an important percentage compared to other instructors. Of the questions, 59,52% is evaluation questions. Knowledge questions follow it with 4.28%. The percentage of analysis questions is 1.90, and of synthesis questions is 0.47. Apart from the taxonomic questions, 22,85% of all the questions were simple interaction questions (SIQ) to fire classroom discussions, 5,7% of the questions were rhetoric, 2,3% of the questions were evaluation-statement questions, 2,3% is simple interaction-statement questions, and 0,47% of 210 questions are knowledge-statement questions. The percentages are given in Table 25:

Table 25: The Percentages of the Questions of Instructor D

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Stat-Ques.	Rhetoric	SIQ	Stat-Q. + Stage
Percentages of each stage of questions (%)	4.28	0	0	1.9	0.47	59.52	0	5.7	22.85	5.07
Total:										100%

When all the percentages are taken into consideration, it is seen in the table below that 64.19% of all questions is higher-order questions that contributes thinking skills, and 35.81% of the questions is lower-order questions.

Table 26: The Percentages of Higher-Order and Lower-Order Questions of Instructor D

	Higher-order questions	Lower-order questions
Percentages of higher-order and lower-order questions	64.19	37.9
Total:	100%	

Table: The percentages of higher-order and lower-order questions.

4.3. The Distribution of the Questions According to Each Class Hour

In this part of the study, the distribution of the questions according to each class period was put under the scope. When looked at the questions asked in each class period, it should be mentioned that most of the questions asked by the instructors were asked in first and second hours of the classes predominantly, and the third hour is generally left to classroom activities by the instructors. Below is a graphic showing the distribution of the questions for each class hour for each instructor:

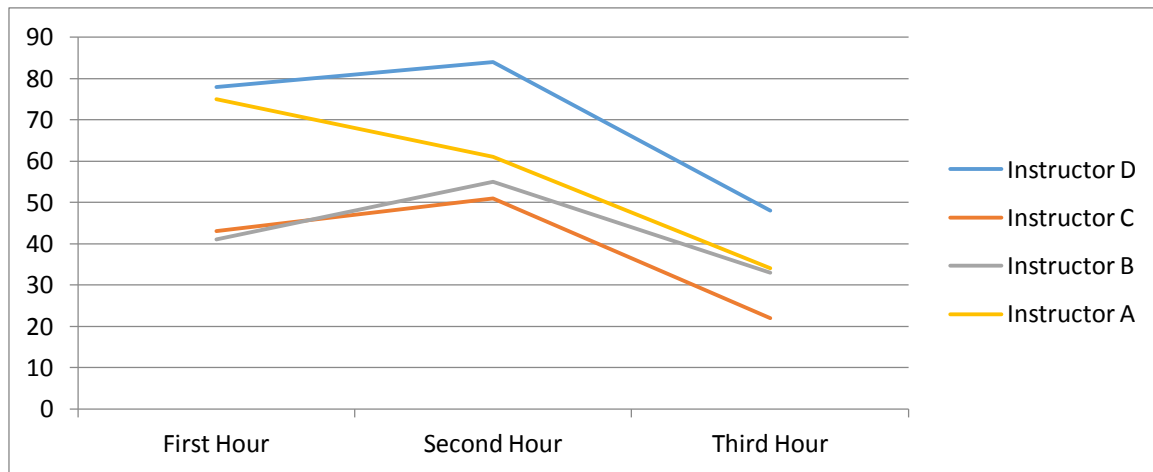


Figure 4: The distribution of the questions to each class hour

According to the figure, the questions for each class hour can be shown in a table as follows:

Table 27: The Distribution of the Questions for Each Class Hour

The Distribution of the Questions for Each Class Hour			
Instructor	First Hour	Second Hour	Third Hour
D	78	84	48
C	43	51	22
B	41	55	33
A	75	61	34
Total	237	251	137

It was observed that the number of the questions asked by the instructors decreased in the third class period, and the second hour was the one in which most of the questions were asked. In the first class period, 237 questions were asked in total; this number increased to 251 questions in the second hour and decreased again to 137 questions in the third hour in total.

4.4. The Wait Time Provided by the Instructors after the Questions

The instructors may be familiar with the questions they ask and the answer they expect to receive from the students. However, it is the first time students hear the question and they need time to think, organize their thoughts, reason their answers and answer it. For this reason, students should be given some time to think between and after the questions.

In this part of study, the researcher tried to find out if the instructors provide time for the learners to think and get prepared to answer. According to the recordings of the classes, the amount of *wait-time* provided by the instructors is as follows. For the calculation of wait-time provided by the instructors, some of the challenging questions were taken in since it is a speaking class including lots of questions with short and immediate answers. With the random sampling method, 10 questions asked by each instructor were selected among all the evaluation questions, the wait-time provided after each question were calculated and the mean score was found. In the following table, the wait-time that the instructors provide is given:

Table 28: The Wait-Time Provided After the Selected 10 Evaluation Questions

Question no.	<u>D</u>	<u>C</u>	<u>B</u>	<u>A</u>
Question 1	2	1	1	1
Question 2	2	2.5	2	1
Question 3	1.5	1	1	2
Question 4	4	3.5	1	1.5
Question 5	2	2	7	2
Question 6	4.5	6	6.5	3
Question 7	1	2	3	2
Question 8	2	1	4	3
Question 9	2	3	13.5	4
Question 10	3.5	5	1.5	2
Average Wait-Time for Each Instructor	2.45 seconds	2.7 seconds	4.05 seconds	2.15 seconds
The Mean Wait-Time	2.83 seconds			

According to the table, the mean time provided to the students by the instructors is calculated as 2.83 seconds ($M = 2.83$). That means, the instructors gave students 2.83 seconds after the most challenging higher-order questions to think and give their answers.

4.5. Interpretation of the Data

4.5.1. The Amount of Higher-Order Questions Asked by the Instructors

In order to answer the first research question, the questions asked by the instructors categorized according to the taxonomy of Bloom. The instructional questions were taken in while the non-instructional questions were excluded by the researcher. The instructional questions are categorized according to the stages of the taxonomy. The stages are knowledge, comprehension, application, analysis, synthesis and evaluation. Besides these stages, three more categories are taken into consideration in the study. First category is ‘rhetorical questions’ which were not asked to receive an answer. These questions are often asked to draw attention, to emphasize or make a point (Gideon, 2007). Many times, the owner of the question already has the answer to his/her question. These questions are commonly used in speech and informal writings. They are also common in literary works. “Does killing someone legal?” is a good example for this category.

Another category for the nontaxonomic questions is ‘Simple Interaction Questions (SIQ)’. This category includes the questions which were asked to start the discussions, to guide the path of the class, rather than fostering critical thinking. ‘Do you smoke?’ and “Do you criticize people?” are two of the SIQs from this study.

The last category for the nontaxonomic questions is ‘Statement Questions’. The questions in this category are questions in the form of sentences. These questions may also include a taxonomic stage in a statement form. For example, “Childhood is a golden period in your lifehood?” is a good example for the statement questions. It is an evaluation question in the form of a sentence.

In this study, 588 instructional questions were asked by the instructors. The stages and the categories of these questions are given below in Table 8:

Table 8: The Distribution of the All Questions According to the Stages of the Taxonomy

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Rhetorical	SIQ	Statement- Question
Number of questions	81	84	1	3	1	213	27	121	57
Total:									588

Statement questions are questions in the form of sentences as mentioned in the previous pages. In this study, 57 questions were formed as statement questions and they are also categorized as follows:

Table 29: The Categorization of Statement Questions

	Only Statement	Statement and knowledge	Statement and comprehension	Statement and evaluation	Statement and SIQ	Statement and rhetoric
Number of statement questions	22	2	23	3	5	2
Total:						57

According to Bloom's taxonomy, only analysis, synthesis and evaluation questions promote higher order thinking skills. For this reason, of these 57 statement questions, only 3 questions can be included in the category of higher-order questions.

As the questions in analysis, synthesis and evaluation stages are taken into consideration, it is found out that 220 questions are higher-order questions encouraging critical thinking

skills. The percentage of higher-order questions is 37.415% when compared to all the questions asked in the classes, and 62.585% of all questions are lower-order questions.

	Higher-order questions	Lower-order questions
Percentages of higher-order and lower-order questions	37.415	62.585
Total:		100%

In the light of these findings, it can be stated that instructors do not ask enough number of higher-order questions which improve students' thinking skills and promote critical thinking. They generally prefer questions which ask for memorization or comprehension in the speaking classes. They ask questions to foster discussions and create new paths in the discussions (SIQ), however, they do not ask higher-order questions leading them to critical thinking in the discussions.

4.5.2. The Amount of Lower-Order Questions Asked by the Instructors

As the tables above are taken into consideration, it is understood that the instructors showed the tendency to ask lower-order questions rather than higher-order questions. Lower order questions are the questions requiring memorization of the information, comprehension of a reading passage or application of some theoretical knowledge etc as mentioned in previous chapters or simple interaction questions and rhetorical questions. It is found that 62.585% of all questions asked by the instructors are lower-order questions. It can be concluded from this percentage that the instructors do not ask enough number of higher order questions which promote critical thinking skills. They do not ask questions for students which require analyzing of the information they have, the synthesizing of them to form an idea or reasoning a belief or a thought.

Questioning skills are crucial for both language education and daily life. Questioning means a critical point of view towards every new belief and thought, besides the ones people already have in mind, and it can be taught to have a critical eye. In the modern day, people are bombarded with lots of beliefs and thoughts and loads of information every day,

most of which are unnecessary or wrong, therefore, it is a requisite to think critically. However, it is understood that the instructors do not lead students to critical discussions in their classes. The reasons for it may be critical discussions are harder for instructors to develop and guide in the classroom, they may be time consuming, instructors are not aware of the importance of critical thought or they still teach with traditional methods based on memorization or instructors do not know how to improve critical thinking skills in their classes.

4.5.3. The Distribution of the Questions According to Each Class Period?

The Table 24 shows that instructors ask most of their questions in the second hour of their 3-hour classes. During the classroom observations, they asked 588 questions in total. The instructors asked 237 questions in the first hour, 251 questions in second hour and 137 questions in the third hour. It was observed that the number of the questions asked by the instructors decreases in the third hour. The first hour included the greeting, introducing the new topic and the process to organize thoughts about the new topic before speaking and discussions started. These caused some waste of time in the first hour. In the second hour, having the required background knowledge or necessary vocabulary, students were ready to discuss about new-introduced issues or they already went on discussing or talking about it, they did not have much time to consider, and this situation increased the number of the questions asked by the instructors. In this period, some thoughts were expected to be improved, or many issues were touched, the discussions produced many questions. In the last hour, students and instructors often seemed tired of discussing or producing new ideas and it was seemed that they lost their attention on the issues and some activities like group discussions or partner work were provided by the instructors in this hour and least number of questions was asked.

When it comes to higher-order questions, it should be mentioned that most of the higher-order questions were asked in second hour. In the first hour, information about new topic and new vocabulary were introduced by the instructors. For this reason, the instructors asked more knowledge and comprehension questions in the first hour. In the second hour, students had the necessary knowledge and vocabulary, therefore, the instructors asked more analysis and evaluation questions in discussions. As mentioned above, the number of questions including higher-order questions decreased in the third hour.

4.5.4. The Amount of ‘Wait-Time’ Provided by the Instructors after the Questions

Good questions require time to design, good answers require time to organize and reason before presenting. For this reason, the teachers should provide some time to the students after they ask the questions. Researches indicate that teachers wait for the answer only for one second or less. However, a three or four second time allowance results in more comprehension and higher quality answers (Rowe, 1974).

In this study, to be able to calculate the approximate wait time provided, 10 higher-order questions were selected randomly among the questions each instructor asked and the time given after the questions was added. After that, the arithmetic mean of these numbers is calculated. It is found that approximately 2.83 seconds ($M=2.83$) for wait-time was provided to the students after the higher-order questions. This number is close to the ideal wait-time which is 3 or 4 seconds, but it is still lower than the ideal.

One problem with the provided wait-time in the classes can be stated as such: The amount of wait-time provided after questions is not stable. Even though the arithmetic mean of the wait-time provided in this study is 2.83, it was observed that the wait-time after the questions changed between 1 second and 13.5 seconds. In other words, instructors sometimes gave 1 second time allowance, and sometimes 10-13 seconds for students to prepare their answers. It means that the instructors are not consistent on giving enough time to the students to consider. If the time allowance is lower than required, the quality of the answer decreases. If much time than needed is provided, this causes disturbance among the students and increases the tension of the classroom. Teachers should provide enough time to the students for getting ready to answer the question.

4.6. Conclusion

Educators agree on the issue that the teachers need to master in the skill of asking effective questions. The questions are core of effective teaching and learning in the classroom. Ornstein (1987) states that “the essence of good teaching is related to good questioning (1987, p. 71). It is clear that much attention should be given to the design of questions, and teachers should ask more higher-order questions that promote better thinking and reasoning.

While the importance of higher-order questions is recognized by educational authorities nowadays, the findings revealed that the number of higher-order questions promoting

better thinking and reasoning skills is not high. Even in language classes in which free thinking is encouraged, the percentage of higher-order questions is below the expected.

From this study, it can be concluded that experienced instructors ask more higher-order questions in their classes. When less experienced instructors have the tendency to ask knowledge and comprehension questions more, the experienced instructors preferred asking evaluation questions which require more reasoning.

It should be mentioned, even though it is in the scope of this study, the quality of the questions can be affected from the level of affective filter in the classroom atmosphere. No specific observation on the level of affective filter in the classes observed was made throughout this study, however, the researcher noticed that more higher-order questions were asked in the classes with low affective filter. Low affective filter helped the students feel more comfortable while questioning, and this fostered classroom discussions and higher-quality questions.

Based on the results of data analysis, it should be mentioned that the wait-time provided for students to organize and evaluate their answers after questions is close to the ideal, however, it is still below the limits. The time allowance after questions should be extended and more attention should be put on providing prorated wait-time rather than providing 1 second for a question and 10 seconds for another.

It should be mentioned that, as in Krashen's 'Monitor Model Hypothesis', students lose their confidence when they think they are *monitored*. The researcher observed that Instructor B interrupted the students while they were speaking and corrected their grammar and pronunciation mistakes. It caused students concentrate on being 'correct' and the flow of the discussion or speech was affected negatively.

The interactionist theorists like Michael Long claims that much acquisition in learning takes place through conversations. In this way, more comprehensible input can be provided to the students. The researcher observed that much conversation, classroom discussions took place in the classes of Instructor C and Instructor D and more-higher order questions were asked because more ideas and thoughts were created to discuss about. With these discussions, the instructors and their peers provided much more comprehensible input in these classes and the students produced more comprehensible output. Besides, in the classes of instructor C and D, the discussion topics were more suitable to the levels and interests of the students. In these classes the instructors lead them into discussions such as

flirt or censorship on Internet which attract students more. However, in the classes of instructor B (in which so little number of higher-order questions occur), for instance, the discussion topics were relief organizations and tsunami.

When compared to the previous studies, it should be mentioned that teachers' questions did not improve as much as expected. In the study of Hamblen, he found that only 20% of the questions asked by the teachers in the elementary and secondary classrooms require critical thinking skills and in 1986, the study of Daines indicated that 93% of elementary and secondary teachers' questions are memorization questions (Ramsey et al. 1990, p.1).

Some studies on teacher questions were also conducted in Turkey. One study about teacher questions was conducted by Özgür in 2007. She conducted her study in the Listening/Speaking courses at Anadolu University School of Foreign Languages and three instructors participated in her study. She found that the percentage of higher-order questions was not high, and parallel to the present study, most of the higher order questions were asked during the whole class discussions and problem solving activities which require more interaction. She stated that the way the activities were conducted and applied affected the nature of the questions. In this study, the same coursebook was followed by the three instructors and the percentage of higher-order questions given in the book and the percentage of the higher-order questions designed by the instructors were determined. In the present study, the instructors followed different coursebooks and it was not taken into consideration as a variable.

Another study was carried out by Tarakçıoğlu in 2008 at Middle East Technical University. Two classes of students participated in the study. The main concern of the study was students' oral expression of critical thinking in classroom discussions, rather than teacher questions. However, there are some similar points that should be mentioned in both studies. She stated that the topic choice in the classroom affected the interaction in the classroom; the amount of CT expression was higher in the classes in which students found the topic interesting. It should also be mentioned that the existence of the teacher as a strong authority affected the students' expression of CT. She realized that if the teacher was the authority or the leader of the discussion, the amount of CT expression was lower. Teachers should "establish a supportive learning environment that respects student opinions while giving enough direction to ensure their relevance to a topic, and to provide ample opportunities for learners to collaborate" (Neilsen, 1989, as cited in Tama, 1989, p.4).

As a summary, instructors at ELT departments should be more conscious about how to improve the critical thinking skills of the students by asking more higher-order questions which require them to analyze, synthesize and evaluate the information they encounter and reason their answers before stating them. Teachers are the milestones of the education systems; and the authority in the classroom. Critical societies mean critical teachers to train students' mind and broaden their perspectives. Today, an average person spends 1/3 of his lifetime in schools, where they are expected to leave with loads of information. Therefore, the teachers from each level of the education system should struggle more to improve the minds of their students by helping them increase the quality of their thinking.

From early childhood people should be taught, for example, to reason, to seek relevant facts, to consider options, and to understand the views of others. It is neither impractical nor unreasonable to demand that the educational system teach young people the habits of mind which characterize the good critical thinker, reinforce those practices, and move students well down the path toward their attainment. (Facione, 1990, p.14)

This chapter presented the analysis of the findings of the study both qualitatively and quantitatively. The results revealed that the percentage of higher-order questions not high and the wait time provided for students to organize their thoughts is lower than it should be. In the next chapter, the conclusion and further discussions will be provided.

CHAPTER 5: CONCLUSION

5.1. Introduction

The importance of the questions in teaching has been recognized since the time of Socrates, and the role of questions in terms of language teaching has been discussed for a decade. Many scholars and educators have contributed to the studies on questioning and the use of questioning skills in teaching and learning process. It is agreed that well-built teacher questions are crucial to improve students' thinking skills and the quality of the teaching. With high-quality questions, students can be encouraged to think, analyze and evaluate their thinking and reason every kind of thought they encounter both in their school lives and daily lives.

In the lights of these views towards questioning, considering the importance of teachers in teaching and learning process, this study investigated the types of questions asked in speaking classes of ELT departments of two universities, and tried to find out whether these questions promote students' critical thinking skills by encouraging them to think, analyze, evaluate and reason.

5.2. Summary of the Study

As it is mentioned in the previous part, the study attempted to seek answers for the following questions:

1. What is the amount of higher-order questions asked in speaking classes?
2. What is the amount of lower-order questions asked in speaking classes?
3. How is the distribution of questions according to each class period?
4. How much wait-time is provided to the students by the instructors?

In order to find answers for these questions, two instructors from Gazi University and two instructors from Ondokuz Mayıs University were selected to be observed. These two instructors were selected randomly, not based on any criteria. Two of the instructors were

male and two of them were female. The gender of the instructors is not considered as a differential feature as well. Their teaching experience in higher education is between 5 years and 25 years. Two of the instructors had an MA degree and one had PhD degree on language teaching. The instructors were observed for 6 classes in a month, and all the classroom instruction was recorded by a voice recorder. After that, all the questions they asked were categorized according to the sample question stems of Dalton and Smith (1986), based on the taxonomy of Bloom (1956).

When the findings of this study are analyzed, it is found that 588 questions were asked throughout this study. Of these questions, 37.415% (220 questions) is higher-order questions requiring analysis, synthesis and evaluation stages which promote critical thinking skills of the students and 62.585% is lower-order questions. That means students do not use their reasoning skills well enough to produce better ideas and arguments.

The teachers should provide at least 3-4 seconds after higher-order questions for students to organize their thoughts and get prepared to answer. More time allowance often means higher-quality answers. However, it should be given attention that too much time after questions causes disturbance and stress among the students. The teachers should give enough time for students to evaluate their answers, no more, no less. In this study, 10 higher-order questions from each instructor were selected randomly, the wait time provided after them is calculated, and it is found that students are given 2.83 seconds approximately after higher-order questions. This time allowance seems lower than it should be and it causes lower-quality answers from the students.

As the distribution of the questions is taken into consideration, it is found that the instructors asked most of their questions in the second hour. They asked least number of questions in the third hour. Along the same line, most of the higher-order questions were asked in the second hour. It was observed by the researcher that the instructors preferred providing some background information and vocabulary about the topic; spent some time with greeting. With the information and necessary knowledge about the topic, the students discussed more in the second hour and it increased the number of the questions asked. In the third hour, the teachers provided some classroom activities related to the topic and the students made presentations. Often, both the instructors and students seemed tired of discussing and they studied on some projects in this hour which causes a dramatic decrease in the number of the questions asked.

As a result of the study, students seemed more productive and comfortable in the classes of the instructors that provide a relax and supportive class environment, that encourages classroom talks without correcting the mistakes immediately or directly, that provide more interesting topics to discuss. In these classes, students discussed more and the instructors had the chance to ask more higher-order questions which require the analysis, synthesis and evaluation of the thoughts and beliefs and promote questioning and critical thinking skills of the students.

5.3. Pedagogical Implications

First of all, it should be mentioned that the results of this study cannot be generalized because of the limited number of instructors participating in the study. However, the results of this study can be a cue about the situation of speaking classes of ELT departments.

This study can be helpful in understanding how important it is for instructors to be conscious about critical thinking and its practices in the classroom. It is also helpful to understand many of their questions in their classes are useless in terms of improving the thinking skills of the students.

With this study, it is understood that the instructors need to be trained to lead their students more questioning in their class. For this, it is a good idea to provide inservice trainings for the instructors to help them meet the needs of the present day. Besides, some teacher training programs can be advised for these instructors. It is also beneficial to motivate them to participate in some workshops. Moreover, these workshops can be held by the universities themselves in which both students and the instructors benefit from.

It is understood from the present study that whole class discussions, open debates, group projects and pair works lead the students more interaction and communication. Thus, more higher-order questions are asked by the students and the instructors. In the classes of Instructor D and C, more conversational activities were applied in the classroom and more higher-order questions were asked by the instructors. For this reason, students should be provided classroom activities in which they have the chance to express their opinions and reason the way they think.

Another implication that should be mentioned is topic selection. Students participated more in the classes in which the topics are more interesting. As an example, Instructor D started topics like flirt or the advantages of having a piercing and Instructor C started discussions

on the use of technology and those topics created more discussion and interaction which lead more higher-order questions. On the other hand, Instructor B preferred topics like tsunami and relief organizations about which students seemed reluctant to talk about and this caused more lower-order questions.

Students, as the researcher observed, participated in the discussions more if the instructor is not an authority and does not take a side while discussing. If the instructor is a side in the discussion, it discourages students to defend their ideas as in the classes of Instructor B. In his classes, he seemed to have a side while discussing about an issue; this caused demoralization and discourage on the other side. The teacher should be impartial in the discussions and should lead the path of it by asking controlling questions, by supporting the weak side from time to time or suggesting new dimensions of the issue being discussed.

It should be realized that, a teacher is the last person to complain about the situation in an educational environment, he/she is the one to correct it.

5.4. Further Research

Some suggestions for further research are given as follows. First of all, the number of the teachers who participated in the study can be increased and more general results can be obtained. Besides, it will be good to include some more universities in the study. Even including some sample universities from each geographical region to be able to generalize the results to whole country would be awesome. A similar study can be carried out in primary, secondary and high schools in order to have a rough idea about how much CT skills and questioning strategies are taught in these schools and what can be done to improve the situation.

Second, instead of observing the teachers and examining their questions only, the reactions of the students to these questions and how much critical thinking signals their answers have can be investigated.

The effect of course book on the quality of the questions can be examined. In the present study, the instructors who follow a course book asked more lower-order questions often requiring memorization of the information in the book. However, the instructors who are not dependent on the course book asked more higher-order questions which let students analyze the issues, make inferences and evaluate their thoughts.

The influence of the level of affective filter on the students' answers to questions can be put under scope. In this study, the level of affective filter and its influence is slightly touched, however, a detailed study on this issue will be useful in terms of both language teaching and the teaching of critical thinking skills.

In this study, the quality of the teacher questions is examined. However, the study does not include whether the instructors have any course on how to ask high-quality questions in the university. For this reason, if the instructors took any course on asking high-quality questions can be put under the scope in other studies. Almost all the studies on teacher questions include some instructors from all levels, from primary school level to university level, and some of them ask more higher-order questions and some ask lower-order questions. To understand what motivates a teacher to ask more higher-order questions, a comparative study can be conducted in which the instructors are compared in terms of the quality of their questions.

Conducting the same study with both Turkish teachers and native speakers would be beneficial in order to see if there occurs a remarkable difference. If there is such a difference, the reasons of it can be another research subject.

Students can be observed in the classes in which they use their mother tongue, or the same subject can be discussed both in English and in their mother tongues. If there is a significant difference, it helps the researchers or educators understand the source of the problem: does it stem from speaking in a foreign language or having inadequate CT skills to ask higher-order questions? If the researcher observes that students have improved CT skills to ask high-quality questions but they have difficulty in asking them, it can be the subject of another study to search for the reasons of this problem.

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APPENDICES

Appendix 1

Gazi University
Institute of Educational Sciences
A Critical Rubric on the Observation of Teachers' Questions in Speaking Skills
Classes

Name of the Instructor :

Name of the University :

Year of working experience:

Class hour : 1st ☐ 2nd ☐ 3rd ☐

Date :

Number of questions asked throughout the class:

Number of rhetorical questions :

Number of statement questions :

Number of higher-order questions :

The instructor provides wait time: Yes ☐ No ☐

The instructor provides feedback: Yes ☐ No ☐

Degree of Nonverbal Immediacy: () Low () Moderate () High

Classroom Atmosphere : () Low AF () Moderate AF () High AF

Questions	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Statement- Question	Rhetric	SIQ
Q1:									
Q2:									

[illegible]

Appendix 2

A Critical Rubric on the Observation of Teachers' Questions in Speaking Skills Classes

Demographic Information of the Learners;

Male: ☐ Female: ☐

The school of graduation (Anatolian High School etc.):

YDS Score received in University Entrance Exam :

The scores received in the first-term language proficiency courses;

- Contextual Grammar I :
- Speaking I :
- Advanced Reading-Writing I :
- Pronunciation I :

A Critical Rubric on the Observation of Teachers' Questions in Speaking Skills Classes

Demographic Information of the Learners;

Male: ☐ Female: ☐

The school of graduation (Anatolian High School etc.):

YDS Score received in University Entrance Exam :

The scores received in the first-term language proficiency courses;

- Contextual Grammar I :
- Speaking I :
- Advanced Reading-Writing I :
- Pronunciation I :

Appendix 3

Sample Questions from the Class Observations for Each Stage of Bloom's Taxonomy

Sample Questions for the Knowledge Stage

1. Who invented zero, do you know?
2. What was the name of first-cloned sheep?
3. How do we pronounce this word?
4. What is the meaning of dilemma?
5. Do you know this expression, "Lost and Found Office"?
6. How do we define this?
7. What is the example given in the passage?
8. What is 'proverb'?
9. What kind of a vegetable is lemon?
10. 'Tit for tat' , what does it mean?
11. What does it mean in Turkish, 'mass education'?
12. Where did the tsunami take place?
13. Could you translate it into Turkish?
14. What is the mission and function of 'Amnesty International'?
15. What does it mean 'internal violence'?

Sample Questions for the Comprehension Stage

1. When you read this sentence, what comes to your mind "Charity work is life changing."?
2. What did you understand from this ad?
3. What does that mean to motivate someone internally?
4. What do you mean by classroom management?
5. Can you give me a Turkish example?
6. 'Don't put off today's work until tomorrow' Can you explain?
7. Can you give me some other examples please?
8. 'An empty barrel makes the most noise.' What do we learn from this proverb?
9. 'Silence gives consent.' What does that mean?
10. How do you explain this proverb in English?
11. How do you explain 'dilemma'?
12. 'A word to the wise is sufficient.' Talk about it.

13. Can you explain the bank example?
14. ‘Give a dog bad name and hang him.’ What does it mean?
15. ‘Every cloud has a silver lining.’?

Sample Questions for the Analysis Stage

1. If you don’t have responsibilities, what would have happened?
2. Were you always happy when playing games?
3. Are you having similar problems now?
4. What’s gonna happen now?
5. So, what are they going to do?
6. Do you think the owner of the money will give the money?
7. Ok, what are they going to do?
8. What are the alternatives to come back at your hometown?
9. What would the words be (to use in this situation)?
10. Will he say something if you cut your hair short, have a piercing?
11. Can we say it is similar to ‘Dereyi görmeden paçayı sıvama.’?
12. Has anything else changed since you graduated from that school?
13. Why do you think they buy ‘fragile land’ from developers? What might be the purpose?
14. It is a new word, what might it be here?
15. Doing community service, in what sense, may have bad consequences?

Sample Questions for the Application Stage

1. In the future, you will be teachers. How will you incorporate multiple intelligences in your classes?
--

Sample Questions for the Synthesis Stage

1. What is the alternative, then?

Sample Questions for the Evaluation Stage

1. What is the happiest time in your life, childhood or adulthood?
2. Does responsibility mean ‘trouble’ to you? Why?
3. If a child were asked who is happier, a child or an adult, what would the child say?
4. Do you think it is a good thing?
5. Does that mean that we shouldn’t criticize?
6. Why do you think it is very important to do community work?
7. What might be done in schools to motivate the students internally?
8. Is it good or bad thing?

9. There is a deeper meaning of the second proverb. What do you think?
10. What about euthanasia? What do you think about that?
11. Should we have a kind of a system as in USA in Turkey?
12. Do you think it should be longer or do we need professional army system?
13. Does military service should be a freewill for men?
14. Think about making friends. Which one is easier to make friends, at school or at a party?
15. Your friend will go on a holiday for 10 days and asks you to give your car. Would you give your car?

Sample Statement Questions

1. But, Trabzon is a big city?
2. You don't go out at your hometown?
3. She asks for permission?
4. They ask you to choose one?
5. Maybe some people like getting educated on the Internet?
6. Two wrongs don't make a right?
7. Translate it into Turkish. 'Amnesty International.'
8. Your time will be spent on a good cause. Translate it.
9. So, they limit your freedom.
10. Childhood is a golden period in your lifehood?
11. You're the owner of the bus already?
12. So, you're keeping the watch?
13. You also have a dilemma?
14. You think that it is his responsibility?
15. They are different from each other, or together?

Sample Rhetoric Questions

1. Their main head-quarter in Switzerland is ACRC, değil mi? ACRC?
2. What is the basic human right?
3. What kind of abandoned elements? Left animals, değil mi?
4. Barbecue party? To the students?
5. How can we expect these people to do community work, to understand?
6. So, what makes them happy, what makes them sad?
7. Does killing someone legal?
8. Do you smoke?

9. What are you doing to draw your students' attention?
10. Who will teach English to students?
11. Can you expect anybody to learn something without teaching? Of course not.
12. So, what is the level of punishment?
13. Then, Why do you interrupt my life?
14. You're 18. Who can say anything to you?
15. It is obligatory in Israel, right?

SIQ (Simple Interaction Questions)

1. Do you smoke?
2. What about the smart phones?
3. Aren't you afraid of being cancer?
4. Who speaks English outside the class?
5. Who says I'm happier than in my childhood?
6. Don't you think we're human, just because of this we have responsibilities?
7. For example, Do you ask your mother/father about it?
8. You're not tolerant, are you?
9. Don't you criticize people?
10. That's a lot of money, right?
11. Haven't you ever thought of advantages of having a child?
12. Are you sure you didn't have any problem?
13. Didn't your parents explain it to you?
14. Do you welcome people who talk too much?
15. Animals, humans or what?



GAZİ GELECEKTİR...