To my beloved son...

TEACHERS' PERCEPTIONS OF TEACHING THINKING SKILLS
IN
LOW-LEVEL ENGLISH CLASSES
AT
BILKENT UNIVERSITY SCHOOL OF ENGLISH LANGUAGE

The Institute of Economics and Social Sciences
of
Bilkent University

by

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in

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June, 2004

I certify that I have read this thesis and found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Teaching English as a Foreign Language.

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ABSTRACT

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The objective of this study was to investigate the attitudes of Bilkent

University School of English Language (BUSEL) teachers towards teaching HOTS

in low-level English classes. The study specifically investigated (a) what the

teachers' understanding of how HOTS should be implemented is, (b) what the

teachers see as problems and benefits of bringing HOTS into their Elementary or

Low-Intermediate classes, and (c) if the teachers at BUSEL implement and teach

HOTS in low-level classes. A questionnaire was administered to twenty-two

BUSEL teachers who taught Elementary or Pre-Intermediate level during the third

course of the 2003-2004 academic year. After the analysis of the questionnaire,

three teachers were selected and their lessons were filmed. Then, semi-structured

interviews were conducted with the teachers whose lessons had been observed by the researcher. The data results revealed that teachers at BUSEL are familiar with thinking skills and a great majority of them believe that they can be taught. They also acknowledge the importance of practice and effective guidance in teaching these skills. However, teachers identified students' level of English as the major problem they experience in the teaching of thinking skills. Teachers' attitude towards students' learning processes, time constraints, and the number of the objectives to be covered in a limited time were found to interact with students' level of language to further hinder the teaching of thinking skills.

KEY WORDS: Critical Thinking, Creative Thinking, High Order Thinking Skills

ÖZET

BİLKENT ÜNİVERSİTESİ İNGİLİZ DİLİ MESLEK YÜKSEK OKULU
ÖĞRETMENLERİNİN DÜŞÜK SEVİYELİ İNGİLİZCE SINIFLARINDA
YÜKSEK DÜŞÜNME BECERİLERİNİN ĞRETİLMESİNE BAKIŞI

Yeşil, Nurdan

Yüksek Lisans, Yabancı Dil Olarak İngilizce Öğretimi

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Bu çalışmanın amacı, Bilkent Üniversitesi İngiliz Dili Meslek Yüksek
Okulundaki (İDMYO) öğretmenlerin düşük seviyeli İngilizce Hazırlık sınıflarında
yüksek düşünme becerilerinin öğretimine karşı tutumlarını araştırmaktır. Çalışma,
(a) öğretmenlerin yüksek düşünme becerilerinin nasıl öğretilmesi gerekliliği ile ilgili
düşüncelerini, (b) başlangıç ve düşük-orta düzeydeki İngilizce hazırlık sınıflarında
yüksek düşünme becerilerinin öğretimi ile ilgili yaşanan problemleri ve sağlanan
yararları ve (c) öğretmenlerin düşük seviyeli sınıflarda yüksek düşünme becerilerini
öğretip öğretmediklerini araştırmaktadır.

2003-2004 öğretim yılının 3. kursunda başlangıç ve orta-düzey öncesi
İngilizce hazırlık sınıflarını okutan 22 İDMYO öğretmenine anket uygulanmıştır.
Anket analizinden sonra seçilen üç öğretmenin dersleri kamera ile kaydedilmiş,

daha sonra da dersleri araştırmacı tarafından izlenen bu öğretmenlerle bire bir görüşmeler yapılmıştır.

Araştırma sonuçlarına göre İDMYO öğretmenleri düşünce becerilerine yabancı değildir ve büyük bir çoğunluğu da bu becerilerin öğretilebileceğini düşünmektedir. Aynı zamanda, bu becerilerin öğretilmesinde alıştırmanın ve etkin rehberliğin de önemini kabul etmektedirler. Ama öğretmenler, düşünce becerilerinin öğretiminde en önemli sorun olarak öğrencilerinin İngilizce seviyelerinin yetersizliğini görmektedirler. Öğretmenlerin, öğrencilerinin öğrenme sürecine olan tutumları, kısıtlı zaman ve bu kısıtlı zamanda gerçekleştirilmesi gereken hedefler öğrencilerin dil seviyesine bağlı olarak düşünme becerilerinin öğretimini zorlaştırmaktadır.

ANAHTAR KELİMELER: Kritik Düşünce, Yaratıcı Düşünce, Yüksek Düşünme Becerileri

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1: INTRODUCTION

In our increasingly complex and globalized world, it is becoming more important that individuals can think divergently and creatively. They need to know how to select, organise, question and use information effectively. This will involve the use of High Order Thinking Skills (HOTS). Teaching HOTS should begin as early as possible in the educational process and should continue throughout the individual's school life (Asher, 2000). The major goal of teaching these skills to students is the development of autonomous thinkers who can utilize HOTS throughout their learning. Teaching HOTS requires teachers to create high-achieving learning environments for all students in which students become independent learners with "increased capacities for flexibility, original ideas and to search for truth and meaning" (Asher, 2000, p.282)

This study is a quantitative and qualitative study that focuses on the Bilkent University School of English Language (BUSEL) teachers' attitudes towards teaching HOTS in low level English classes. It will investigate the feelings and beliefs of the teachers regarding low-level students and instruction of HOTS to these students. Particular attention will be paid to what they see as the problems or benefits of implementing HOTS in low-level classes.

Background of the study

The importance of teaching that truly develops students who can think has been pointed out by many educators and researchers (Asher, 2000; Reynolds & Muijs, 2000; Yıldırım, 2000; Zohar, Degani & Vaaknin, 2000). Not only changes in

technologies and in the job market but also the changing view of teaching and learning in the educational system have made it compulsory for teachers to teach thinking and problem solving to students.

Until quite recently, language teaching has been based on behavioural learning theory according to which learners are perceived as more or less the same regarding their learning needs and the way they learn (Lightbown & Spada, 1999). Within this framework, the emphasis has largely been on product, which has resulted in courses where students are expected to learn too many different topics in a short time and there is little opportunity for them to gain meaningful understanding of the topics. Students memorise facts and formulas which they reproduce in exams without understanding or application to the real world.

This approach has come under criticism for a number of reasons. If students are taught in this manner, argue some, how they can be expected to make judgements, to evaluate and solve complex problems in the real world? They suggest that knowledge is not enough on its own and students need to be taught a broader range of skills which include HOTS (Asher, 2000; Reynolds & Muijs, 2000). More recent theories, such as constructivism, favour environments where knowledge and skills are linked to context and the need to know and understand (Yıldırım, 2000). Such environments, where the learner is active and dynamic, are the basis for development of HOT in learners (Eken, 2002).

HOT, which can be defined as thinking that takes place in the higher-levels of the hierarchy of cognitive processing, requires students to combine facts and ideas in order to synthesise, generalise, hypothesise or arrive at conclusions. Unlike lower-order thinking, in which students receive or recite factual information through repetitive routines, HOT is closely related to critical, creative, and constructive

thinking (Brandth et al.1988). Students critically analyse the knowledge or situation in an academic context through critical thinking, creatively consider possible next-step options through creative thinking, and construct a new product or direction through constructive thinking.

This changing attitude towards teaching and learning requires teachers to bring HOTS into their classrooms. Reynolds and Muijs (2000) suggest a number of classroom processes that can enhance higher order thinking. They point out the importance of focusing on meaning, understanding direct teaching of higher level cognitive strategies and problem solving, and cooperative group work. They also argue that it is the teachers' responsibility to provide students with an environment in which they are given the opportunity to express their ideas and justify their beliefs regardless of their language competence. Thinking is not an optional activity that learners may or may not get in the final stages of their learning when they seem to be more ready in terms of their language competence. Thinking should be applied to all learning and to all learners, even those with low-level language skills.

The literature shows that teachers' beliefs have strong implications for the way they teach (Woods, 1996; Yıldırım, 2000). Thus, the belief that only advanced level learners should be taught HOTS may have serious instructional consequences. Teachers preferring low order thinking skills for teaching low level students may deprive these students of tasks requiring HOTS, which may result in less autonomous learners in the long run. Students should be introduced to HOTS which will equip them with the necessary skills to function as self-directed learners.

Statement of the problem

A great amount of research has been conducted into the need for the development of HOTS in the field of education (Asher, 2000; Reynolds & Muijs,

2000; Thomson, 1996). However, as Asher (2000) points out, because the concept of HOT is often associated with "skills for higher attainers" (p. 276), the focus is generally on the role of HOTS in the achievement of advanced level learners. Very little research has been conducted into teachers' beliefs about HOT and low proficiency students. The study which has been conducted by Zohar et al. (2003) in Israel into the teachers' beliefs regarding low-achieving students and instruction of HOTS focuses on two different groups of students: High-achieving students who do well in school and have high academic achievement versus low-achieving students who do not do well in school and have low academic achievement. However, this study deals with the relationship between students' academic achievement and teaching HOT to them. The field still lacks research studies concerning teachers' beliefs about the need to provide students with HOTS to express their ideas and justify their beliefs, for example, as early as possible regardless of their language competence.

At BUSEL, where all students are encouraged to develop their potential as independent, autonomous learners, the administration puts great emphasis on the implementation of HOTS in the teaching and learning process. However, most teachers seem not to have a clear definition of what HOTS are in their minds and they seem to feel uncomfortable with introducing these skills to elementary or pre-intermediate level students, thinking that students should be equipped with advanced-level English to respond to the requirements of HOTS. Since there is little research on the need to introduce HOTS in language classes as early as possible, the research that I will conduct may help show what my colleagues think about the implementation of HOT skills into low-level language classes. The purpose of this

study, then, will be to explore BUSEL teachers' attitudes towards teaching HOTS to students with low-level of English.

Research Questions

This study will address the following research questions:

1- What is the BUSEL teachers' understanding of how HOTS should be implemented?

2- What do the teachers see as the problems and benefits of bringing HOTS into their elementary or low-intermediate classes?

3- Do the teachers at BUSEL implement and teach HOTS in low- level classes and if so, how?

Significance of the study

Since there is very little literature devoted to the implementation of HOTS into low-level language classes, the results of this study may contribute to the literature by revealing teachers' perceptions, understanding and attitudes towards incorporating HOTS into the teaching and learning process with low-level learners.

At the local level, this study attempts to raise the awareness of my colleagues about the ideal time to start developing their students' HOTS. This information is valuable because it may encourage teachers to develop instructional strategies to foster HOT in the classroom regardless of the students' language proficiency level. This study is particularly useful in the sense that it may draw attention once more to the importance of HOTS in enabling students to contribute and respond to a world which is changing rapidly.

Key Terminology

The following key terms, used frequently in this thesis, are defined below:

Critical Thinking: The use of thinking skills beyond information recall, including questioning, classifying, synthesising, comparing, recognising bias, inducing, deducing, and inferring for goal setting and making decisions (Chaffee, 2000).

Creative Thinking: The cognitive process people use to develop ideas that are unique and useful.

High Order Thinking Skills (HOTS): For the purpose of the study, HOTS consist of the combination of critical thinking skills and creative thinking skills.

CHAPTER 2: REVIEW OF LITERATURE

Introduction

This study investigates BUSEL teachers' perspectives of teaching thinking skills to low-level language classes. This chapter will synthesise the literature on thinking, goal setting and decision-making aspects of thinking, critical thinking and its dimensions, creative thinking, the relationship between critical and creative thinking, teaching thinking skills, and some methods and tasks to develop critical and creative thinking skills.

Thinking and Thinking Skills

Thinking is the process we use every minute to make sense of our world and our lives. Chaffee (2000) suggests that successful thinking enables us to solve the problems we face, make good decisions and achieve the goals which make our lives meaningful. Asher (2000) stresses the fact that it is becoming more important that individuals can think critically and creatively in this information age. Gillhooly (1982) states that 'fruitful thinking' is important because all valuable innovations in the science and art originated from it. Given this, it would not be too overambitious for educators to want to improve the thinking of the students in their schools. Although the topic of teaching thinking has received considerable attention in the recent years, it cannot be claimed that the recent focus on thinking is new. Many of these ideas can be found in the writings of Plato, Aristotle, and Dewey. Indeed, thinking has long been studied from a psychological and a philosophical perspective.

The psychological tradition aims to explain the workings of cognitive operations in thinking. A variety of approaches such as introspectionism, early behaviourism, Gestalt, and neobehaviourism, which all focus on different aspects of thinking, have been taken to the topic of thinking in psychology (Brandt et al., 1988; Garnham & Oakhill, 1994; Gillholly, 1982; Radford & Burton, 1974). More recently, the information processing approach has become dominant in cognitive psychology. This approach takes the computer as its key metaphor for the mind. It sees minds as computer-like systems, which code, store, retrieve, and transform information (Garnham & Oakhill, 1994; Gillhooly, 1982). Newel (as cited in Garnham & Oakhill, 1994) calls the mind "a physical symbol system" (p.12). Its contents are symbolic. These symbols represent information about something outside the mind. When reasoning or other mental processes take place, the mind performs transformations on the symbols.

Garnham & Oakhill (1994) point out the importance of information processing theory in explaining the developmental changes in the reasoning ability of a child. This approach emphasises the need to understand how change occurs and most information processing theorists see cognitive development as a continuous process. They focus on the role of increasing memory capacity on the mechanisms of automatization, encoding, generalisation, and strategy construction. The first mechanism refers to the way mental processes become more automatic with practice. For example, a young child learning to read takes sometime to produce words. A skilled reader, however, recognises words without showing any mental effort. The second mechanism refers to a situation which receives attention. Young children may focus on the irrelevant part of a problem but skilled problem solvers are able to choose the relevant information. The third mechanism refers to repeated

exposure to situations. For example, when children are exposed to electrical toys that do not work because they do not have batteries, they are likely to make the generalisation that they need batteries to play with the toys. The last mechanism refers to the fact that children develop strategies for solving problems and testing hypotheses. All these mechanisms suggest that children can learn how to think better through practice, effective guidance and exposure. They can develop sophisticated strategies, which are the natural consequences of more effective thinking and problem solving.

The philosophical tradition deals with the nature and quality of thinking and its role in human behaviour. Inquiry is one of the philosopher's primary tools (Radford & Burton, 1974). Brandt et al. (1988) stress that the importance of inquiry is a recurrent theme throughout the entire history of philosophy. Philosophers such as Plato and Aristotle used discussion and argument to try to "discern through introspection the forms or ideas behind appearances" (p.6). According to these philosophers, to think or reason was to take the stance of the objective spectator in order to discover the truth, which enabled people to make good decisions. Philosophers' attitudes towards thinking have changed depending on the time they live. For example, Descartes, unlike Plato and Aristotle, gave a more active role to philosophers, encouraging them to develop an accurate method of investigation. Dewey (1991) observed that a democratic society should encourage inquiry because inquiry leads to a change in society. Dewey's observation emphasizes the importance of thinking in the life of modern people who need to think more effectively in order to survive in the information age by making good decisions.

Thinking and the study of thinking have not only attracted psychologists and philosophers but also educators (Brandt et al. , 1988; Baron, 1990; Baron &

Sternberg, 1987; Chaffee, 2000; Johnson, 1998; Nickerson et al., 1985; Paul, 1993; Thomson, 1996; Teays, 2003). Educators and educational philosophers have recognised the importance of thinking in education, believing that thinking is a skill which is valuable to anyone who wants to understand and deal with the natural and social worlds. While most of them have their own definitions of thinking depending on their different approaches to education, all of them view thinking as a skill. Given this view, it is natural to consider thinking to be something which may be done well or poorly, successfully or unsuccessfully. Therefore, for the purpose of this study, I will not define thinking as such; rather I will focus on good thinking as the skill which enables people to set goals which give their lives purpose and make effective decisions to achieve these goals (Chaffee, 2000). This definition involves two key ideas: goal setting and decisions.

<div align="center">Thinking and Goal Setting</div>

Baron (1990) states that good thinking is what we all want to do and want others to do in order to achieve our goals and theirs. Thinking is a purposive process which first enables people to identify what their goals are and then to plan how to reach these goals. Goals play an important role in people's lives by giving their lives order and direction (Baron, 1990; Chaffee, 2000; Paul, 1993; Teays, 2003). Chaffee suggests that thinking well has a crucial role in helping people to achieve their short-term and long-term goals. Specifically, it helps them perform two activities: Identifying the appropriate goals and devising effective strategies. He points out that good thinkers can set their future goals specifically and make a specific plan to achieve their goals. The personal goals that people choose, the decisions they make and the way they plan their lives are affected by the way they think.

Thinking and Decision Making

Baron (1990) defines a decision as "a choice of action of what to do or not to do" (p.3). Decisions are made to reach goals and an important part of becoming an educated thinker is to learn to make effective decisions. According to Chaffee (2000), the decision-making approach consists of five steps: Defining the decisions clearly, considering all the choices, gathering and evaluation of all relevant information selecting the best choice which meets the needs and monitoring the results to make necessary changes. When these steps are gradually mastered, they become a part of people's way of thinking allowing them to apply these steps in a natural way. In order to master these stages, Chaffee suggests a strategy for each one. In order to define the decision clearly, one should write a one-page analysis that explains his/her decision-making situation as clearly as possible. In order to consider all the possible choices, one should list as many possible obvious and non-obvious choices and ask other people for additional suggestions. In order to gather and evaluate all relevant information, one should analyse the pros and cons of possible choice. In order to select the best choice, one should identify and prioritize the goals of the decision situation and determine which of his/her choices best meets the goal.

Decisions are also based on beliefs. Having certain beliefs about thinking can affect people's ability to think well or poorly. Baron (1990) identifies many unhelpful beliefs which people should avoid. Examples are: "These matters are beyond me. They are best left to experts who are capable of thinking about them" (p.464) and " We cannot influence what happens to us by trying to understand things and weigh them" (p. 464). Examples of helpful beliefs which Baron (1990) favours are "Thinking often leads to better results" (p. 464) and "Difficulties can

frequently be overcome through thinking" (p. 464). When people avoid these unhelpful beliefs and adopt the helpful ones, they can make better decisions because they become aware of their potential as effective thinkers. Good thinkers are open to new possibilities and are willing to consider the evidence against the possibilities that they initially favour. Thus, as Chaffee (2000) suggests, they can weigh every possibility before they make their final decisions. When people believe that their thinking about something is useful, they will inclined to pursue their thinking instead of leaving the thinking to so-called experts. They can make their own decisions about what is important or significant in their own lives.

Thinking ability is mostly seen as a complex and high level skill (Baron & Sternberg, 1988; Bartlet, 1982; Nickerson et al. , 1985; Paul,1993). Although desirable thinking has been characterised in many ways such as "good" (Baron, 1998), "rational" (Garnham & Oakhill,1994), "reflective and directed" (Gillholly, 1982), "effective" (Nickerson et al. , 1985), "better" (Perkins, 1997), in this study, thinking will be discussed in terms of "critical" and "creative" thinking.

Critical Thinking

In order to study critical thinking and understand its role in success at school and in life, it is necessary that one should be clear about what critical thinking is. Because one of the dictionary definitions of the word "critical" is "of or at a crisis" and "fault-finding" (Cowie, Gimson, & Hornby, 1988 p. 204), people may think that it is negative or faultfinding thinking. However, while critical thinking might be interpreted differently by different people, it is not necessarily negative or fault-finding; indeed, the word "critical", when used in combination with thinking, means "examined" or "analysed" (Johnson, 1988 p.8).

Critical thinking is seen by some as a unified, readily identifiable process of thinking (Baron, 1988; Chaffee, 2000; Ennis, 1987), whereas others see critical thinking as a combination of discrete thinking skills (Johnson, 1988; Kurfiss, 1988; Teays, 2003). Ennis (1987) defines critical thinking as "reflective and reasonable thinking that is focused on deciding what to believe or do" (p.10). Brandt et al. (1988) favour Ennis' definition and focus on the reasonable aspect of critical thinking stating that thinking is reasonable "when the thinker strives to analyse arguments carefully, looks for valid evidence and reaches sound conclusions" (p.18). However, Lipman (1994) thinks that Ennis' definition is insufficient because the words 'reasonable' and 'reflective' which are used to define the characteristics of critical thinking are "too vague" (p.115). Lipman defines critical thinking as "skilful, responsible thinking that is conducive to judgement because it relies on criteria, is self correcting and is sensitive to context" (p.145). Paul (1993) agrees with Lipman on the insufficiency of Ennis' definition for the same reason. He also thinks that thinkers may not have a clear concept of Ennis' use of 'reflective' and 'rational'. However, he is not satisfied with Lipman's definition either, claiming that one may not understand the difference between responsible and irresponsible thinking and may not have an idea of what self-correction, the appropriate use of criteria and the appropriate sensitivity to context mean. Paul himself defines critical thinking as "disciplined, self-directed thinking which exemplifies the perfection of thinking appropriate to a particular mode or domain of thinking" (p.137).

Paul goes on to discuss a " weak sense" and a "strong sense" of critical thinking. Weak sense critical thinkers do not have the ability to question deeply their own way of thinking and the ability to reason well in order to determine when their point of view is weaker than an opposing point of view. On the other hand,

"Strong sense critical thinkers are not routinely blinded by their own points of view…. They realise they must put their own assumptions and ideas to the test of the strongest objections against them" (p.139). Therefore, strong sense critical thinkers are more open to new ideas and changes.

Similarly, Johnson (1988) is dissatisfied with Ennis' definition, arguing that defining critical thinking as a process is inadequate because some steps in the process may be not clear or else too lengthy and so frustrating to anyone who wants to carry out the process. He himself defines critical thinking as "the use of any and all appropriate thinking skills and mental operations such as questioning, classifying, synthesising, comparing, recognising bias, inducing, deducing, and inferring when intellectual tasks call for anything more than information recall" (p.8). I favour Johnson's definition of critical thinking because it is more straightforward compared to other definitions given above and is not vague. It also gives a clue about the difference between thinking in general and critical thinking with the latter involving "more than information recall." For Johnson, general thinking is "the process of producing thoughts based on recall of remembered and memorised information (p.6). According to the example he gives a person's answer to the question "I went to the bookstore and bought two notebooks for a total of $ 10. How much did I pay for each notebook?" may reveal whether they practice thinking, which is based on simple recall of memorised information, or critical thinking. If they answer $5, their thinking fits the definition of thinking given by Johnson because it is based on the recall of memorised information. In order to answer this question, all they do is to divide 10 by 2, which requires a simple math formula memorised in school. On the other hand, if they have any other answer, they think critically because they do more than remembering a piece of memorised

information. Perhaps they say to themselves, "Maybe one notebook is thicker than the other in which case one notebook might have cost 7 $ and the other 3 $". Or perhaps, they question the idea of two notebooks being so expensive in the first place. Experiencing such thought processes indicates that they do not passively use a memorised math formula but think critically.

<u>Dimensions of Critical Thinking</u>

Chaffee (2000) asserts that critical thinking is not only one way of thinking; rather, it involves several distinct aspects such as thinking actively, carefully exploring situations with questions, thinking independently, viewing situations from different perspectives, supporting diverse perspectives with evidence and reasons and discussing ideas in an organised way. Of these various aspects, perhaps the most important ones are exploring situations with questions and viewing situations from different perspectives. People need to explore the situation in which they are involved to set realistic goals and make effective decisions. Chaffee states that good thinkers try to explore their learning situations with questions, which will help them see different aspects of the situation before they set their goals. Similarly, trying to learn and benefit from the good ideas of others helps good thinkers make effective decisions because they need other people's ideas as well to develop a more complete understanding of a situation.

In order to explore the situation, people need to ask relevant questions. Being able to ask appropriate questions is a valuable thinking tool which enables people to understand the material or task and make this new understanding a part of their knowledge. Questions come in different forms and they are used for various purposes. Chaffee identifies six categories of questions according to the ways people organise and interpret information. These are fact, interpretation, analysis,

synthesis, evaluation, and application. Questions of fact such as who, what, when enable people to have the basic information about a situation. By asking questions of interpretation, people select and organise facts and opinions discovering the chronological, processive, comparative and contrastive, and causal relationships between them. Questions of analysis make it possible for people to separate a complex process into its parts and understand the relation of these parts to the whole. Questions of synthesis allow people to combine ideas to form a new whole or come to a conclusion through inferences and solutions. Questions of evaluation help people to make informed decisions by getting them to focus on the value and truth of things. Questions of application help people apply the knowledge and concepts that they have learned in one situation to different situations.

Viewing situations from different perspectives is also very important in critical thinking because one viewpoint is rarely enough to have a full picture of a situation or a problem. People should seek other perspectives on situations they want to understand although it is not always easy to see things from a perspective which is different from our own. By listening to and examining carefully other views and new ideas, people can have the opportunity to see things from different perspectives. In order not to make the mistake of thinking that only their point of view is valid, they must be open to new ideas and different viewpoints. This is reminiscent of Paul's (1993) "strong sense" of critical thinking. This openness requires being flexible enough to change their ideas as a result of new information. Some people tend to think that everybody who does not agree with them is wrong. Chaffee calls these people "dogmatic, subjective and egocentric" (p. 66). It is difficult for such people to see things from other perspectives because they are convinced that they are the only ones who are right.

Critical thinking is more than a set of skills and, as Paul (1984) argues, it is a major aspect of one's character. Over time and with regular practice, people can begin to make critical thinking an indispensable part of their lives. People can clarify and improve the way they think while working towards their goals and making effective decisions.

Creative Thinking

Creative thinking is an important skill that can be used in a number of different learning contexts in order to enrich the acquisition of knowledge and skills and promote the development of expertise. (Baron & Sternberg, 1987; Chaffee, 2000; Lipman, 1994). Creative thinking is derived from notions of creativity. This makes the definition of creativity and the creative personality essential in order to arrive at a clear definition of creative thinking.

Within the psychological tradition, the psychoanalytic and the humanistic approaches offer different explanations of creativity and creative personality.As Dacey (1989) states, within the former, many psychologists including Freud, Kris, Jung, Rank, and Adler emphasise the unconscious mind and the compensation for deep emotional conflicts in the process of creativity. They claim that creative ability becomes fixed in the first five years of life, which suggests that it is not possible to foster creative thinking after that period. Unlike most psychoanalytic theories, humanistic theories see creativity as a result of psychological health. Psychologists such as Maslow, Roger and Fromm give more credit to the importance of positive and "self-fulfilling tendencies" (Dacey, 1989 p.50) and emphasise the idea that creativity can develop throughout life, which suggests that it is worth encouraging the development of creative thinking.

Sternberg and Lubart (1999) define creativity as "the ability to produce work that is both novel (i.e., original, unexpected) and appropriate (i.e., useful, adaptive concerning task constraints)". Halpern (as cited in Brandt et al., 1988) states that "creativity can be thought of as the ability to form new combinations of ideas to fulfil a need" (p.23). Chaffee (2000) defines creativity as "the ability to develop ideas which are unique, useful and worth of further elaboration" (p.499). Martindale (1999) notes that "creativity consists of making new combinations of associative elements which are useful" (p.137). The two common points stressed in these definitions are novelty and usefulness. The creative thinker, whether artist, writer or scientist, is trying to create something new. The artist is trying to express an idea or feeling in an influential way on the viewer. The creative writer is to trying to do the same for readers. The creative scientist is trying to invent new ways of studying or describing some aspect of the world around us. The creative student is trying to find new strategies to achieve his/her goals. These creative people have certain characteristics in common, the most important of which are being analytical and intuitive, open-minded and reflective and spontaneous.

Aspects of a Creative Mind

Being analytical and intuitive is one of the crucial aspects of a creative mind. Dacey (1989) defines intuition as "the ability to solve problems through the use of the subconscious" (p.8) which leads to new concepts; however, he also points out the importance of analytic thinking in creating quality products which cannot be developed from the subconscious alone. Most creative acts are thought to be the results of both analysis and intuition. Dacey reports many creative people who say that they first get a feeling about an imaginative idea and then they need to spend hours and hours in the laboratory or at the keyboard to make that idea tangible.

However, it is not always the case. Most people are better at either analysis or intuition but very few of them are equally good at both of them. Dacey claims that only sensitive people who appear to have a sixth sense have these two qualities at the same time and to the same extent. They are good at both problem finding and problem solving.

Dacey defines open-mindedness as "the ability to receive new information without prejudice" (p.11). According to Dacey, people tend to fear people and ideas different from those they are accustomed to. He points out that people view others of a different race, ethnic background or political preferences suspiciously. People are more likely to produce creative thoughts and products if they can control this fear and suspicion. Creative people treat the unknown or the different as a challenge rather than as a threat. Being open-minded generally results in a flexible personality which makes individuals less strict and less authoritarian, thus enabling them to produce creative ideas and products which less flexible people cannot produce.

The combination of reflection and spontaneity is also a very important aspect of the creative mind. Dacey uses the word 'reflection' to indicate a slow and cautious approach to problem solving, 'spontaneity' on the other hand indicates risk-taking. The combination of reflection and spontaneity is related to the speed of the thought process as opposed to the level of awareness between analysis and intuition. The creative act often starts with a spontaneous idea and it is followed by careful reflection on the implications of it. For example, creative poets must have the combination of reflective and spontaneous thinking. It is in the nature of many poets to be able to move back and forth between these styles.

It is important to be clear that creative thinking is a cognitive process. As Chaffee (2000) says the creative person who has the characteristics mentioned

above practises creative thinking which is " the cognitive process people use to develop ideas that are unique and useful" (p. 500). Wallas (as cited in Garnham & Oakhill, 1994) proposes a four-stage model for creative thinking which Baron (1988), Birch & Malim (1998), Dacey (1989), Garnham & Oakhill (1994), Gillholly (1982) agree with. Wallas proposes that creative thinking proceeds in four stages:

1. In the "preparation" stage, the thinker formulates the problem and collects the facts and materials which are considered necessary for the new solution.

2. In the "incubation" stage, some of the ideas related to the solution tend to fade. The creative thinker may have experiences that provide clues to the solution but the thinker does not realise it at the time because the unconscious thought process involved in creative thinking is at work.

3. In the "inspiration or illumination" stage, an idea for the solution suddenly appears in consciousness.

4. In the "verification" stage, the apparent solution is tested to see if it satisfactorily solves the problem.

In this section, we have looked at creativity together with characteristics of creative personality and creative thinking. In contrast to psychoanalytic approaches, humanistic approaches emphasise the idea that creativity can develop throughout life. This suggests that creative thinking can be developed. Clearly, the present researcher favours this latter view. People need to think creatively while they are setting their goals and making decisions if they want to approach their lives differently, transforming problems into opportunities, routines into challenges and relationships into adventures (Chaffee, 2000).

The Relationship between Critical and Creative Thinking

Critical thinking and creative thinking are often contrasted. Nickerson (1999) states that the reason for this contrast is that critical thinking is perceived to be "focused, realistic, disciplined and conservative" (p.397) whereas creative thinking is regarded as "expansive, imaginative, daring and revolutionary" (p.397). However, it can be argued that to think effectively requires both critical and creative thinking at the same time (Brandt et al., 1988; Chaffee, 2000; Nickerson, 1999).

Brandt et al. (1988) state that critical and creative thinking are "complementary and both are necessary to attain any worthy goal" (p.28). Chaffee (2000) agrees, claiming that critical and creative thinking work as partners to produce effective thinking. Creative thinking produces original ideas and unusual approaches to problems and critical thinking evaluates what creative thinking offers (Nickerson, 1988). When people confront a problem, they need to think critically to identify and accept the problem. When they produce alternatives for solving the problem, they need to use their creative thinking abilities. When they evaluate the alternatives and choose one of them, they again think critically. In order to develop ideas to implement the preferred alternative, they again need to think creatively. People need to think critically once again to make a plan and evaluate the results. This process shows that critical and creative thinking are two sides of the same coin. Nickerson (1988) believes that there should be a balance between the two if the goal of good thinking is to be achieved.

Teaching Thinking Skills

With or without special training, everyone thinks. However, the disturbing truth is that many people do not think very well and they are not making use of their potential to think critically and creatively (Garnham & Oakhill, 1994; Nickerson,

1987; Paul, 1993; Thomson, 1996). This situation has been recognised since at least the time of Socrates, who reputedly said "The unexamined life is not worth living." This often-quoted observation suggests that when people do not make use of their human capacity to think deeply, their lives lose meaning because the way they think affects the way they plan their lives and the decisions they make. If people fail to make good decisions for themselves as a result of not being able to think critically and creatively, they may not be able to lead a full and rich life.

Critical and creative thinking are skills which are valuable to anybody who wants to understand the natural and social worlds. Scientists need to think in order to understand the causes of the phenomena they observe. Politicians need to think in order to be able to adopt the right policies. However, Thomson (1996) states that thinking cannot be left only to scientists and politicians if only because everybody needs to know whether what they tell us and what they prescribe for us is right. Nickerson et al. (1985) argues that thinking skills are more critical today than ever before. Many serious threats that people face, such as environmental pollution and international economic instability, are the results of irrational human behaviour. Therefore, no educational objective can be more important than the teaching and learning of how to think more effectively, more deeply, and more creatively than we often do (Nickerson, 1987; Paul, 1993; Radford & Burton, 1978; Teays, 2003).

Many people have been saying that schools should do a better job of teaching students how to think. One of the major proponents of this idea in the twentieth century was John Dewey. Dewey (as cited in Baron, 1988) argued that one of the key functions of education is to teach students to think reflectively and critically. His ideas led to a movement known as "progressive education" that

22

emphasised understanding rather than memorisation, critical thinking rather than accepting things blindly.

As Nickerson et al. (1985) suggests, it seems probable that neglect of thinking skills at school is due to two assumptions. One assumption is that these skills cannot be taught; the other is that they need not be taught (Nickerson et al., 1985). A strong case can be made for claiming that both assumptions are wrong. In the first place, there is good evidence that thinking skills can be taught and improved by training; at the same time it is wrong to assume that such skills will appear automatically. The majority of people believe that thinking skills develop on their own as a result of maturation. On the other hand, people do not necessarily become better thinkers as they get older. If people are left on their own, they may not learn effectively how to think critically and creatively (Johnson 1988; Nickerson et al., 1985).

An alternative assumption is that thinking ability is innate and it cannot be developed through training. If this is true, then the purpose of education, would be to provide students with a lot of information. However, Nickerson et al. (1985) argue that thinking ability is not a substitute for knowledge and nor is knowledge a substitute for thinking ability. Knowledge alone is not enough for an effective education. Students need practice to foster thinking. Teachers need to give students opportunities to carry out activities such as talking, writing and doing lab or field projects, which encourage their thinking. As Johnson (1988) points out, one cannot become a skilful musician by listening to an expert three hours a week; nor can one become a good writer by watching an expert writing. On the other hand, teaching skills on their own are not enough, either. "The substance of thought is constrained by what one knows" (Nickerson et al. , 1985 p.63). The majority of people who

have made great and original contributions to art or science are not only good critical and creative thinkers but also know a lot about their areas. Nickerson et al. (1985) stress the importance of the interrelatedness of both thinking skills and knowledge, stating that "they are two sides of the same coin" (p.324).

Sternberg & Baron (1999) argue that when we talk about teaching thinking, what we need to teach is "not how to think in an absolute sense but how to think more effectively, more critically, and more creatively than we typically do" (p.28). Johnson (1998) states that most of our learning is memory dependent because most of our learning time focuses on acquiring content from books and lectures. These information sources, however, do not challenge us to question, relate, think, and reason about what we are learning. Therefore, we should foster quality thinking through different methods.

Methods and Tasks in Teaching Critical Thinking Skills

Many researchers agree that we cannot teach thinking through repetitive practice or drill. The teaching of thinking is not the same as the teaching of specific skills such as learning the multiplication table and foreign language vocabulary. The most favoured methods in teaching critical thinking are the tutorial method and thinking assignments (Baron, 1990).

The Tutorial Method

In the tutorial method, the goal is to make students internalise the values and some of the rules of good thinking. The method requires one-to-one interaction between a tutor and a student. The tutor gives the learner instructions to follow or questions to answer. The tutor tries to create a level of difficulty of questions and instructions sufficient to produce errors. Two of the most common techniques that the tutor uses to respond to the learner's errors are giving a cue to restructure the

situation and relating the unknown to the known. Baron emphasises the importance of these techniques in the process of making the learner think about the error.

<u>The Thinking Assignment</u>

The other method which Baron 1990 suggests is the thinking assignment. He argues that thinking may be done through assignments and exercises that involve thinking. However, these assignments should be complete thinking tasks and students should be clear about the structure of the task. The teacher should be willing to discuss the issues which may come up in the thinking process. The tasks which Angelo and Cross (1993) suggest meet the requirements mentioned above and they can easily be adapted to a language class as well. These tasks are a Categorising Grid, a Defining Features Matrix, a Pro and Con Grid, Content, Form and Function Outlines, and Analytic Memos.

- The Categorising Grid

The Categorising Grid requires students to sort information into appropriate conceptual categories. This is a relatively low level of analysis. For this activity two or three related categories which allow the organisation of the information presented in class are selected. A list of examples of items which clearly belong only to one category is made. A grid is made by drawing a rectangle and dividing it depending on the number of categories. As the last step, students are asked to categorise the items in the scrambled order. The Categorising Grid helps learners to make explicit the categorising rules which they implicitly use in their memories. Thus, students can learn to rethink about their categorising rules when they are to explain why the items they put in a category belong to that category.

- Defining Features Matrix

Defining Features Matrix requires students to categorise concepts depending on the presence or absence of defining features. For this activity, two or three similar concepts are selected. The most critical features of these concepts are determined. A list which involves the critical features of each concept is made and a matrix is formed with features listed down the left side and concepts across the top. Students are to fill in the matrix paying attention to what distinguish as those concepts. Thus, students can analyse complex comparisons and contrasts in a simpler way.

- The Pro and Con Grid

The Pro and Con Grid requires students to make a quick list of pros and cons to help them think more clearly about a decision. For this activity, students are made to focus on a decision, a judgement, or a dilemma. A prompt which will elicit some pros and cons in relation to this decision, judgement, or dilemma is presented. A specific point of view which students should have in making their lists may be indicated in order to make the pros and cons more comparable. Students are given information about how many pros and cons they are expected to come up with and how these pros and cons will be expressed, for example, in phrases or sentences. The Pro and Con Grid helps students to imagine and list pros and cons on the same issue from two different viewpoints by encouraging them to go beyond their first reactions and to search for at least two sides to an issue.

- The Content, Form, and Function Outlines

The Content, Form, and Function Outlines are also called "What, How, and Why Outlines" and they require students to carefully analyse the "what", "how", and "why" of a particular message such as poem, an essay, a newspaper story, or a

television commercial. For this activity, a short text or a passage which has a clear structure and contains important content is chosen. If the sections of the message are not clear enough, students are provided with subheadings or numbers to divide the text into coherent units. A Content, Form, and Function Outline is written for the text and students are taken through the analysis step by step by being given clear examples about, for example, the distinction between function and content. Students should be given sufficient time to carry out this activity because they may come up with different conclusions about the message and they may want to compare and discuss their answers. The Content, Form, and Function Outline helps students to separate and analyse the informational content, the form, and the function in a text by enabling them to analyse not only the message but also the way in which that message is presented and its purpose.

- Analytic Memos

Analytic Memos require students to write a one to two page analysis of a specific problem or an issue for an employer or a client who needs the students' analysis to make a decision. For this activity, an appropriate problem or situation is invented for the students to analyse. Who is writing the memo, for whom the memo is being written, its subject and purpose are specified. Students are generally encouraged to work in pairs or groups so that they can discuss and share ideas while they are writing the memo. Analytic Memos help students not only to analyse assigned problems but also to communicate their analyses in a clear way.

Methods and Tasks in Teaching Creative Thinking Skills

Similarly, some strategies which might help develop creative thinking have been suggested by a number of authors (Dacey, 1989; Nickerson et. al, 1996; Angelo & Cross, 1993). However, Nickerson et. al (1996) argue that although most

of these strategies for developing creative thinking sound feasible, few of them have empirical validity. Very little effort has been made to check if creative people really use such strategies. In fact, many strategies seem not to be relevant to what creative people usually do while creating. Nonetheless, this does not mean that these strategies have nothing to offer.

Angelo & Cross (2002) define creative thinking as "the ability to interweave the familiar with the new in unexpected and stimulating ways" (p.181). In the context of a classroom, they see the familiar as what the student already knows and the new as the course content. On the basis of their definition, they claim that students can think creatively by synthesising prior knowledge and course content. They propose some techniques which encourage students to create "original and intellectual products which result from a synthesis of the course content and the students' intelligence, judgement, knowledge, and skills' (p.181). These techniques are One Sentence Summary, Word Journal, Approximate Analogies, Concept Maps, and Invented Dialogues.

- The One Sentence Summary

The One Sentence Summary requires students to summarise a large amount of information on a given topic by challenging them to answer the questions "Who does what to whom, when, where, how, and why?" (WDWWWWHW). For this activity, an important topic which students have studied and the teacher expects them to learn to summarise is selected. Students answer the above questions separately in relation to that topic. Then, they turn their answer into a grammatical sentence that follows the WDWWWWHW pattern. Students are encouraged to make their sentences grammatical, complete and original. The One Sentence Summary helps students to chunk information by getting them to condense a large

piece of information into smaller parts which are more familiar and easily remembered.

- The Word Journal

The Word Journal requires students to summarise a short text in one word and to write a paragraph justifying why they have chosen that particular word to summarise the text. For this activity, a short text is selected and students are assigned to read it. What aspect of the text that students will focus on is decided. Students might be provided with a list of possible words to choose from but they are reminded that the quality of the explanation for the choice is more important than the choice of a particular word. The Word Journal encourages students to read deeply and to construct meaning from what they have read, which promotes active learning rather than simply memorising information. It also enables students to take responsibility for their ideas by requiring them to choose a single word to summarise a reading passage and then to justify the choice of that particular word.

- The Approximate Analogies

The Approximate Analogies require students to complete the second half of an analogy by understanding the relationship between the two concepts or terms. For this activity, a key relationship between two concepts is selected and an Approximate Analogy is created on the "A is to B as C is to D" pattern. Students are presented with one or more sample analogies before being asked to complete an Approximate Analogy. The Approximate Analogies help students to connect the new relationship to the one that they are more familiar with in a creative way. Inviting students to classify and to explain the type of relationship that the analogy bears also encourage them to categorise information creatively.

- Concept Maps

Concept Maps require students to make mental connections between a major concept that has been newly presented and other concepts that they already know. For this activity, a concept which is important and relatively rich in conceptual connections is selected as the starting point for the Concept Map. Students are asked to brainstorm the terms and phrases related to the starting point. Based on students' brainstorming, a concept map is drawn placing the starting point in the middle and drawing lines to other concepts. The Concept Map may be based on a model of the solar system with the starting point in the position of the sun. Then, the ways in which the concepts are related to each other are determined. Concept Maps, which are highly favoured by students with visual learning orientations, can be used as pre-writing or note-taking exercises because this technique helps students to consider how their ideas and concepts can be creatively related.

Another name used for concept maps is brainstorming. Oakhill & Garnham (1987) say that research on the efficacy of brainstorming is instructive because it has produced directly applicable results. Brainstorming encourages the bringing together of different ideas. Brainstorming assumes that there is a well-defined problem and aims to encourage the production of possible solutions to the problem. By increasing the number of possible solutions, brainstorming will allow the emergence of useful solutions that otherwise would not have been found.

- Invented Dialogues

Invented Dialogues require students to synthesise their knowledge of issues, personalities, and historical events into the form of structured dialogues. For this activity, a controversial issue, theory, personality, or decision that lends itself to dialogue format is selected. Students are given an instructive guideline in which

they are provided with a few possible topics, the time and the length of the dialogue, and a criterion for a successful dialogue. It is made clear to students that their aim is to create an original and personal dialogue. Students can be asked to work in pairs, each of them researching one side of the issue. Invented Dialogues encourage students to internalise what has been learned in the classroom, allowing them choices in selecting, combining and generating ideas. They also provide a challenging way for students to creatively synthesise and adapt what they have studied.

Conclusion

This review of literature has suggested that thinking skills are important for students to successfully deal with the problems they might face in an academic context and in their real lives. In this chapter, thinking was discussed in terms of "critical" and "creative" thinking. Because goal setting and decision making are two of the most important requirements in an academic context, the way in which critical and creative thinking are crucial for students to make decisions and set their goals was explored. Some methods and tasks were suggested to help students to develop their critical and creative thinking skills.

In the next chapter, the research tools and the methodological procedures followed to gather the data will be discussed. In addition, information about the setting and the participants will be included.

CHAPTER 3: METHODOLOGY

Introduction

This study aims at exploring BUSEL teachers' attitudes towards teaching HOTS (Critical and Creative Thinking) to students with low-level English.During the study, the researcher will answer the following questions:

1. What is the BUSEL teachers' understanding of how HOTS should be implemented?

2. What do the teachers see as the problems and benefits of bringing HOTS into their elementary or low-intermediate classes?

3. Do the teachers at BUSEL implement and teach HOTS in low-level classes, and if so, how?

In this chapter, the methodological procedures for this study are presented. First, the setting in which the study was conducted and the participants of the study are described. Then, the data collection instruments and the ways the data were collected and analysed are presented.

Setting and Participants

This study was conducted at Bilkent University School of English Language (BUSEL). The education offered at BUSEL is based on a course system. Each semester is divided into two courses and each course lasts for eight weeks. Students are placed at appropriate levels from Elementary to Pre-Faculty at the beginning of the academic year. They take a level test called End of Course

Assessment (ECA) at the end of every eight weeks and those who score 60 and above move up one level.

At the end of the first semester, students who complete the Pre-Faculty course have the right to take the proficiency test called COPE to enter their departments. After each ECA, the groups of students change. The spring semester starts with Course 3. This study was conducted during the third course. The questionnaire was administered in the fifth week of the course and the observations were done in the seventh week. The interviews were done during the course break before the fourth course began.

The participants in this study were BUSEL teachers who were teaching elementary classes, the lowest level of students at BUSEL, and pre-intermediate classes. Twenty-two teachers who were teaching low-level classes were given the questionnaire.

The number of years these teachers had been teaching ranged from three to seventeen years. Table 3.1 shows the results of the first question of the background information part of the questionnaire (see Appendix A), which asked participants to specify their total years of teaching experiences.

Table 3.1

Participants' Teaching Experiences

Years of Teaching Experience	Frequency	Percentage
0 – 4	4	18 %
5 – 8	6	27 %
9 – 12	5	23 %
13 – 16	4	18 %
17 +	3	14 %
Total	22	100 %

Note: Percentages rounded off.

These teachers had taught all levels of students at BUSEL (elementary, pre-intermediate, intermediate, upper-intermediate, and pre-faculty) until that time.

Table 3.2 shows the result of the second question of the background information of the questionnaire (see Appendix A), which asked participants to specify the levels they had taught until that time.

Table 3.2

Level of Students that Participants have taught

Levels taught at BUSEL	Frequency	Percentage
Elementary	20	91 %
Pre-Intermediate	22	100 %
Intermediate	19	86 %
Upper-Intermediate	19	86 %
Pre-Faculty	19	86 %

Note: Percentages rounded off.

The participants were teaching either Elementary or Pre-Intermediate students when they were given the questionnaire. Table 3.3 shows the results of the the third question in the background information part of the questionnaire, which aimed to establish the level currently being taught by the participants.

Table 3.3

Level of Students that Participants are Currently Teaching

Levels currently being taught at BUSEL	Percentage
Elementary	27 %
Pre-Intermediate	73 %

Note: Percentages rounded off.

The participants were asked to return the questionnaire within four days. All the participants returned the questionnaire. After the analysis of the questionnaire, three of the participants were chosen for the observations according to the discrepancies between the answers they gave on the second and the third part of the questionnaire. Availability of the teachers was also taken into consideration while selecting the teachers to be observed bacause teachers at BUSEL have different timetables. The notes taken by the researcher during the observations helped to design the interview questions. The observed participants were interviewed.

Data Collection Instruments

The research was carried out through questionnaires, observations, and interviews. Three different techniques were used in order to "view the same phenomena from multiple perspectives" (Brown & Rogers, 2002, p. 294) thereby maximising the possibility of collecting credible data.

Questionnaires : As a tool for data collection, questionnaires are an effective way of "gathering information if large-scale information is needed from many people" (Brown & Rogers, 2002 p. 142). The questionnaire had three parts. The first part aimed at gathering background information about the participants: their names, gender, years of language teaching, the levels taught at BUSEL, and the level of instruction they are currently teaching.

The second part of the questionnaire referred to the first research question, which was "what is the teachers'understanding of how HOTS should be implemented?" The participants were provided with 22 Likert-scale statements designed to reveal the teachers' attitude towards the teachability of thinking skills, focusing on critical thinking skills and creative thinking skills. The participants were asked to tick only one option for each statement. The response options were *strongly agree, agree, disagree,* and *strongly disagree.* In order to overcome the difficulty of concept definition, the terms "critical thinking" and "creative thinking" were not stated explicitly in the questions but they were defined on the first page of the questionnaire. The questions were asked in such a way that by answering these questions, participants revealed what they thought about those concepts. The questionnaire items were grouped under the following categories shown in Table 3.4.

Table 3.4

Inventory of Items in Part II.

Category	Questionnaire Items
Teachability of thinking skills in general	1, 4, 5, 9, 11, 12
Teachability of thinking skills at lower levels	2, 3, 10
Critical thinking	6, 20, 21
Creative thinking	18, 19
Making decisions	7, 16, 17, 22
Goal setting	8, 13, 14, 15

The third part of the questionnaire referred to the second research question, which was "what do the teachers see as problems and benefits of bringing HOTs into their elementary or low-intermediate classes?" In this part of the questionnaire, participants were provided with eighteen Likert-type statements about what they found problematic in their normal classroom practice. The response options were *always, often, sometimes, rarely,* and *never*. The participants were asked to tick only one option for each statement. The aim of having these questions was to invite participants to think about their normal classroom practice in relation to classroom activities which encourage the use of thinking skills. The questions were grouped under the following categories presented in Table 3.5.

Table 3.5

Inventory of Items in Part III.

Category	Questionnaire Items
Critical thinking	1, 2, 3, 4, 5, 6, 7, 9, 10, 13, 14, 15
Making decisions	8, 16, 17,18
Goal setting	11, 12

Observations: Three participants were chosen for the observations according to the diversity of the answers they gave on the questionnaire and their lessons were filmed. One of the researcher's colleagues kindly agreed to help her with the filming

of the lessons, which allowed the researcher to observe the lessons more closely and take notes when necessary. The participants were told in advance that they were being asked to participate in a study of an educational problem but the exact nature of the problem was not revealed to them in order not to affect the treatment in the study. Having completed the questionnaire, the participants already knew that the study was about thinking skills but they were not informed about the details of the study.

The researcher asked the participants to brief their classes about the study to be conducted in order to justify the presence of two strangers and a video camera in the classroom but not to go into detail. The reason for this was to avoid influencing the students' behaviour.

Interviews: The researcher watched the video first to get some idea of key incidents she wanted to focus on. Semi-structured interviews with the observed teachers were carried out. The aim of having interviews with the observed teachers was to provide them with the opportunity to explain their beliefs about HOTS in greater depth and explain the reasons why they conducted an activity in that particular way. The interviews were tape recorded so that they could be transcribed. During the interview, the researcher and the interviewee watched the filmed lesson together. While watching the lesson, the researcher stopped the cassette to ask open-ended questions aiming to explore both the teachers' positive and negative experiences regarding the implementation of HOTS in that particular lesson. Although the interview consisted of a number of scheduled questions, the interviewees were encouraged to raise or justify any points they would like to.

Data Collection Procedure

In order to make sure that the items in the questionnaire were clear and understandable, the questionnaire was piloted on March 15, 2004 with MA TEFL 2004 students. Out of thirteen students, only one of them could not participate in the pilot study because she had not taught low-level English classes at all. The participants were asked to complete the questionnaire and evaluate it with respect to its content and structure. Their feedback was taken into consideration in the process of rewording some items and omitting the items which were not relevant to the study. Additionally, instructions were modified to make the process more clear to the respondents.

To begin the data collection process, a petition was written to the Directorate of BUSEL for the permission to carry out the research with BUSEL teachers (see Appendix C). After some points were made more explicit and clear by the researcher, the directorate replied granting permission to conduct the research at BUSEL.

The questionnaire was given to the participants on March, 18, 2004 and they were asked to return them to the researcher within four days and all of them returned them within the required time. The teachers to be observed were selected according to the discrepancies between the responses they gave in the second and the third parts of the questionnaire. Each of the participants who was chosen reported in the questionnaire that teaching thinking skills is both possible and important; however, they also admitted that they always or often experience problems developing their students' thinking skills. It was this apparent tension that the researcher wanted to explore in the observations and interviews. Availability of

the teachers was another criterion which helped the researcher in the process of selecting the teachers to be observed.

During the observations, the researcher took notes while one of her friends was filming the lesson. Her notes were mainly about the specific activities and the questions that the teacher asked. Then, the researcher used these notes to design the interview questions.

The interviews were semi-structured, with all teachers being asked the same core questions (see Appendix D), but with the interviewer using a series of supplementary questions to clarify and to encourage the interviewees to elaborate on their responses. The three interviewees were the same teachers whose lessons had been videoed. Before the actual interview started, the interviewer and the interviewee watched a video of the lesson together so that the interviewee could remember the details. Furthermore, the researcher directed the interviwees to some parts of their lessons when necessary. For example, one of the interviewees had difficulty naming the specific activities that he has used in his classroom to try to develop his students' thinking skills although he had encouraged his students to brainstorm their ideas in the observed lesson. The researcher got him to watch the relevant part again to remind him of this activity.

Data Analysis

For this study, quantitative data was collected through questionnaire and qualitative data were collected by means of interviews.

The data collected through the questionnaire enabled the researcher to find out what the teachers think about HOTS and the problems in the implementation of HOTS in their normal teaching practice. For every item in Parts II and III of the questionnaire, frequencies and percentages were calculated. One-way Chi-tests were

used to determine whether there was a statistically significant distribution of answers for each item.

The data collected through interviews enabled the researcher to explore the reasons for the discrepancies between the teachers' beliefs about HOTS and the actual implementation of these skills. It provided the researcher with the opportunity to view the situation from the teachers' point of view. The interview questions, which were based on the responses that the participants gave in the questionnaire and the observed lessons, can be categorized under the following headings:

The notes taken during the observations enabled the researcher to discover the extent to which HOTS were being implemented in the teachers' normal classroom practice. It also helped the researcher to compare and contrast the teachers' beliefs about HOTS and how they implemented them in their teaching.

In the following chapter, the data analysis procedures and results will be discussed in detail.

CHAPTER 4: DATA ANALYSIS

Introduction

The aim of this study was to investigate the Bilkent University School of English Language (BUSEL) teachers' attitudes towards teaching HOTS in low-level English classes. The participants of this study were twenty-two teachers who were teaching either Elementary or Pre-Intermediate level at BUSEL. As a first research tool, twenty-two teachers were distributed questionnaires, all of which were returned. As a second means of data collection, three teachers were selected according to the discrepanciesbetween their answers in the questionnaires and their lessons were videotaped. In addition, interview sessions were organized with these teachers to obtain more detailed data. This chapter presents the results of the data collected and analysed to provide answers to the following research questions:

1. What is the teachers' understanding of how HOTS should be implemented ?

2. What do the teachers see as problems and benefits of bringing HOTS into their elementary or low-intermediate classes?

3. Do the teachers at BUSEL implement and teach HOTS in low-level classes, and if so, how?

Data Analysis Procedure

Analysis of the Questionnaire

The first part of the questionnaire was analysed quantitatively. Frequencies and percentages were taken. The second and the third parts were analysed quantitatively

using the Statistical Packages for Social Sciences (SPSS Version 10.0). Frequencies and percentages of every question were taken. In addition, Chi-squares were calculated to see if the distribution of the answers for each question was significant. The classroom practices of three teachers were filmed by the researcher to prepare relevant and effective questions for the interview.

The results obtained from the analysis of questionnaire responses and the interviews will be presented together in this chapter. There will be three sub-sections. In the first sub-section, an analysis of the questions in Part I of the questionnaire is provided to explain the backgrounds of the participants. In the second sub-section, an analysis of the items in Part II of the questionnaire is provided to show what BUSEL teachers think about teaching thinking skills. The last sub-section presents analysis of items in Part III of the questionnaire, which aimed to reflect teachers' actual classroom practices in relation to teaching thinking skills.

Questionnaire Part I

The questions in Part I of the questionnaire aimed to discover background information about the twenty two participants, among whom eighteen were female and four were male.

Four of the twenty-two participants indicated 1-4 years of teaching experience, six of them indicated 5-8 years of teaching experience, five of them indicated 9-12 years of teaching experience, four of them indicated 13-16 years of teaching experience, and three of them indicated 17 or more years of teaching experience. The results show that the teachers who taught the elementary and the pre-intermediate levels could all be regarded as experienced teachers. Eighteen of the twenty-two participants (82%) have at least 5 years of teaching experience.

Therefore, it can be stated that the teachers are quite experienced and might be expected to be aware of the importance of teaching thinking skills.

The second question of the background information part of the questionnaire required the participants to indicate the levels they have taught at BUSEL. 86% of the respondents indicated that they have taught all the levels at BUSEL. 91% of the respondents indicated that they have taught elementary level and 100% of them indicated having taught pre-intermediate level. Therefore, the conclusion can be drawn that the teachers are familiar with all levels at BUSEL and they can make a comparison between teaching low-level students and teaching higher level students. 73% of the teachers indicated they were currently teaching Pre-Intermediate level and 27% of them indicated they were currently teaching Elementary level. As it was almost towards the end of the third course in the second semester, it was not possible to have a more equal distribution between the number of teachers who were teaching Elementary and Pre-Intermediate levels.

Questionnaire Part II

The second part of the questionnaire investigated participants' feelings and beliefs regarding the instruction of HOTS in general and to low-level students in particular. My main interest was the teachibility of thinking skills to low-level English classes in line with the definition of thinking as a skill which enables people to make effective decisions and achieve the goals they have set to give meaning to their lives. Therefore, teachability, making decision and goal setting aspects of thinking were the focus of the questions. In this part, participants were presented with twenty-two Likert-type items and then asked to respond to each of them by circling the number that corresponds to their degree of agreement. For each

question, frequencies and percentages were calculated.In addition, one-way Chi-

squares were computed to see if the distribution of answers was significant.

Table 4.1

Items Related to the Teachability of Thinking Skills

Questions	SA	A	D	SD	x^2
1. Thinking skills can be taught and improved by training.	12 55%	9 41%	15 4%	0	19.09**
4. Thinking skills need to be taught.	10 48%	9 43%	2 9%	0	14.24**
5. Thinking skills develop as a result of age and maturation.	6 27%	12 55%	3 14%	1 4%	12.54**
9. Teaching thinking skills is time consuming.	7 33%	3 14%	7 33%	4 20%	2.42*
11. Students can learn how to think better through practice.	7 33%	11 53%	3 14%	0	13.09**
12. Students can learn how to think better through effective guidance.	8 36%	14 64%	0	0	25.27**

Note: Percentages rounded off.
SA = Strongly Agree
A = Agree
D = Disagree
SD = Strongly Disagree
X^2 = Chi-square
*$p < .05$ **$p < .01$

The results for questions 1, 4, 5, 9, 11, and 12 were all found to be

significant using a chi-square test. Numbers 1, 4, 5, 11, and 12 were significant at a

level of $p < .01$ and number 9 was found to be significant at a level of $p < .05$. Over

90% of the teachers believe that thinking skills need to be taught and 95% of them

think that thinking skills can be taught and improved by training. Furthermore, most

teachers seem to acknowledge the importance of practice and guidance in teaching

thinking, with 86% of the teachers thinking that students can learn how to think

better through practice and 100% of them believing that students can learn how to

think better through effective guidance. Because the type of the activities is

important in teaching and practising thinking skills, during the interviews, the

participants were asked if it is appropriate to teach thinking skills in whatever activity they are pursuing.

It was observed that teachers were aware that some activities are better suited for teaching thinking skills than others but they also shared the view that students are automatically exposed to implicit teaching of thinking skills through the activities done in the class. P2 stated that "Maybe students are not aware of it but if you ask them to make guesses about the topic before they read a text, they need to make use of their thinking skills." Likewise, P1 commented that students are implicitly exposed to thinking skills through "the reading activities, listening activities, or any kind of exercises in the classroom." She further explained this as follows:

> They are learning how to interact with the material and how to analyse things to answer questions, how to analyse information and how to synthesise it to write an answer to a question… They need to understand something and think about what they read or listen and then apply that information. Application is there as well as comprehension and analysis. And sometimes, they need to synthesise information to write a clear answer because the question asks for it. So, they are exposed to those skills automatically when they are doing a task in the class.

Although all the teachers stated that the basic language skills (Reading, Listening, Writing, and Speaking) all lend themselves to activities suitable for teaching thinking skills, it was striking that each of them focused on a particular skill more than others. P2 said that writing is especially suitable for teaching thinking skills. "If they write, they have to give reasons for their opinions. While comparing two things in a compare/contrast essay, they again have to give their opinions". By contrast, P3 focused on listening activities for teaching thinking skills more than other skills, stating that the particular type of listening activity is very important as well. He said, "Some of them may not involve some kind of thinking

skills. Let's say listening for specific information. There are some numbers, some dates, and some short answers but there isn't much thinking involved there." He further described the qualities of a good listening activity for teaching thinking skills by referring to the lesson that had been observed by the interviewer:

> I, on purpose, chose that lesson because it needed some kind of thinking process as the answers were not clear. It was a listening lesson… If you want to get information you need to process that knowledge to get the right answer… There were names and someone was better or worse than the others but they [students] needed to find their places. So, they needed to process the knowledge and there are other thinking skills which involve analysing and synthesising.

Unlike P2 and P3, who focused on only one skill, P1 identified two skills as being especially valuable. She stated that "mostly reading and listening kind of activities lend themselves to high-level thinking because they have the potential for evaluation, analysis, synthesis, or justification". She added that "there should be enough data in their hands to apply those skills or to refer to when they are analysing, synthesising or justifying. So, mostly reading and listening lend themselves to such skills".

Subsequently, both P2 and P3 mentioned an integrated lesson where it is possible to teach thinking skills by making use of more than one skill. P2 stated:

> Maybe, you can implement them [thinking skills] in a way into the language, into the grammar through what? Putting all these together, you can have a grammar lesson with a reading and then combining it with speaking. So, you have everything in one.

Likewise, P3 mentioned the possibility of integrating more than one skill into teaching thinking skills:

> If it is an integrated lesson starting with reading and some kind of listening and then writing, there may be lots of thinking skills because they [students] need to transform some knowledge to other tasks. Students should do something more than recognition.

It is worth noting that all the teachers talked about the activities which are more suitable for thinking skills in quite general terms. They hardly specified any activities. Only P1 mentioned brainstorming and that some games are suitable for teaching thinking skills but she did not specify any games as particularly useful for teaching thinking skills. P3 also mentioned jigsaw tasks. However, none of the interviewees gave any examples or offered any further explanations about how these various activities can be used for thinking skill purposes.

The result for question 9 is quite interesting. That question is about whether teaching thinking skills is perceived to be time consuming or not. 48% of the teachers reported that teaching thinking skills is time consuming whereas 52% of them reported that it is not time consuming. The possible reason for this almost equal distribution might be that some teachers perceive thinking skills as a discrete area and therefore, teaching them requires extra preparation, effort and time. In contrast, some teachers may think that thinking skills can be incorporated into their regular classroom teaching and in this way, they do not have to spend too much time trying to teach them.

After the discussion of the teachability of thinking skills in general, the succeeding discussion is about the teachability of thinking skills at lower levels. All the items related to the teachability of thinking skills at lower levels are presented in Table 4.2 below, along with the frequencies, percentages, and the chi-square results.

Table 4.2

Items Related to Teachability of Thinking Skills at Lower Levels

Questions	SA	A	D	SD	x^2
2. Teaching thinking skills should begin at lower levels.	15 68%	6 27%	1 5%	0	25.64**
3. Students should be equipped with advanced level English to learn thinking skills.	3 14%	1 5%	8 36%	10 45%	9.60
10. Students should have the opportunity to express and justify their ideas regardless of their language competence.	11 53%	7 33%	3 14%	0	13.01**

Note: Percentages rounded off.
SA = Strongly Agree
A = Agree
D = Disagree
SD = Strongly Disagree
X^2 = Chi-square
*p < .05   **p < .01

The chi-square results show the responses to questions 2 and 10 to be significant at a level of p < .01, which reveals clear findings about teachers' beliefs concerning the teachibility of thinking skills at lower levels. The results for question 3, however, are not significant, which may suggest that teachers do not see their students' level of language as a criterion guiding their teaching of thinking skills. However, when the issue was explored more deeply during the interviews, teachers' responses to this item seemed to contradict this since all three interviewees explicitly stated that students should first solve their grammar and vocabulary problems to learn thinking skills.

This emerged when participants were asked about the problems they experience in the teaching of thinking skills. All the participants highlighted the students' level of English as the major problem in their teaching of thinking skills. P2 described how the level of her students influences her teaching: "The students' level and how much they know about the language influence my teaching, the way I

am teaching. And all these make it difficult to implement thinking skills into the lesson." Likewise, P3 indicated his students' level of English as an important problem, highlighting the importance of the use of the students' L1 in teaching and learning thinking skills. He also described how frustrating it can be for students when they cannot express themselves in the target language:

> When we talk about a good learner, an effective learner, we can't say after which stage or after how many years of studying a language that person can start thinking in the language he/she has been learning… They may think in their mother tongue, in our case they think in Turkish, and they try to translate it to give their answers. They may have some very good ideas when they think in Turkish but the translation process may fail them. They can't express themselves. So, instead of trying to say something, they accept failure at the beginning They don't try because they know that they can't produce sentences in English. So, language level is, I think, important.

When teachers were asked to compare teaching low-level and high-level students regarding thinking skills, the common response was that all teachers find it easier to teach thinking skills to higher levels. P1 and P2 explicitly stated that the lack of grammar and vocabulary in low-level classes make it difficult to teach thinking skills. P2 gave the following reasons for thinking that:

> It is, of course, much easier to teach thinking skills at higher levels. Because they have the language, you just have to teach them some more language to give it a flow. It's just like working on bits and pieces to make it more fluent. And it is also easier because now they have the language, they can express themselves better. But, at lower-levels, because they don't have the language, they cannot express their ideas in English well. Although they may understand and they may know something about the topic, because of the lack of vocabulary and grammar, they will have difficulty in expressing themselves.

Similarly, P1 said that she has difficulty in teaching thinking skills to low-level students "because they haven't mastered some other skills yet." She also added: "I have difficulty proceeding to higher-level thinking in the beginning

because they need to solve their vocabulary or grammar problem first and then understanding comes."

While P1 and P2 emphasise the importance of students having solved their grammar and vocabulary problems before they are taught thinking skills, P3 focused on the level of language the teacher uses in low-level and higher-level classes and its possible implications:

> If you are teaching Pre-Faculty level, the way you make your questions… the structures you use and words you choose are different from the ones in lower levels. So, there is more information and communication between the teacher and students at higher levels… You know that students can understand what you are asking. But at lower levels, in fact, you have to limit your vocabulary, structures and then it means, in a way, you are limiting your thoughts and ideas… .

The succeeding discussion is about the data gathered on teachers' beliefs about critical thinking. Table 4.3 presents the results for questions 6, 20, and 21.

Table 4.3

Items Related to Critical Thinking

Questions	SA	A	D	SD	x^2
6. Thinking skills enable students to solve the problems they face.	13 59%	8 36%	1 5%	0	20.54**
20. Thinking skills enable students to identify and accept a problem when they confront one.	6 29%	14 66%	1 5%	0	23.39**
21. Thinking skills enable students to produce alternatives for solving the problems they confront.	11 50%	10 45%	0	1 5%	18.37**

Note: Percentages rounded off.
SA = Strongly Agree
A = Agree
D = Disagree
SD = Strongly Disagree
X^2 = Chi-square
*$p < .05$ **$p < .01$

The findings for all these questions were found to be significant on a Chi-square test at a level of $p < .01$. The results reveal clear findings about teachers beliefs concerning the role of thinking skills in helping students to solve the

problems they face. The majority of the participants (95%) reported that thinking

skills enable students to solve the problems they face. Similarly, 95% of the teachers

reported that thinking skills enables students to identify and accept a problem when

they confront one. The same number of participants reported that thinking skills

enable students to produce alternatives for solving the problem.

The succeeding discussion is about teachers' beliefs about creative thinking.

Table 4.4 provides the results for questions 18 and 19.

Table 4.4

<u>Items Related to Creative Thinking</u>

Questions	SA	A	D	SD	x^2
18. Thinking skills enable students to produce creative ideas.	12 55%	9 40%	0	1 5%	19.09**
19. Thinking skills enable students to take risks in the process of creating new ideas.	7 32%	14 64%	1 5%	0	22.72**

Note: Percentages rounded off.
SA = Strongly Agree
A = Agree
D = Disagree
SD = Strongly Disagree
X^2 = Chi-square
*p < .05   **p < .01

Both questions in Table 4.4 were found to be significant on a Chi-square test

at a level of p < .01. According to these results, it can be assumed that a strong

majority (95%) of the teachers believed in the importance of thinking skills in

producing creative ideas. Likewise, 96% of the participants think that thinking skills

enable students to take risks in the process of creating new ideas, which Chaffee

(2000) identifies as an essential element of creative thinking.

When the teachers were asked about the differences between critical and

creative thinking skills, one of the interviewees (P1) tended to make a clear-cut

distinction between them, saying:

Creative thinking is free. I mean, they have no guidance at all… But for critical thinking, they might have some materials to think on in their hands at that time…There is some data in critical thinking but in the creative one, I feel like it is free and out of the blue. Sometimes, they need to create, they need to make up something…Creative thinking skill is something not everybody might have developed…Some people might not have realised that they are creative enough because of the lack of the opportunities to reveal that. I think it is the matter of having the opportunity to show creativity rather than being taught it.

Unlike P1, P2 commented on the link between critical and creative thinking rather than the difference between them exemplifying it as follows:

As a painter, you have to be creative. You have to draw something that somebody else hasn't drawn before to attract people's attention. Or, if you are a writer, you have to be creative and you have to write something that's really interesting for your readers… I like to interpret things, criticise things, and see things from different perspectives. So, I think there is a link between critical and creative thinking. I believe that when you are someone who can think critically, you become more creative. So, I think these are interrelated. If you have developed your critical thinking skills, you will reach creativity in the end. You will also be a creative thinker. I don't know if it is true.

The succeeding discussion is about the role of thinking skills in the decision making processes of students. Table 4.5 shows the results for questions 7, 16, 17, and 22.

Table 4.5

Items Related to Making Decisions

Questions	SA	A	D	SD	x^2
7. Thinking skills enable students to make good decisions.	12 55%	9 40%	1 5%	0	19.09**
16. Thinking skills enable students to explore the situation in which they are involved to make effective decisions.	7 32%	13 59%	2 9%	0	18.36**
17. Thinking skills enable students to treat different experiences as challenges rather than as threats.	10 48%	8 38%	3 14%	0	11.95**
22. The way students think affects the way they plan their lives and the decisions they make.	10 45%	12 55%	0	0	22.36**

Note: Percentages rounded off.
SA = Strongly Agree
A = Agree
D = Disagree
SD = Strongly Disagree
X^2 = Chi-square
*$p < .05$ **$p < .01$

The Chi-square results presented in the table above show that the responses

to all the questions are significant at a level of $p < .01$. All the participants believe

that the way students think affects the way they plan their lives and the decisions

they make. A great majority of the participants (95%) reported that thinking skills

enable students to make good decisions. Likewise, 91% of the teachers reported that

thinking skills enable students to explore the situation in which they are involved to

make effective decisions.In addition, 86% of the teachers reported that thinking

skills enable students to treat different experiences as challenge rather than as a

threat.

The succeeding discussion is about what teachers think about the role of

thinking skills in students' goal setting. Table 4.6 presents the results for questions

8, 13, 14, and 15.

Table 4.6

Items Related to Goal Setting

Questions	SA	A	D	SD	x^2
8. Thinking skills enable students to achieve meaningful goals for themselves.	9 43%	12 57%			21.85**
13. Thinking skills enable students to identify appropriate goals for themselves.	5 23%	16 73%	1 4%		29.27**
14. Thinking skills enable students to devise effective strategies to achieve their goals.	8 36%	13 59%	1 5%		20.54**
15. Thinking skills enable students to explore the situation in which they are involved to set realistic goals.	7 32%	13 59%	2 9%		18.36**

Note: Percentages rounded off.
SA = Strongly Agree
A = Agree
D = Disagree
SD = Strongly Disagree
X^2 = Chi-square
*p < .05   **p < .01

The findings for all the questions above were found to be significant on a chi-square test at a level of p < .01. It should be noted that all participants believe that thinking skills enable students to achieve meaningful goals for themselves. 96% of the participants believe in the importance of thinking skills in enabling students to identify appropriate goals and 95% of them think that thinking skills are important while devising effective strategies to achieve these goals. 91% of the participants reported that thinking skills enable students to explore the situation in which they are involved to set realistic goals.

Questionnaire Part III

This part of the questionnaire aimed to reflect teachers' actual classroom practices in relation to teaching thinking skills. Since it was not possible to obtain detailed information through the questionnaire, one of the purposes of this part was to gain some data as a starting point for the classroom observations and interviews

so that more precise and relevant questions on teachers' actual classroom practices in relation to teaching thinking skills could be designed and asked to the participants during the interviews.

In this part, teachers were presented with eighteen Likert-type items and were asked to rate their teaching practices in terms of what they actually do in relation to thinking skills. For each question, frequencies and percentages were calculated. One-way Chi-squares were calculated in order to see whether the distribution of the answers for each question was significant.

The succeeding discussion is about the data gathered on what teachers find problematic about critical thinking in relation to thinking skills in their classrooms.

Table 4.7

<u>Items Related to the Critical Thinking</u>

Questions	A	O	S	R	N	x^2
1. I find it problematic to encourage my students to take time to think before they give an answer.	2 9%	5 23%	9 41%	5 23%	1 4%	8.90
2. I find it problematic to encourage my students to share their ideas with their peers and/or me.	1 5%	9 41%	6 27%	3 14%	3 14%	8.90
3. I find it problematic to encourage my students to think about their mistakes and reflect on them.	3 14%	9 41%	6 27%	3 14%	1 4%	8.90
4. I find it problematic to encourage my students to do self editing.	2 9%	10 45%	6 27%	4 18%	0	13.46**
5. I find it problematic to encourage my students to do peer editing.		5 23%	10 45%	7 32%	0	17.54**
6. I find it problematic to encourage my students to justify their answers.	2 9%	7 32%	7 32%	5 23%	1 4%	7.09
7. I find it problematic to encourage my students to relate what they learn to what they already know.	3 14%	6 27%	9 41%	4 18%		10.27*
9. I find it problematic to encourage my students to make study plans.	5 24%	6 29%	8 38%	0	2 9%	9.71*
10. I find it problematic to encourage my students to make plans before starting a writing activity.	6 27%	9 41%	7 32%	0	0	15.72**
13. I find it problematic to encourage my students to listen to their friends' ideas.	3 14%	10 46%	7 32%	1 5%	1 5%	14.36**
14. I find it problematic to encourage my students to carefully explore situations with anticipatory questions.	2 9%	9 41%	11 50%	0	0	24.81**
15. I find it problematic to encourage my students to view situations from different perspectives.	2 10%	8 38%	10 47%	1 5%	0	19.23**

<u>Note:</u> Percentages rounded off.
A = Always
O = Often
S = Sometimes
R = Rarely
N = Never
X^2 = Chi-square
*<u>p</u> < .05   **<u>p</u> < .01

The findings for questions 4, 5, 7, 9, 10, 13, 14, and 15 were all found to be significant on a Chi-square test. Numbers 7 and 9 were significant at a level of $p <$ .05 and numbers 4, 5, 10, 13, and 14 were significant at a level of $p < .01$.

The results for questions 1, 2, and 3, namely, encouraging students to take time to think before they give an answer, share their ideas with their peers of teachers, and think about their mistakes and reflect on them are more evenly divided and therefore, not significant.

The results for questions 4 and 5 are especially interesting. Those questions are about self-editing and peer-editing. The Chi-square for these questions is significant at the level of $p < .01$. 54% of the teachers reported that they always or often have problems in encouraging their students to do self-editing whereas only 23% of them reported that they often have problems in encouraging their students to do peer-editing. Despite a significant Chi-square result for question 5, it cannot be said that teachers find it less problematic to encourage their students to do peer-editing because the many participants (45%) reported only that they "sometimes" have problems with encouraging their students to do peer-editing.

As was indicated in Table 4.7 the chi-square calculation remains negligible for question 6 which deals with encouraging students to justify their answers.. However, it was later found during the observations and interviews that justification plays an important role in the participants' teaching of thinking skills. During the interview, the participants were asked if they explicitly present any of the thinking skills they mentioned to their students. Both P1 and P2 named justification, making guesses about a topic, comparing and contrasting, giving opinions about something, analysing, and synthesising as the thinking skills they explicitly teach to their

students. However, all the participants tended to emphasise the importance of justification other than other thinking skills. P1 said:

> In an academic context, justification is something they all should explicitly learn because they need to. Whatever they do in their departments or here, they need to give reasons behind those to be more persuasive, perhaps. And to be more believable. That's why I give a lot of importance and emphasis to justification... Justification is, I think, more open because they need to tell me the reason. It tells me more about how much they understand. It's deeper level. That's why, maybe, I give a lot of importance to it.

Similarly, referring to the lesson observed by the interviewer, P3 emphasised the importance of justification.

> I can say that I have always been after justification and plus I, on purpose, chose that lesson because it needed some kind of thinking process and then justification for the answers because the answers were not clear... They needed to process the knowledge and it requires other thinking skills which involve analysing and synthesising but there should be justification first.

For question 9, which was about making study plans, the Chi-square calculation is significant at the level of $p < .05$. 53% of the participants indicated that they always or often find it problematic to encourage their students to make study plans. When it comes to question 10, which is about making plans prior to writing activity, at least some of the time all teachers have problems with encouraging their students to make a plan before starting a writing activity and 68% reported that they encounter this problem "always" or "often". The calculation is significant at the level of $p < .05$ for this question.

For question 13, the Chi-square calculation is significant at the level of $p < .01$. A majority of the teachers (60%) have problems with encouraging their students to listen to their friends' ideas. Only 5% of them responded that they never find it problematic to get their students to listen to each other.

The results for questions 14 and 15, which are about viewing and exploring situations from different perspectives, are particularly interesting. The calculation is significant at the level of $p < .01$ for these questions. For question 14, all participants reported they have difficulty in encouraging their students to carefully explore situations with anticipatory questions at least some of the time. For question 15, only one teacher reported that he/she rarely finds it problematic to encourage his/her students to view situations from different perspectives. All the other teachers expressed difficulty with this item.

The succeeding discussion is about the data gathered on what teachers find problematic about making decisions in relation to thinking skills in their classrooms.

Table 4.8

Items Related to Making Decisions

Questions	A	O	S	R	N	x^2
8. I find it problematic to encourage my students to make their own decisions.	2 9%	13 59%	5 23%	2 9%	0	23.90**
16. I find it problematic to encourage my students to define their decisions clearly.	2 9%	7 32%	11 50%	2 9%	0	18.45**
17. I find it problematic to encourage my students to consider all the possible choices before making a decision.	3 14%	10 45%	7 32%	2 9%	0	14.81**
18. I find it problematic to encourage my students to analyze the pros and cons of a possible choice in their decision making process.	1 5%	13 62%	6 29%	1 5%	0	28.28**

Note: Percentages rounded off.
A = Always
O = Often
S = Sometimes
R = Rarely
N = Never
X^2 = Chi-square
*$p < .05$ **$p < .01$

The findings for the questions 8, 16, 17, and 18 were all found to be significant on a chi-square at a level of $p < .01$. None of the participants said that they never find it difficult to encourage their students to make their own decisions, to define their decisions clearly, to consider all the possible choices before making a decision, and to analyze the pros and cons of a possible choice in their decision making process. It can be concluded from the above table that most participants find it problematic to encourage their students tomake their own decisions. Nonetheless, when teachers were asked about the specific activities they have used in their classes to develop students'decision making skills, P1 acknowledged the importance of thinking skills in decision making as follows:

> Before making a decision, any kind of decision, they should be able to look at the situation, think about positive and negative aspects of it and they should come to a decision. And, of course, this requires high-level thinking. If you cannot see the consequences of your decision, what happens then? Can you deal with the outcome, the bad result? You should be thinking about the consequences and decide if you can deal with those consequences. So, this is not something very easy. You should be using high-level thinking skills before making a decision.

She also stated that decision making is one of the most important skills that students should have. Then, referring to her own high school experience when a student she added:

> They should be given workshops about how to make decisions. I remember that from my high school experience and I felt that I needed such kind of workshop. I mean the steps for making decision, how to make decisions.

Although she said "decision making should be even emphasised more in the class, both in the lesson level and maybe, in extra-curricular activities," she admitted that she had difficulty in specifying an example or an exercise that requires decision making. She said that decision making is everywhere in her lessons. She further explained:

Even if they are doing the simplest exercise, answering a simple question, they have to decide what to write, how to write…They need to think about and decide about what they are going to say and what they are going to write. So, I think decision making is everywhere.

However, P2 gave a specific example from one of her elementary classes. In this lesson, students were asked to look at some advertisements in groups and decide on which place to go on holiday. She thought that this type of activity help students to develop their decision making skills because

They had to use all the language for making decisions and then agreeing and disagreeing and why they were not agreeing, why they wanted to go to that particular place, but not another. And then finally they had to come to a decision and of course, as a whole class activity, they had to inform the other groups of their decision on which one was the good choice or the bad choice and the reasons for them.

When she was further asked if she did any activities which help students to make decisions in other parts of their lives, she mentioned the Learner Training Activities Booklet, which is used at BUSEL at the beginning of each academic year. She referred to this booklet and said:

There are some strategies for students and there is also one part about being a university student versus being a high school student. And as a university student, if they face problems, if they have any problems related to their academic studies, what should they do to solve those problems…They have to look at various problems and decide on what to do to overcome those problems.

However, she also complained that it is difficult for both low-level students and teachers to deal with this booklet and suggested a solution as well:

They don't have the language. Therefore, it is difficult for students to understand and difficult for the teacher to explain.But of course, we are doing these activities in the first three weeks but if we do them towards the end, maybe, they will understand the problem and then what they can do to solve these problems.

The succeeding discussion is about the data gathered on what teachers find problematic about goal setting in relation to thinking skills in their classrooms.

Table 4.9

Items Related to Goal Setting

Questions	A	O	S	R	N	x^2
11. I find it problematic to encourage my students to set short-term goals for themselves.	2 9%	10 45%	6 27%	3 9%	1 5%	12.09**
12. I find it problematic to encourage my students to set long-term goals for themselves.	5 24%	3 14%	10 48%	1 5%	2 9%	12.09**

Note: Percentages rounded off.
A = Always
O = Often
S = Sometimes
R = Rarely
N = Never
X^2 = Chi-square
*p < .05   **p< .01

As was indicated in Table 4.9, the Chi-square calculations for these questions are significant at a level of p< .01. Only 5% of the participants reported that they never find it difficult to encourage their students to set short-term goals for themselves whereas more than half of the participants (54%) reported that they always or often have problems with this item. Almost half of the participants (48%) stated that they sometimes have difficulty encouraging their students to set long-term goals whereas only 9% of them expressed no difficulty with this item. It emerged during the interviews that the teachers are well aware of the importance of developing students' goal setting skills. When it came to the specific activities that teachers implement to develop students' goal setting skills, P1 mentioned the importance of the relationship between thinking skills and goal setting not only in academic context but also in real life. She explained what she specifically does to encourage students to have certain goals as follows:

> I try to encourage them to have certain goals either in their real life or in
> their academic context. Usually, I give speeches on that…The activity
> is in speaking or discussion format. I sometimes throw some topics and
> they discuss their future and the reasons behind those aims. I usually

> ask questions and try to encourage discussions…I try to start the lesson
> with the objectives. Mentioning the objectives in written or oral
> format…It gives a direction and they can understand how important it is
> to know what they are doing and why they are doing. It is a kind of
> direction…I like talking about the importance of goal setting and they
> are usually interested in that kind of speeches I give.

P2 had some difficulty in remembering the activities she does to help her students to

develop their goal setting skills but then she came up with the following description:

> After teaching the language for making plans for the future like "going
> to", I usually ask what they are going to do when they graduate from
> the university. So, they have to, then, come up with some goals. They
> have to say why they want to be, for example, a teacher. Or, why they
> want to go to America and live there…This type of thing I am doing.

When she was further asked if these activities encouraged her students to set

realistic goals for themselves in every aspect of their lives she said:

> I think, they are helping but I'm not sure if all of them are aware of that. I
> know from some students that they try to make plans for the future. They are
> trying to set realistic goals for themselves. By the help of the activities, I
> believe that they get more aware of it in this or that way. I cannot say
> whether they can use them in their daily lives.

All interviewees were also asked about their understanding of thinking skills

and the thinking skills they are aware of using in their daily lives. The answers to

these questions were quite similar. The participants defined their understanding of

thinking skills by referring to academic context. One of the participants (P1) used

the term "high-level thinking skills" further explaining this as "things like

justification, evaluation, synthesising, analysing, application". Another participant

(P3) said:

> … strategies for problem solving … It is beyond first step of learning.
> It is beyond recognition level. And the answer may not be clear in the
> text or in the context … Students need to think about it a bit and they
> need to make some inferences to get the answer or to find the solution
> or to see what has happened there or what the real meaning there is.

All of the participants referred to clear awareness of using thinking skills in their daily lives. P1 stated that "Usually, I try to judge things, criticise things, evaluate things and people …". Similarly, P3 said "I have to decide on something. I have to look at, maybe, pros and cons. And then I decide accordingly … I look at … and compare then and finally come to a decision". P1 explained her reasons for using thinking skills as such: "Maybe, I feel the need. Maybe, it gives meaning to my life. And I can communicate better with people if I can evaluate and criticise things or people". P2 stated "They (thinking skills) make my life easier … Those who are aware of these skills can use them to make their lives easier or to use them in their academic lives or when they are doing their jobs".

While the participants were explaining the reasons for using thinking skills, they commented that they naturally use thinking skills in their daily lives. P1 stated that "I naturally do these, I am not aware that I am using or doing synthesis or analysis. … In daily routine activities, I usually do these things automatically." Likewise, P2 stated that: "You have it. It is something natural. I think everybody has that skill inside…"

Finally, when participants were asked what problems they experienced in the teaching of thinking skills, in addition to students' level of English, P2 identified teachers' attitude towards their learners' learning processes as another problem in teaching thinking skills saying, "Maybe, the teacher doesn't know how to get these skills from students or is not teaching the strategies …". She further explained the importance of focusing on the learning processes of students: "If teachers don't look at how their students learn, their learning styles and if they are not aware of them, then it is more difficult to teach these skills to our students". In addition, she

mentioned time constraints and the number of the objectives to be achieved in a

very limited time as other problems which influence teaching thinking skills:

> It also makes the teacher's life easier if you just do what you are
> supposed to do very quickly because we have time constraint. The time
> constraints influence the way teachers are teaching as well. So, you
> want to save time. We have to do this, this week and there are so many
> other things we have to cover this week. We have ten thousand
> objectives to cover in eight weeks, which I believe is not very good. I
> mean, it is not enough to teach them all these objectives plus thinking
> skills.

Summary of Data Analysis

This chapter has presented the findings of the analysis of data obtained

from questionnaires and interviews concerning teachers' feelings and beliefs about

the instruction of HOTS in general and to low-level students in particular. It has also

presented findings concerning teachers' actual classroom practices in relation to

teaching thinking skills. The questionnaire was analysed quantitatively and the

interviews were interpreted accordingly:

The general impression from the questionnaire is that teachers at BUSEL are

familiar with thinking skills. More specifically, 96% of them believe that thinking

skills can be taught and a great majority of them acknowledge the importance of

practice and of effective guidance in teaching these skills.

The questionnaire and interview results revealed that teachers experience

some problems in the teaching of thinking skills. The students' level of English, the

teachers' attitude towards their learners' learning processes, time constraints, and

the number of objectives to be covered in a limited time are the major problems that

teachers experience.

The results regarding the teaching of thinking skills to low-level students

revealed that there is a discrepancy between what the teachers reported in the

questionnaire and what they actually said during the interviews. Although a great

majority of them indicated in the questionnaire that students' level of English should not prevent them from being taught thinking skills, during the interviews, they stated that students first should solve their grammar and vocabulary problems and then they should be taught thinking skills.

The results also revealed that teachers are aware of the fact that some activities are better suited than others for teaching thinking skills. Teachers also reported that students are implicitly exposed to thinking skills in their lessons.

Overall, it seems that the general outcomes of the interviews are consistent with the results gathered from the questionnaire with the exception of the teachability of thinking skills to low-level students. Considering the answers which the participants gave to certain items in the questionnaire, the interviewees' responses supported and provided greater insights into these previously given answers.

In the next chapter, the findings of this study and implications for teaching thinking skills to low-level students will be discussed. Chapter 5 will also consider limitations of the study and directions for future research.

CHAPTER 5: CONCLUSION

Summary of the Study

This study investigated teachers' perceptions of teaching thinking skills to low-level English classes. For this study, a questionnaire and interviews were used as data collection devices. The participants of this study were the teachers working at BUSEL, who taught at the Elementary or Pre-intermediate level during the second course of the 2003-2004 academic year. The questionnaire was distributed to twenty-two teachers in order to get a picture of what they think about teaching thinking skills in general and to low-level classes in particular. The responses to the questionnaire were recorded and analysed quantitatively.

Discussion of Findings

In this chapter, the findings of this study will be presented. This will be achieved using the following headings:

- Teachers' understanding of thinking skills

- Presenting thinking skills to students

- Problems experienced in the teaching of thinking skills

- Teaching thinking skills to low-level classes

- Activities that develop students' thinking skills

- Comparison between critical and creative thinking skills.

Teachers' Understanding of Thinking Skills

The findings of this study showed that in general, teachers at BUSEL are familiar with thinking skills and they are aware of using them in their daily lives.

The reasons they give for using thinking skills in their daily lives are quite consistent with the literature which says that thinking enables us to solve the problems we face, make good decisions and achieve the goals which make our lives meaningful (Chaffee, 2000). In offering their own definitions of thinking skills, the interviewees focused on justification, evaluation, analysing, synthesising, and application, which are all found in Johnson (1988)'s definition of critical thinking. One of the interviewees emphasised the fact that thinking skills are beyond recognition level, which is the distinction Johnson (1988) makes between thinking and critical thinking.

However, during the interviews, participants also commented that they usually use their thinking skills automatically in daily routine activities because they are natural and everybody has these skills inside. Because teachers' beliefs have strong implications for the way they teach (Woods, 1996; Yıldırım, 2000), this assumption may have led the participants to think that these skills will appear automatically in students; therefore, they do not need to be taught. This may result in the neglect of thinking skills in their teaching processes. Interestingly, however, the questionnaire results reveal that 91% of the participants think that thinking skills need to be taught and 96% of them believe in the teachability of thinking skills. This strongly suggests that they acknowledge that while thinking is a natural skill it can nonetheless be developed by training. In addition, the responses that the participants gave to the questions about the teachability of thinking skills through practice and effective guidance support this view. More specifically, all the participants believe that students can learn how to think better through effective guidance, and 86% of them think that students can learn how to think better through practice.

Presenting Thinking Skills to Students

The findings of the study reveal that the participants explicitly present their students with some thinking skills such as justification, making guesses about a topic, comparing and contrasting, giving opinions about something, analysing, and synthesising. It is particularly interesting that all the interviewees focused on justification as the skill that students should definitely develop to be more persuasive and convincing in their responses in an academic context. This may be because of the emphasis given to justification in the syllabi of all levels at BUSEL, including Elementary and Pre-Intermediate ones. Both the classroom observations and the results of the second part of the questionnaire seem to indicate that justification is given particular importance in BUSEL syllabi compared with other thinking skills and teachers are expected to highlight the importance of it in their teaching practices.

Although all the interviewees reported that justification is very important and they all teach it explicitly, the results of the third part of the questionnaire reveal that 64% of the participants "often" or "sometimes" experience problems teaching this skill to their students. One reason why so many teachers find it difficult to teach their students how to justify their answers might be that they do not implement the right method to encourage students to justify their answers. First, they should explicitly raise their students' awareness into why they need to develop their justification skills, relating what they do in their language classroom to what they will be expected to do in their departments. Teachers first should explain why they try hard to help their students to develop this skill. Then, they can ask questions which are likely to make students elaborate on their responses more.

The results of the study also reveal that interviewees regarded the attitude and responsibility of their students as important criteria guiding their teaching of thinking skills. Strikingly, they did not specify language level as a criterion and the results of the questionnaire support this. 81% of the participants "strongly disagree" or "disagree" that students should be equipped with advanced level English to learn thinking skills. Similarly, 86% of them "strongly agree" or "agree" that students should have the opportunity to express and justify their ideas regardless of their language competence. Given these responses, it seems that the participants do not consider the level of their students' language to be a criterion guiding their teaching of thinking skills. However, there is a tension at this point because when the interviewees were asked about the problems they experience in the teaching of thinking skills, they all highlighted the students' level of English as the major problem. This tension will be discussed in detail in the following section.

Problems Experienced in the Teaching of Thinking Skills

The results of the study indicate that students' level of language, teachers' attitude towards their learners' learning processes, time constraints, and the number of the objectives to be achieved in a very limited time are the major problems that the participants experience in the teaching of thinking skills. Students' level of English was indicated as the major problem by all the interviewees although they did not mention it as a criterion guiding their teaching of thinking skills. One of the interviewees claimed that language level affects students' attitude toward learning. He stated that because students think in their L1, they need to translate everything into the target language. As a result, students may fail to express their ideas in English because during the translation process, they may lose some of their ideas that they can express quite well in their L1. The frustration that this experience

causes students may lead them to give up and accept failure instead of trying to say something. This comment reveals the importance of the L1 in teaching thinking skills, especially at lower levels. 95% of the participants stated that teaching thinking skills should begin at lower levels where students do not have the necessary grammar and vocabulary to express themselves. In this case, if the focus is introducing thinking skills through the target language, then students should be allowed to use the L1 when they feel the need. Likewise, teachers should be allowed to use L1 in their teaching of thinking skills if they think that the use of the L1 will facilitate their job and encourage students to make use of some strategies that develop thinking skills. In this way, students may develop a more positive attitude both towards learning thinking skills and the target language.

Teachers' attitude towards their learners' learning processes is another problem in teaching thinking skills. During the interviews, one of the participants emphasised the importance of awareness of their students' learning styles. There are many strategies and different activities that help students to develop their thinking skills. When teachers are aware of their learners' preferences and learning styles, they may be more successful at selecting and implementing the most appropriate activity for them. For example, activities such as the Defining Features Matrix, Pro and Con Grid, and Concept Maps (Angelo & Cross, 1993) lend themselves more to pair work or group work; therefore, they are more appropriate for students who prefer working with others. However, the Word Journal and Analytic Memos (Angelo & Cross, 1993) are much more suitable for fostering the critical and creative thinking skills of those students who prefer individual work.

The results of the study also reveal that teachers experience problems in teaching thinking skills due to time constraints and excessive objectives to be

covered in a limited time. At BUSEL, courses generally last for eight weeks. Because teachers have to cover a number of pre-determined objectives every week, they cannot leave out or add an objective as they wish. They must guard against falling behind the suggested outline because students take weekly exams and they are tested on the objectives which are supposed to be covered in a particular week. Therefore, teachers inevitably feel the pressure of limited time and having to cover too many objectives in this limited time. Consequently, they might not have enough time to think about the ways to integrate thinking skills into what they are supposed to teach.

Teaching Thinking Skills to Low-level Students

The results of the study indicate that the participants find it more difficult to teach thinking skills to low-level students than higher-level ones. They identify lack of grammar and vocabulary as the major constraints which prevent students from expressing themselves better. Although only 19% of the participants agreed that students should be equipped with advanced level English to learn thinking skills, during the interviews they complained about students' lack of grammar and vocabulary. In theory, it seems that all the participants agree that thinking is not an optional activity that learners may get when they seem to be more ready in terms of their language competence (Reynolds & Muijs, 2000). In reality, they seem to experience difficulties implementing thinking skills because they think that students need to solve their grammar and vocabulary problems before they are taught thinking skills.

The results of the questionnaire also revealed that 86% of the participants believe that students should have the opportunity to express and justify their ideas regardless of their language competence. This suggests that they want to teach

thinking skills to all levels. However, the analysis of the interviews indicated that they also acknowledge the problems they experience in the lower levels.

It was particularly interesting that one of the interviewees explicitly identified "higher level thinking" with "higher level language skills". This identification is highly consistent with the association criticised by Asher (2000). Because the concept of HOT is often associated with "skills for higher attainers" (Asher, 2000 p.276), teachers may have a tendency to associate HOTS with advanced-level learners who have solved their grammar and vocabulary problems. This kind of assumption may result in avoiding teaching thinking skills to low-level students. Teachers who prefer not teaching thinking skills to low-level students may deprive them of tasks requiring HOTS.

The analysis of the interviews also reveals that not only the language level of the students but the different levels of language that the teacher uses in low-level classes might have some important implications. One of the interviewees reported that because teachers have to limit their vocabulary and structures, they limit their ideas as well. However, it is crucial for teachers to adapt their language depending on the level of the students they are teaching not only for teaching thinking skills but also for teaching even a new word. It is much better to share your ideas with your students even in a limited way rather than not attempting to do so at all. As Asher (2000) puts it, teaching thinking skills should begin as early as possible in the educational process and in our case, for those who are teaching languages, low-level classes are the starting point. Choosing the right kinds of tasks for the level and teachers lowering their level of English to match the students' are the crucial steps to start teaching thinking skills at lower levels.

To sum up, there are a number of factors which are all relevant to the teaching of thinking skills: students' learning styles, time constraints and the number of objectives to be covered, and the language the teacher uses, all of which interact with students' level of language.

Activities that Develop Thinking Skills:

The results of the study reveal that teachers are aware that some activities are better suited for teaching thinking skills than others (Dacey, 1989; Nickerson et.al., 1996; Angelo & Cross, 1993). During the interviews, teachers were asked to specify some activities that help students to develop their thinking skills. Although the teachers stated that the basic language skills (Reading, Listening, Speaking, and Writing) all lend themselves to activities suitable for thinking skills, each interviewee emphasised the importance of one skill more than others. This may imply that they may not have enough knowledge about how the other skills can be used for thinking skills. It is particularly important that all the interviewees seem to have problems specifying any activities more suitable for thinking skills. They preferred talking about these activities in general terms. Brainstorming, jigsaw tasks and some games which are suitable for teaching thinking skills are the only activities they specified. Similarly, the questionnaire results indicate that teachers experience problems encouraging their students to share their ideas with others, to listen to their friends' ideas, to carefully explore situations with anticipatory questions, and to view situations from different perspectives. These are all essential to the activities that foster critical and creative thinking (Chaffee, 2000). More specifically, almost half of the participants admit that they "always" or "often" find it problematic to encourage their students to share their ideas with others, to listen to

their friends' ideas, to carefully explore situations with anticipatory questions, and to view situations from different perspectives.

It is worth noting that all the interviewees share the view that students are automatically exposed to implicit teaching of thinking skills through the activities done in their classes. It seems that all the interviewees favour the implicit teaching of thinking skills although they had previously stated that they explicitly present thinking skills to their students. This may be a result of the general tendency to integrate many skills because of the time constraints.

The findings of the study also indicate some interesting results about the specific activities that participants use in their classes to develop students' decision making and goal setting skills. All the participants acknowledge the importance of thinking skills in decision making. This result is highly consistent with the fact that good thinkers are capable of making good decisions. Defining one's decisions clearly, considering all the possible choices before making a decision and analysing the pros and cons of a possible choice are the major steps in the decision-making process (Chaffee, 2000). However, 91% of the participants at least sometimes experience difficulty encouraging their students to follow these steps.

Although all the interviewees had difficulty in specifying an example or an exercise that requires decision making, they all seem to agree that decision making should be emphasised more in the academic context. One of the interviewees suggests that students should be given workshops about how to make decisions. Similarly, another interviewee draws attention to the LTA (Learner Training Activity) Booklet, which is currently being used at BUSEL. It is unfortunate that only one of the interviewees relates this booklet to the specific activities for making decisions because this booklet consists of many activities which encourage students

to reconsider their high school experience from a critical point of view. It also suggests advice on how to deal with the demands of the academic environment. Why teachers in this study have not included this booklet in their responses and comments is not clear. One possibility might be that they have not had the opportunity to make full use of it due to having to cover most of the activities in it in a very limited time.

When it comes to the findings of the study regarding the specific activities to develop students' goal setting skills, it seems that participants acknowledge the importance of goal setting not only in an academic context but also in students' real lives. Although 81% of the participants stated that they sometimes have problems encouraging their students to set goals for themselves, it appears that they are aware of the crucial role of thinking skills in helping their students to set and achieve both short-term and long-term goals (Chaffee, 2000). Giving speeches on goal setting and encouraging students to discuss their future plans are what the teachers try to do with their students to raise their awareness. Although the interviewees believe that these activities help students to become more aware of their goals and the procedure they should be following to make realistic goals for themselves, they seem unsure whether their students can use these skills in their daily lives. This might be because teachers may have difficulty making their students see the relationship between what they do in an academic context and their real lives.

Comparison between Critical and Creative Thinking Skills

The findings of the study reveal that the participants acknowledge the importance of critical and creative thinking in the development of their students' thinking skills. A great majority of the participants (95%) believe in the importance of thinking skills in identifying and accepting a problem, producing alternatives for

solving it and solving it in the end. Likewise, 95% of the participants think that thinking skills are important in producing creative ideas.

In addition, it seems that teachers are well aware of the interrelatedness of critical and creative thinking as well as the differences between them. The distinction that one of the interviewees makes focuses on the "focused and realistic" aspect of critical thinking and "imaginative" aspect of creative thinking (Nickerson, 1999 p. 397). However, another interviewee thinks that there is a link between critical and creative thinking. In line with what Brandth et. al. (1988), Nickerson (1988), and Chaffee (2000) claim, she believes that critical and creative thinking work together to produce the intended outcome.

Answers to Research Questions

Research Question 1

What is the teachers' understanding of how HOTS should be implemented?

The findings of the study indicate that teachers are well aware the importance of teaching thinking skills in their students' learning processes. They explicitly teach thinking skills such as justification, making guesses about a topic, comparing and contrasting, giving opinions about something, analysing and synthesising. They also acknowledge the importance of the implicit teaching of thinking skills because they believe that they themselves usually use their thinking skills in their daily routine activities.

Believing that students' level of English is the major problem in the teaching of thinking skills, teachers think that students should first solve their grammar and vocabulary problems before they are taught thinking skills. Although the findings of the questionnaire revealed that a great majority of the teachers disagreed that students should be equipped with advanced-level English to learn thinking skills, the

findings of the interviews do not support it. The interviewees believe that students' low-level English influence their teaching of thinking skills by limiting their own language and the variety of the activities to be implemented.

Research Question 2

What do the teachers see as problems and benefits of bringing HOTS into their Elementary or Low-Intermediate classes?

Teachers acknowledge the benefits of HOTS in an academic context rather than students' real lives after university. Teachers believe that thinking skills help their students to cope with the demands of their departments where they are supposed to solve the problems they will face. Teachers think that thinking skills enable students to identify a problem and produce alternative solutions for solving it. Teachers also acknowledge that thinking skills enable students to set appropriate goals and devise effective strategies to achieve these goals. In addition, they believe that students can make effective decisions and create new ideas.

Teachers acknowledge the problems of bringing HOTS into their low-level classes as well as its benefits. They think that because students have not mastered some grammar rules and vocabulary, they have difficulty in expressing themselves. This limits the activities that teachers can attempt in the classroom. Teachers complained that they have to lower the level of their language, which, in return, limits their ideas. They also believe that because they have to cover an excessive number of objectives in a limited time, trying to teach these skills is likely to put some extra burden on them because it requires extra preparation and time.

Research Question 3

Do the teachers at BUSEL implement and teach HOTS in low-level classes, and if so, how?

Teachers at BUSEL definitely implement and teach HOTS in low-level classes. Although they teach, making guesses about a topic, comparing and contrasting, giving opinions about something, and analysing and synthesising to a certain extent, justification is the skill they emphasise the most. While many teachers have problems encouraging their students to justify their answers and opinions, they strongly believe that students should learn justification because they need it to express themselves better in the academic context. The results of the questionnaire and observations and the analysis of the interviews all indicate that teachers are trying hard to get their students to justify their answers by asking questions.

Teachers teach thinking skills implicitly as well. All the examples they gave during the interviews as well as the classroom observations indicate that students are exposed to some reading, listening, writing, and speaking activities where they practise thinking skills along with the other skills even though students are not aware of this.

Pedagogical Implications

This study surveyed BUSEL teachers' perceptions of teaching thinking skills to low-level English classes. Twenty-two teachers participated in the study.

As revealed by the results, a great majority of the participants think that students should have the opportunity to express and justify their ideas regardless of their language competence and therefore, they do not need to be equipped with advanced-level English to start learning thinking skills. However, they perceive students' low-level language as the major problem in the teaching of thinking skills in their classrooms. The results of these two items seem to be contradictory. The participants seem not to consider the level of their students' language to be a

criterion guiding their teaching of thinking skills but they expect their students to solve their grammar and vocabulary problems before they are taught thinking skills. One reason for this contradiction may be that the teachers do not provide their students with well defined and contextualised thinking activities which can be adapted depending on students' level of language. The quality of the activities plays a crucial role in students' learning environments so that they develop thinking skills. It might also be a result of the fact that the teachers themselves do not prepare activities or materials for developing the thinking skills of their students depending on their level of English because of the extra effort and time they need to put in it. Therefore, it would be a good idea to have a special group of teachers who prepare materials and activities which help teachers to develop their students' thinking skills.

During the study, it was seen that, although the teachers stated that they explicitly teach thinking skills, they had difficulty verbalising some particular activities that help students to develop their thinking skills. In addition, the interviewees seem to favour the implicit teaching of thinking skills as well as the explicit teaching of them. This might be a result of the fact that teachers tend to assume that students are already exposed to thinking skills through the routine language activities done in the classroom. Therefore, they may underestimate the importance of the explicit teaching of thinking skills. In order to better enable students to learn thinking skills explicitly, teachers should be trained in the use of these skills and in how to integrate them into their normal teaching practice.

It is also interesting to note that justification is the skill which almost all the participants persistently try to teach both implicitly and explicitly to their students. However, more than half of them stated that they find it difficult to encourage their

students to justify their answers. In order to overcome this difficulty, teachers should make their students see the relevance of justification as a skill they need to develop to succeed in an academic context. Students should be made aware that they need to develop this skill to be more persuasive and convincing in their responses when they go to their departments.

The findings also revealed that teachers' attitude towards their learners' learning processes is an important factor in the teaching of thinking skills. Teachers should be more aware of the various learning styles and preferences of their students in order to design, adapt, or select the most appropriate activity to develop their students' thinking skills. In order to achieve this, teachers should perceive their students as individuals who have certain preferences in their learning processes. They can make use of the tutorial times to become more acquainted with their students or collaborate with the student counsellor to learn more about their students' learning habits and preferences.

The majority of the participants perceive time constraints and excessive objectives to be covered in a limited time as two of the problems they experience in the teaching of thinking skills. Because the weekly exams make it almost impossible for teachers to leave out an objective in order to have more time to teach thinking skills, they should be trained in how to both increase their students' awareness of the importance of these skills and to integrate them into their normal teaching practices. With well defined and contextualised learning activities which lend themselves to teaching thinking skills, teachers should be able to both achieve the pre-set objectives and help students to develop their thinking skills.

The results of the study also revealed the importance of the use of the L1 in the teaching of thinking skills. Especially in low-level classes, where students often

struggle to express themselves in the target language, it is inevitable for teachers to refer to students' L1 when they feel the need. Instead of letting students be frustrated thinking that they cannot express their valuable ideas, teachers should encourage them to use their L1 to express their opinions. Thus, students will feel that not only their level of English but also their ideas are given importance by their teachers.

Limitations of the study

The research study investigated the perceptions towards teaching thinking skills to low-level language classes of twenty-two BUSEL teachers who taught at the Elementary and Pre- Intermediate level during the third course of the 2003-2004 academic year at BUSEL. Since the research was done in the third course, most of the students had already proceeded to higher levels. Therefore, the research had to be done with a limited number of participants (22 teachers out of 139). If more teachers had participated in the study, then more generalisable results could have been collected.

The study was also limited in that the participants whose lessons were observed had to be chosen from ten teachers not twenty-two teachers because the other teachers had not signed the consent form saying that they were too busy and therefore, they did not to be observed.

Implications for Further Research

The importance of thinking skills for students suggests the need for further studies. Because the study was conducted in the third course of the academic year and only the teachers who were teaching Elementary and Pre-Intermediate classes were involved in the study, it was not possible to generalise the results of the study to139 teachers working at BUSEL. Therefore, the same study could be replicated at

the beginning of an academic year, when it would be possible to involve a greater number of teachers. It is also necessary to find out the perceptions of other stakeholders like administrators, curriculum and testing coordinators, teacher trainers, and student counsellors concerning the same questions.

Another possibility for future research would be to include students in the study. Their perceptions of thinking skills might also be investigated in order to allow for a comparison of teachers' and students' perceptions. Students could be traced when they go to their departments to see whether they apply any of the thinking skills they have learned at BUSEL.

One interesting finding in this study was that although the teachers reported that students do not have to have advanced-level English to learn thinking skills, they highlighted students' level of English as the major problem they experience in the teaching of thinking skills. This tension could be further investigated taking the other variables in the teaching- learning process into consideration.

There is a need for further investigation into the effects of the use of students' L1 and their individual learning strategies in the teaching of HOTS, especially to low-level classes. Also, future research might be conducted into the benefits of teaching thinking skills not only for students but also for teachers, as their role is critical to success in the teaching of thinking skills.

In addition, further research could be conducted into the relationship between the teaching of thinking skills and autonomy which is one of the desirable results of thinking skills. Also, future research might usefully investigate what support is needed for both teachers and students to overcome the problems they experience in the teaching and learning of the thinking skills.

Conclusion

This research study investigated BUSEL teachers' perspectives of teaching thinking skills to low-level language classes. Teachers believe that thinking skills can be taught to students regardless of their language competence. However, they also acknowledge students' low-level of English and the potential problems it is likely to cause. Their perceptions of difficulties are likely to result from students' low level of language, students' attitude and responsibility, teachers' attitude towards their learners' learning processes, time constraints, and the excessive number of objectives to be achieved in a limited time.

The study revealed that the teachers regard justification as a particularly important skill. They teach it to their students both implicitly and explicitly. Although they have difficulty verbalising some activities that help students to develop their thinking skills, they think that some activities are better suited for teaching these skills.

The results of the study and the pedagogical implications in this chapter might help BUSEL teachers to reconsider their practices regarding teaching thinking skills both in general and in particular to low-level language classes.

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APPENDIX A

TEACHER QUESTIONNAIRE

Dear colleagues,

I am currently enrolled in the MA TEFL Program at Bilkent University. I am conducting a study on the attitudes of BUSEL teachers towards teaching thinking skills in low level English classes.

The aim of the study is to find out the feelings and beliefs of the teachers regarding low-level students and the instruction of High Order Thinking Skills (HOTS) to these students. For the purpose of the study, HOTS consist of critical and creative thinking.

Critical Thinking: The use of thinking skills beyond information recall, including questioning, classifying, synthesising, comparing, recognising bias, inducing, deducing and inferring for goal setting and making decisions.

Creative Thinking: The cognitive process people use to develop ideas that are unique and useful.

This questionnaire is the first phase of the study. The other two phases are observations and interviews, which will be done with teachers selected according to diversity of answers given. Therefore, I will ask you to provide your name and surname so that I can get in touch with those teachers selected for interview. The personal information will be kept strictly confidential and will not be shared under any circumstances.

Thank you in advance for your help and cooperation.

Nurdan YEŞİL

Bilkent University

MA TEFL 2004

PART I

BACKGROUND INFORMATION

Name ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯   Gender: M   F

Years of Language Teaching ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Levels taught at BUSEL

Elementary   Pre-Intermediate   Intermediate   Upper-Intermediate   Pre-Faculty

The level currently being taught

Elementary   Pre-Intermediate   Intermediate   Upper-Intermediate   Pre-Faculty

PART II

In answering the following questions, please keep in mind the level you are currently teaching.

Directions: Circle the number that corresponds to your degree of agreement with the statements listed below. (strongly agree=4, agree=3,   disagree=2, strongly disagree=1)

1. Thinking skills can be taught and improved by training.   4   3   2   1

2. Teaching thinking skills should begin at lower levels.   4   3   2   1

3. Students should be equipped with advanced-level English to

    learn thinking skills.   4   3   2   1

4. Thinking skills need to be taught.   4   3   2   1

5. Thinking skills develop as a result of age and maturation.   4   3   2   1

6. Thinking skills enable students to solve the problems they face. 4   3   2   1

7. Thinking skills enable students to make good decisions.   4   3   2   1

8. Thinking skills enable students to achieve meaningful goals
    for themselves.   4 3 2 1

9. Teaching thinking skills is time consuming.   4 3 2 1

10. Students should have the opportunity to express and justify
    their ideas regardless of their language competence.   4 3 2 1

11. Students can learn how to think better through practice. 4 3 2 1

12. Students can learn how to think better through effective
    guidance.   4 3 2 1

13. Thinking skills enable students to identify appropriate goals
    for themselves.   4 3 2 1

14. Thinking skills enable students to devise effective strategies
    to achieve their goals.   4 3 2 1

15. Thinking skills enable students to explore the situation in
    which they are involved to set realistic goals.   4 3 2 1

16. Thinking skills enable students to explore the situation in
    which they are involved to make effective decisions.   4 3 2 1

17. Thinking skills enable students to treat different experiences
    as challenges rather than as threats.   4 3 2 1

18. Thinking skills enable students to produce creative ideas. 4 3 2 1

19. Thinking skills enable students to take risks in the process
    of creating new ideas.   4 3 2 1

20. Thinking skills enable students to identify and accept a
    problem when they confront one.   4 3 2 1

21. Thinking skills enable students to produce alternatives for
    solving the problems they confront.   4 3 2 1

22. The way students think affects the way they plan their lives

and the decisions they make.   4   3   2   1

PART III

In answering the following questions, please keep in mind the level you are

currently teaching.

In my normal classroom practice, I find it problematic to

1. Encourage my students to take time to think before they give an answer.

     always   often   sometimes   rarely   never

2. Encourage my students to share their ideas with their peers and/or me.

     always   often   sometimes   rarely   never

3. Encourage my students to think about their mistakes and reflect on them.

     always   often   sometimes   rarely   never

4. Encourage my students to do self-editing.

     always   often   sometimes   rarely   never

5. Encourage my students to do peer-editing.

     always   often   sometimes   rarely   never

6. Encourage my students to justify their answers.

     always   often   sometimes   rarely   never

7. Encourage my students to relate what they learn to what they already know.

     always   often   sometimes   rarely   never

8. Encourage my students to make their own decisions.

     always   often   sometimes   rarely   never

9. Encourage my students to make study plans.

     always   often   sometimes   rarely   never

10. Encourage my students to make plans before starting a writing activity.

   always   often   sometimes   rarely   never

11. Encourage my students to set short-term goals for themselves.

   always   often   sometimes   rarely   never

12. Encourage my students to set long-term goals for themselves.

   always   often   sometimes   rarely   never

13. Encourage my students to listen to their friends' ideas.

   always   often   sometimes   rarely   never

14. Encourage my students to carefully explore situations with anticipatory questions.

   always   often   sometimes   rarely   never

15. Encourage my students to view situations from different perspectives.

   always   often   sometimes   rarely   never

16. Encourage my students to define their decisions clearly.

   always   often   sometimes   rarely   never

17. Encourage my students to consider all the possible choices before making a decision.

   always   often   sometimes   rarely   never

18. Encourage my students to analyse the pros and cons of possible choices in their decision making process.

   always   often   sometimes   rarely   never

APPENDIX B

INFORMED CONSENT FORM

Dear participant,

You have been asked to participate in a survey. The aim of the study is to explore BUSEL teachers' attitude towards teaching High Order Thinking Skills (HOTS) to students and will investigate your beliefs about the teachability of thinking skills, focusing on critical and creative thinking skills. In order to achieve this goal, first you will answer a questionnaire and you may be observed and then interviewed in order to gain deeper insights about how your classroom practice reflects your beliefs about HOTS.

Your participation in the study will bring invaluable contributions to future implementation of HOTS in low-level English classes at BUSEL. Any information given to me will be kept strictly confidential and under no circumstances will your name be released. This study does not involve any risk to you.

Thank you very much for your participation.

Nurdan YEŞİL

2004 MA TEFL Program

Bilkent University

I have read and understood the information given above. I hereby agree to my participation in this study.

Name:

Signature:

Date:

APPENDIX C

LETTER GIVEN TO THE BUSEL DIRECTORATE SOLICITING

PERMISSION

27.2.2004

To the Directorate of BUSEL,

I am a participant of the MATEFL Program this year at Bilkent University. As a part of my thesis, I hope to carry out research at BUSEL.

My study focuses on BUSEL teachers' attitudes towards High Order Thinking Skills in low level English classes. I am planning to investigate the feelings and beliefs of the teachers regarding low-level students and the instruction of HOTS to these students and whether these feelings and beliefs are reflected in natural classroom practice. Furthermore, I am planning to pay particular attention to what the teachers see as the problems or benefits of implementing HOTS in low-level classes.

The concept of HOT is often associated with skills for higher attainers and the focus is generally on the role of HOTS in the achievement of advanced level learners. Very little research has been conducted into teachers' beliefs about HOT and low proficiency students. At BUSEL, where all students are encouraged to develop their potential as independent, autonomous learners, the administration puts great emphasis on the implementation of HOTS in the teaching and learning process. Since there is little research on the need to introduce HOTS in language classes as early as possible, the research that I will conduct may help my colleagues to reflect upon and reconsider what they think about the implementation of HOTS in low-level language classes. Specifically, the study will answer the following questions:

1. What is the teachers' understanding of how HOTS should be implemented?

2. What do teachers see as the problems and benefits of bringing HOTS into their elementary or low intermediate classes?

3. Do teachers at BUSEL implement and teach HOTs into low-level classes, and if so, how?

I am planning to carry out this study through questionnaires, observations, and interviews at BUSEL in mid-March. I respectfully request permission to undertake this study at BUSEL.

Nurdan YEŞİL

MATEFL Student

Bilkent University, ANKARA

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APPENDIX D

INTERVIEW QUESTIONS

1-What do you understand by thinking skills?

2- What thinking skills are you aware of using in your daily life? What are your reasons for using them?

3- Do you present any of those skills explicitly to your students? What skills are you presenting explicitly to your students?

4- What criteria do you have for teaching thinking skills in your classes?

5- Do you think that it is appropriate to teach thinking skills in whatever activity you are pursuing?

6- Have you found any classroom activities better suited for teaching thinking skills than others?

7- What constraints have you experienced in the teaching of thinking skills?

8- Is there anything you have found what makes teaching thinking skills more difficult?

9- In your experience, what differences are there between teaching thinking skills to higher level classes and low-level classes?

10- Are there any particular problems you have encountered in teaching thinking skills to low-level classes?

11- Are there any specific activities you have used in your classroom to try to develop students' decision making skills? How successful was this?

12- Are there any specific activities you have used in your classroom to try to develop students' goal setting skills? How successful was this?

13- In your opinion, what differences are there between creative and critical thinking?

SAMPLE INTERVIEW TRANSCRIPT 1

N: First of all, thank you very much for taking part in the interview.

P1:…..

N: Well, I have got couple of questions about thinking skills. I want to start with a general question. What do you understand by thinking skills?

P1: In general, I can think of usually high level thinking skills. Things like justification, evaluation, synthesising, analysing, application, things like that.

N: What thinking skills are you aware of using in your daily life?

P1: In my daily life?

N: Yes, in your daily life.

P1: Especially analytic skills and evaluation. Application is everywhere. But usually I try to judge things, criticise things, evaluate things and people. These are, I think, all I do in my daily life.

N: Ok. What are your reasons for using them? Why do you need to use them?

P1: Sometimes, I naturally do these, I am not aware that I am using or doing a synthesis or analysis. But in general, in daily routine activities I usually do these things automatically, naturally. Maybe I feel the need. Maybe it gives meaning to my life. And I can communicate better with people in that sense if I can evaluate and criticise things or people. Communication is something necessary.

N: What skills are you presenting explicitly to your students?

P1: Mostly, I think justification. I mean reading something, analysing something and then giving reasons behind things. I ask them to justify information. Why is it that way?

N: And you do this explicitly?

P1: Yes, usually I ask why and expect a clear answer for that.

N: What skills are you presenting implicitly to them?

P1: That's quite difficult but ……….

N: O.K. Take your time to think about it.

P1: Implicitly? Well, they are through the reading activities, listening activities, or any kind of exercises. They are learning how to interact with the material and how to analyse things to answer questions, how to analyse information and how to synthesise it to write and answer to a question. Especially, when they are alone with the material. They need those things, understand something and think about what they read or listen and then applying that information. Application is there as well as comprehension and analysis. And sometimes they need to synthesise information to write a clear answer because the question asks for it, for example. So, they are exposed to those skills automatically when they are doing a task in the class.

N: And you said that you explicitly present justification and making their answers more clear, I guess.

P1: Yes, giving the reason behind their answers.

N: For the first question, you told me lots of other thinking skills. Do you have any specific reasons for teaching only those two explicitly.

P1: I think, in an academic context that is something they all should explicitly learn because they need to. Whatever they do in their departments or here, they need to give reasons behind those to be more persuasive, perhaps. And to be more believable. That's why I give a lot of importance and emphasis to justification because you know they are in an academic environment and justification is the most important thing they need to be able to do. Of course, the other things are

emphasised as well. The comprehension, understanding, and showing understanding. But these are also implicitly given. They need to show their comprehension through exercises and questions and then justification is, I think, more open because they need to tell me reason. It tells me more about how much they understand. It is deeper level. That's why, maybe, I give a lot of importance to it.

N: What about synthesising or evaluation? Would you think of teaching those skills explicitly too?

P1: The level I taught was quite beginner. That's why, maybe, I tried to emphasise justification more than the others. But of course, with the increasing levels, definitely they should be taught explicitly. It is not easy of course for the teacher and the students but they could be trained in those step by step starting maybe at intermediate level. They should be taught how to analyse information by asking the right questions and leading them towards that direction. And you know, the importance of those skills should be given explicitly. Why they should analyse, why they should synthesise and evaluate? What is the place of evaluation in academic context and even in daily life? Giving real purposes to the students, they should be taught the importance and they should be taught how to do. How to do part is important and should be introduced step by step.

N: Now that you have mentioned a kind of difference between teaching thinking skills to lower level students and teaching thinking skills to higher level students, are there any particular problems you have encountered in teaching thinking skills to low-level classes?

P1: Yes, I have some difficulty because they haven't mastered some other skills yet. That's why I have difficulty proceeding to higher level thinking in the beginning

because they need to solve their vocab problem or grammar problem first and then understanding comes. Maybe, that's why I have some doubts about the lower level but still I don't reject that. If the capacity of students are, let's say, okey at the level or a bit above the level, perhaps then, it could be introduced at some levels.

N: And what criteria do you have for teaching thinking skills in your classes?

P1: About the level of the students?

N: No, about introducing thinking skills to your students. What affects you? Do you think that it is appropriate to teach thinking skills regardless of some factors?

P1: Well, I think, the students are the major point there because if they are ready to take higher level thinking skills more than understanding, then I assume we can introduce higher thinking skills such as, perhaps, analysis or application, at least. Even if not synthesis or evaluation still those moderate level thinking skills could be introduced depending on the level of the students, even the personality of the students. And, you know, motivation because sometimes higher level thinking skills motivate students more because a little bit challenge sometimes triggers them. You know, it makes the atmosphere even more motivating and interesting. And that's why I try to put some elements of higher level thinking skills in each level starting with, maybe, pre-intermediate.

N: And you said that if students are ready, we can introduce them. How can we know that our students are ready for learning thinking skills?

P1: Usually, after the first or second week, you get used to the students. You know their personality, interests, needs and the level of their English. I mean their proficiency level. So, once I feel the right atmosphere, then I can introduce and try out some high level thinking skills and see how it goes. If it works, I can, you know, put some elements of high level skills in my lessons all around, perhaps.

N: Have you found any classroom activities better suited for teaching thinking skills than others? Do you think that it is appropriate to teach thinking skills in whatever activity you are pursuing?

P1: I think we can do that. I mean, we can adapt the activities and put some elements of high level thinking skills. At least, that justification element. I mean, asking for the reasons behind the answers puts a little bit challenge on the students and it gives me some idea of their proficiency, their understanding. I mean, introducing some high level thinking skills gives an idea about their low level skills as well, low level thinking skills. So, one skill could be used to evaluate the other skills on the side of the teacher. So, I believe it should be almost everywhere but the degree of expansion may change depending on the students, activity type, even the feelings or the mood of the students and the time of the day. Even the time sometimes, you know, tells me something. If they are too sleepy and too lazy to think or to be cahllenged in the early morning or in he last block, then it would not be a good idea, you know. It could be a bit repulsive for the students but choosing the right time, right amount, right activity, and right group I think we should definitely introduce those higher level thinking skills.

N: You have just said that choosing the right activities is important. What kind of activities are more appropriate for teaching thinking skills?

P1: I think, mostly reading or listening kind of activities lend themselves to high level thinking skills because they have the potential for evaluation, analysis, synthesis or justification. So, I feel like there should be enough amount of data in their hands to apply those skills or to refer to when they are analysing, synthesising or justifying. So, mostly I believe reading and listening lend themselves to such skills.

N: Again, I will be focusing on the activities because I saw you did some activities in your lesson. There were some other elements apart from justification in your lesson, especially at the beginning of the lesson. You got them to brainstorm on the topic, which is another thinking skills.

P1: Creative thinking skills.

N: Yes, you're right. Are there any other specific activities apart from justification to promote thinking skills?

P1: Brainstorming, I used it a lot, I mean, as students also enjoy that. That's why, maybe. And also before writing something, I expect them to again think about the vocabulary, the grammar they will use in their writings and the content, what they are going to talk about. I think, writing is also one of the, let's say, most important activities that lend themselves to creative thinking. That's why, maybe, sometimes there are some games which are really suitable for creative thinking. Students need to be active either in groups, in pairs or alone actively thinking about something or trying to create something themselves. Some games which I may not give names right now but there ere really some games, activities and brainstorming and writing. Those activities, especially writing because they need to be alone and create things.

N: Now that you have mentioned creative thinking, what differences are there between creative thinking and critical thinking?

P1: Creative thinking is free. I mean, they have no guidance at all.Or, they haven't got much information in their hands at that moment. But for critical thinking, they might have some materials to think on in their hands at that time. So there might be a starting point. Some data in critical thinking but in the creative one, I feel like it is free and out of the blue. Sometimes they need to create, they need to make up something. So which one is more difficult? Well, both have their difficulties. But,

maybe, creative thinking skill is something not everybody might have or not everybody might have developed, might have the opportunity to develop. So this is the slight difference.

N: You have just said that not everybody might have developed it. Do you think that creative thinking can be developed by teaching?

P1: Some people might not have realised that they are creative enough because of the lack of opportunities to reveal that. I think it is the matter of having the opportunity to show creativity rather than being taught it.

N: Are there any specific activities you have used in your classroom to try to develop students' goal-setting skills?

P1: Hmm, any activities for goal setting?

N: You know, goal setting is one of the requirements of academic context you have mentioned. Can you see any relationship between thinking skills and goal setting?

P1: Actually, if you don't have any thinking skills, how can you set goals? That's the first point, I guess. So, yes, I try to encourage them to have certain goals either in their real life or in their academic context. Usuall, I give speech on that. I mean, the activity is like in speaking or discussion format. I sometimes throw some topics and they discuss about their future and the reasons behind those aims. Yes, I usually ask questions and try to encourage discussions about that. And there are usually hot discussions because they like talking about their future. And sometimes even if I don't ask, they talk about those things. You know, "I'm going to do this or that", "What do you think about it teacher?" type questions. And yes, even in the lesson level, I try to start the lesson with the objectives. Mentioning the objectives in written or oral format, I introduce the objective and I think this tells something. It gives a direction and then they can understand how important it is to know what

they are doing and why they are doing it. It is a kind of direction. So, yes, discussions, speaking activities.Or, I give speeches myself. I like talking about the importance of goal setting and they are usually interested in those kind of speeches I give.

N: Are there any specific activities you have used in your classroom to try to develop students' decision making skills?

P1: I think, decision making is everywhere in our lessons.. I mean, even if they are doing the simplest exercise, answering a simple question, they have to decide what to write, how to write and things like that. I mean, questions like what, how, why are everywhere. So, they need to think about and decide about what they are going to say and what they are going to write. So, I think decision making is everywhere. Just like teachers, students have to decide on something all the time. So, I cannot specify only an example or an exercise saying that only that requires decision making. But it is everywhere all the time. SO, I believe it is one of the most important skills our students should have. They should be even given workshops about how to make decisions. I remember that from my high school experiences and I felt that I needed such kind of workshop. I mean the steps for for making decisions, how to make decisions. So I think that should be even emphasised more in the class, both in the lesson level and maybe, in extra-curricular activities. So, decision making is really crucial.

N: What do you think about the importance of teaching thinking skills in making decision processes of students?

P1: Before making decision, any kind of decision, of course they should be able to look at the situation, understand the situation, and think about positive and negative aspects of it and they should come to a decision. And of course, this requires high

level thinking. If you cannot see the consequences of your decision, what happens then? Can you deal with with the outcome, the the bad result or you should be all thinking about the consequences and decide if you can deal with those consequences. So, this is not something very easy. You should be using high level thinking skills before making a decision.

N: Thank you very much for answering my questions.