

**T.C. KOCAELİ ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
YABANCI DİLLER EĞİTİMİ ANABİLİM DALI
İNGİLİZ DİLİ EĞİTİMİ BİLİM DALI**

**THE INTEGRATION OF DYNAMIC ASSESSMENT
AND THINK-ALOUD METHOD FOR INCREASING
STUDENTS' READING COMPREHENSION AWARENESS**

YÜKSEK LİSANS TEZİ

Derya YILMAZ

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ÖZET

Temelini Vygotsky'nin sosyokültürel teorisinden alan dinamik değerlendirme, araştırmacıların üzerinde çalıştığı nispeten yeni bir yaklaşımdır. Dinamik değerlendirme eğitim alanında kırk yıldan fazla süredir çalışılmasına rağmen, konuyla ilgili çalışmalar oldukça kısıtlıdır. Bu yüzden bu çalışmanın amacı; öğretme ve değerlendirme terimlerinin karşılıklı yönü üzerindeki mevcut bilgiyi genişletmektir. Diğer bir deyişle, bu çalışma bir aracının öğretme ve değerlendirme süreçlerini bütünleştirerek öğrencilere yardım etmesiyle; öğrencilerin okuma kavrama becerilerinin gelişime açık olduğunu ileri sürer. Araştırmacı öğrencilerin okuma becerilerini geliştirmek için sadece dinamik değerlendirmeyi kullanmakla kalmayıp, aynı zamanda sesli düşünme metodunu da sürece dahil ederek; katılımcıların bilişsel yönünü derinlemesine gözlemek istemiştir. Farklı bölümlerden ve seviyelerden altı üniversite öğrencisi katılımcı olarak seçilmiştir. TOEFL hazırlık kaynağı olarak hazırlanmış sekiz okuma metni bu katılımcılara sunulmuştur. Aracılık süreçleri boyunca katılımcıların verdikleri cevaplara nasıl ulaştıklarının savunmaları beklenmiştir. Katılımcıların toplam elde ettiği puanlar verdikleri doğru cevap sayılarına ve bu cevapların veriliş sırasına göre hesaplanmıştır. Araştırma nitel yöntem araştırma tekniğiyle, otuz iki saatlik veriyi analiz etmiş ve bu çalışma öğrencilerin okuma becerilerinin bir aracı yardımıyla gelişmeye açık olduğu yönündeki anlayışı geliştirmek için önemli bir fırsat sunmuştur. Fakat katılımcılar sesli düşünme tekniğiyle ilgili fikir birliği kuramamışlardır. Bazı katılımcılar bu tekniğin öğrencilerin düşünme sürecini kontrol etmede etkisi olduğunu düşünürken, diğer öğrenciler sesli düşünürken baskı altında hissettikleri için onları tedirgin edebileceğini öne sürdüler. Fakat sesli düşünme metodu aracıya katılımcıların nasıl düşündüğünü ilk elden gözlemlemekle ilgili önemli fırsatlar sunmuştur.

Anahtar kelimeler: Dinamik değerlendirme, sesli düşünme metodu, müdahaleci yaklaşım, okuma anlama becerileri, Testing-the-Limits yaklaşımı

ABSTRACT

Dynamic assessment which takes its roots from Vygotskian Sociocultural theory is a relatively new approach that the researchers have started to study. Although dynamic assessment has been started to be used in the educational field for more than 40 years, the studies related to it are quite limited. Therefore, the aim of this study is to widen the current knowledge of the reciprocating aspect of instruction and assessment terms. In other words, the study proposes that students' reading comprehension skills are open to development through the instrument of a mediator who has helped the students by integrating instruction and assessment processes. Not only has the researcher used the dynamic assessment for improving students' reading skills, but she has also included the Think-Aloud method into the process for observing participants' cognition in depth. Six voluntary university students from different departments and proficiency levels were selected as participants. Eight reading passages prepared as TOEFL preparation sources were presented to them. During the mediation processes, the participants were expected to answer the questions by reasoning their answers. Their total scores were calculated according to the correct answer numbers and their orders. By employing qualitative modes of inquiry, thirty-two hours of data were analyzed by the researcher, and this study provides an important opportunity to advance the understanding that students' reading skills are open to improvement with the help of a mediator. However, the participants could not build a consensus about the efficacy of the Think-Aloud method. Whereas some of them claimed that it helped students to monitor their thought processes, the other participants proposed that this method could make them nervous because of the feeling of being under pressure. However, the Think-Aloud method provided the mediator important opportunities for observing the participants' way of thinking at first hand.

Keywords: Dynamic assessment, the Think-Aloud method, the interventionist approach, reading comprehension skill, Testing-the-Limits approach

LIST OF ABBREVIATIONS

DA: Dynamic Assessment

EFL: English as a Foreign Language

FA: Formative Assessment

FtF: Face to Face

L1: First Language

L2: Second Language

LLT: Leipzig Learning Test

MLE: Mediated Learning Experience

NDA: Non-dynamic Assessment

SCM: Structural Cognitive Modifiability Theory

SCT: Sociocultural Theory

TA: Think-Aloud

TAP: Think Aloud Protocol

ZAD: Zone of Actual Development

ZPD: Zone of Proximal Development

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INTRODUCTION

Dynamic Assessment (DA) aims to intertwine assessment and instruction processes one within the other. The advocates of DA have put forth that traditional standardized tests tend to focus on students' failure considering their solo performances which are admitted as the indicator of their future achievements. However, DA concentrates on students' success concerning the reciprocating behaviors of the learners and the mediator. In other words, mediators offer learners hints, prompts, or leading questions during the assessment, so they do not have a chance not only to observe students' current abilities but also they can determine students' future potential (Poehner, 2008, p. 15).

Dynamic assessment's origin dates back to the Vygotskian Sociocultural Theory (SCT). According to SCT, the cognitive abilities of people can be improved by social interaction, and Vygotsky has underlined the importance of transactional aspects of learning where learners need a capable person's guidance for improving their knowledge. This view is directly associated with Dynamic Assessment, the Zone of Proximal Development, and Scaffolding, and these terms have been presented in a detailed way in this research. Besides, Think-Aloud, which is a good method for understanding a person's cognition through verbalization of thoughts, has been also used in the research.

Our knowledge of Dynamic Assessment (DA) is largely based on limited data, especially on skills. The aim of this present research thus to widen the current knowledge on studies related to dynamic assessment. In the traditional education system, instruction and assessment are two components of education which are generally admitted to two separate notions. However, the researcher proposes that students' reading skills can be improved by not admitting them as separate components. In this research, the mediator aims to show that students' reading comprehension skills can be improved with the help of social interaction.

Carlson and Wiedl's (1992) Testing-the-Limits Approach which is one of the interventionist approaches has been used in the research. The main aim of the researcher for choosing this model is that mediation should be given in the same way to all participants, and it also includes the Think-Aloud method; therefore, students have a chance to explain their thoughts thanks to verbalization and the most difficult areas they encounter. Besides, presenting mediation in a standardized way to all participants will help the researcher to understand whether the mediation is equally beneficial for all learners, or other characteristics of learners have also an effect on this process.

To find an answer to these questions, six university students participated in the research. The data were collected via reading comprehension questions with a dynamic aspect, questionnaires, semi-structured interviews, research diaries, and the Think-Aloud method. The results have indicated that the participants had quite positive attitudes towards dynamic assessment for improving their reading comprehension skills. However, they could not arrive at a consensus on the Think-Aloud method.

CHAPTER 1

1. INTRODUCTION

The first chapter gives a brief overview of the research by presenting the background of the study, statement of the problem, research questions, the aim, and the significance of the study parts, respectively. In the final part, some important key terms which have been frequently used throughout the study will be explained.

1.1. BACKGROUND OF THE STUDY

Dynamic Assessment was developed nearly a century ago by L. S. Vygotsky, and the assessment process has taken on a new dimension by allowing students to co-construct the knowledge with an expert while their skills are being tested. Poehner (2008) has brought forward that human cognition is not a result of maturation of their innate capabilities, but it is directly related to the person's active participation in the process with the help of cultural artifacts and interaction with others (p. 1). Lidz and Gindis (2003) have argued against separating instruction and assessment terms, and they have put forth that they should be intertwined, and this is only possible by using the interventions during the assessment for moving students' cognitive abilities further levels.

However, the supporters of standardized test, which can be used in various settings such as "placing someone in an instructional program, graduating a student from a high school, applying for a job or gaining admittance to a university" (Sacks, 1999, p. 35), have criticized DA for not having reliability, generalizability, and validity terms (Poehner, 2008, p. 70). Whereas Feuerstein has not agreed on these claims, and he has defended the interactionist approach by showing his great number of clinical successes (Poehner, 2008), some researchers have preferred to remain faithful to the

requirements of psychometric tests (e.g., Budoff, 1987; Guthke, 1992). In accordance with these two different approaches, two different DA types have emerged: the interventionist and the interactionist approach. Even though the interactionist approach tends to be admitted more successful due to having the characteristics of Vygotskian viewpoints more, both of these approaches have some advantages and disadvantages. The most important advantage of the interactionist approach is to provide co-constructing mediation according to learners' needs, so it is more flexible than the interventionist approach. However, when someone needs a "standardized assessment and the scores and percentile ranking" (Poehner, 2008, p. 66), choosing one of the interventionist approaches will be more judicious. Therefore, the predetermining needs of our learners will help us to choose the most convenient approach.

Dickins (2011) has discussed that teachers can also adjust the instruction in terms of students' needs during the lesson and what makes it possible is formative assessment. Formative assessment has been defined by Poehner as "assessment practices intended to feedback into teaching by providing important information regarding learners' strengths and weaknesses that can be used for subsequent instructional decisions" (2008, p. 11). Ellis (2003) has stated that there are two types of FA. One of them is *planned formative assessments* where statistical testing types such as quizzes or chapter tests are required for observing students' improvement. During the assessment process, giving feedback, interacting, or adjusting the mediation according to learners' needs could not be found appropriate because they cannot be considered of learners' individual performances (p. 312). However, he has claimed that *incidental formative assessments* make instruction and assessment more joint. He has also underlined that the aim does not make student's development promoted but helps them to complete a task (2003, p. 315). To make these differences more clear, FA is "based on teachers' intuitive classroom practice" (Lantolf & Poehner, 2005, p. 260) without basing upon an educational theory. The second difference between them is whereas FA gives importance to task completion, dynamic assessment's concern is to sustain the development in a long process (Özdemir-Yilmazer, 2018).

As aforementioned, DA makes the learning atmosphere more dialogic because the mediator has a chance to observe what passes through learners' minds obviously, especially when the Think-Aloud method is integrated into the process. Poehner (2008) has explained that not only verbalization is a good source for determining students' weaknesses, but it can be also used as a *self-mediation* where learners can apply it for overcoming difficulties. Therefore, they become more agentic and autonomous learners (pp. 150-151). Swain and Lapkin (2002) have suggested that "within the domain of language learning, externalization of thought can facilitate learners' comprehension of language form and lexical choice" (p. 285). One of the methods where students' verbalization operation can be clearly seen is Think-Aloud. Van Someren (1994) has claimed that this is an important method for gaining insight into the thinking process of someone, and it is also a direct data collection instrument on the reasoning process (p. 11).

The primary concern of this research is to have an understanding of participants' reading comprehension skills and determining the most difficult areas that they encounter. The previous studies have had a similar manner, and these studies have also investigated DA's effect on students' reading comprehension skills (e.g., Garb & Kozulin, 1999; Naeini & Duvall, 2012). The results have shown that DA has a positive impact on developing students' reading comprehension skills. Besides, it also provides us a deep conception of students' actual levels.

1.2. STATEMENT OF THE PROBLEM

Reading skills can be explained as reading and cognizing the message what the writer tries to give us. In other words, the ability to read does not show that reading comprehension abilities are matured. Therefore, students need training for improving their abilities (Sönmez & Sulak, 2018). Think-Aloud is a method which is commonly used for improving students' comprehension skills. Oster (2001) has defined TA "as a technique in which students verbalize their thoughts as they read and thus bring into the open the strategies they are using to understand a text", so this method also provides students to improve their metacognition which is a highly important part of

the learning process. Besides, this method is an important demonstration of how students adapt their thoughts into the process (Sönmez & Sulak, 2018), and this is a missing component of most traditional test items.

A great number of traditional test items assess students' comprehension skills by using standardized reading comprehension texts which consist of "isolated passages and independent questions about those passages" (Rupp, Ferne & Choi, 2006). Although these types of questions do not accept reading as an interactive process, many teachers prefer to stick to the traditional procedure. However, a major problem of this kind of application is to miss the chance of observing students' problem-solving strategies (Raphael, Highfield & Au, 2006). Therefore, the Think-Aloud method has been used for being witness to students' cognition processes in this present study. Besides, mediation has been presented to students in the process, so their achievements have not been evaluated according to their solo performances.

1.3. RESEARCH QUESTIONS

This research investigates how the implementation of dynamic assessment affects students' reading comprehension operation processes. Therefore, the researcher also benefits from the Think-Aloud method for having a deep understanding of where students come across difficulties more. The research seeks to address the following questions:

1. What are the implications of incorporating the Think-Aloud method into the dynamic assessment process for improving students' reading comprehension development?
2. What are the advantages of applying Dynamic Assessment for increasing reading awareness from the perspective of students?

1.4. AIM OF THE STUDY

Dynamic assessment makes individual abilities, which are not suitable for being tested by using a non-dynamic instrument, more recognizable for the mediator (Lidz & Elliot, 2000). Besides, the mediator has a chance to specify the reasons why students show poor performances. Poehner has claimed that the aim of the assessment should not be only *diagnostic*, but also *prognostic* (p. 114). Unfortunately, students' abilities are generally being tested according to their solo performances. However, Lantolf and Frawley (1988) have mentioned that teachers should decide upon students' proficiency not considering their solo performances, but interaction with other people.

The aim of the study is to investigate whether DA has a positive effect on students' reading comprehension skills or not. Although DA's roots date back to nearly a century ago, and it has been started to be used in an educational setting for more than 40 years, it has not seen enough value. The advocates of DA have shown positive evidence on DA; however, far too little has been paid to it so far. In the present study, the researcher has aimed to show the reading comprehension skills of learners are open to development by adding interventions into the assessment process, and she has also intended to observe students' cognition process closely incorporating the Think-Aloud method into the process.

1.5. SIGNIFICANCE OF THE STUDY

Dynamic assessment is a relatively new approach that the researchers have started to study. Although there are few studies, DA is still poorly understood, and there are still some gaps in the literature. Besides, the present DA studies tend to focus on grammar more than skills (e.g., Aljaafreh & Lantolf, 1994; Antón, 2009; Poehner, 2005; Davin, 2011; Çalış, 2018). To my best knowledge, by comparison with studies which have concentrated on increasing students' grammar awareness, the number of DA studies related to increasing students' reading comprehension awareness is quite limited (e.g., Garb & Kozulin, 1999; Naeini & Duvall, 2012). Therefore, this study provides an important opportunity to advance the understanding of DA effects on

reading comprehension questions. This study offers some important insights into the literature for indicating how learners' reading comprehension skills can be improved due to verbalization, and it also shows that it is possible to specify students' needs without separating instruction and assessment processes.

1.6. DEFINITION OF KEY TERMS

Dynamic Assessment

“Dynamic Assessment, with its roots in Vygotsky’s theory of mind, takes the integration of assessment and instruction much further by enabling the leader in this dialogic dance to optimally promote learners’ abilities by continually fine-tuning their mediation to the learners’ changing needs” (Poehner, 2008, p. 24).

Zone of Actual Development (ZAD)

“The zone of actual development (ZAD) represents the actual developmental level of problem-solving that the learner is capable of achieving working independently, without assistance. It represents the functions that are fully matured” (McLachlan, Flear & Edwards, 2018, p. 137).

Zone of Proximal Development (ZPD)

“The distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86).

Scaffolding

Scaffolding is “a temporary supportive structure that teachers create to assist a student or a group of students to accomplish a task that they could not complete alone” (Graves, Watts & Graves, 1994, p. 44).

Think-Aloud (TA)

Think-Aloud is explained “as a technique in which students verbalize their thoughts as they read and thus bring into the open the strategies they are using to understand a text” (Oster, 2001 as cited in Jahandar, Khodabandehlou, Seyedi & Abadi, 2012, p. 1).

Think- Aloud Protocols

“Think-Aloud Protocol Analysis refers to a specific procedure designed to assess reading comprehension by asking the subject to think out loud while reading a passage. This diagnostic procedure has the potential to examine what the reader does to facilitate comprehension” (Kozulin & Garb, 1999; Meyers & Lytle, 1986, p. 138).

CHAPTER 2

2. REVIEW OF LITERATURE

2.1. INTRODUCTION

The literature review part has been examined in two parts. In the first part, Dynamic Assessment, which aims to intertwine instruction and assessment processes, and its two different approaches have been discussed, but beforehand the Sociocultural Theory that has lain behind the development of dynamic assessment (DA) and zone of proximal development (ZPD) which has also been associated with the Russian psychologist Vygotsky have been discussed. Besides, scaffolding has been introduced because of giving importance to not only collaboration but also interaction even though it has not been linked together with Vygotsky. In the second part, Think-Aloud which is an important method for understanding metacognition has been discussed.

2.2. SOCIOCULTURAL THEORY (SCT)

Sociocultural theory, which was developed by a Russian psychologist, Vygotsky, has emerged as a reaction to behaviorism (Ortega, 2014, p. 218). Whereas behavioristic approaches have claimed that learning can be explained as a *stimulus-response* process and the learners are admitted as passive recipients who will be expected to show measurable changes in their behaviours (Ellis, 2013, p. 29), Kozulin (1990) claimed that the ideas of Vygotsky are more recognizable for giving attention to culture and social interaction during developing higher-order thinking skills (Polly et al., 2017). Besides, John-Steiner and Mahn explained the theory as “interdependence between individual and social processes in the construction of knowledge” (1996, p.192).

Even though the sociocultural theory has been mainly associated with Vygotsky (Thorne, 2005), a great contribution of Luria and Leont'ev, who were his followers, should not be undervalued. They were important names who have played an important role in expanding his ideas because of his untimely death at the age of 37 (Mahn, 1999), and founding Activity Theory. While laying the foundation of ZPD, Vygotsky took inspiration from Marxist concepts such as social justice (Prawat, 2000). Eagleton (2003) defined Marx's political ethics as the "socialist society is one in which each attains his or her freedom and autonomy in and through the self-realization of others..." (p. 170 as cited in Thorne, 2005). From this point of view, these ethics have demonstrated similar notions such as having autonomy and gaining it with the help of others, and they are also similar concepts of sociocultural theory.

According to Wertsch (1985), Vygotsky was inspired by Marx's three principles. The first one has suggested that "analysis should be holistic" (Thorne, 2005, p. 394). As an adaptation of this principle to psychology by Vygotsky, he claimed that the cognitive development of people and their performances should be evaluated holistically (Şentürk, 2019). This principle has been called *genetic method* where Vygotsky emphasizes the importance of reciprocation of social interaction and mental process (Wertsch, 1985, p. 13).

The second principle has been related to the social dimension of human consciousness (Wertsch, 1985). While this principle has not underestimated the importance of consciousness, the social aspects of people have been ranked first. Vygotsky claimed "The social dimension of consciousness is primary in time and fact. The individual dimension of consciousness is derivative and secondary" (Vygotsky, 1979, p. 30). In light of this view, it can be said that Vygotsky has focused on the significance of social aspects of people more than individuals' mental functions.

The third principle has emphasized the significance of "tool and sign mediation in human functioning" (Wertsch, 1985, p. 13), and these tools have been known as semiotics. They have included "language; various systems of counting; mnemonic techniques; algebraic symbol systems; works of art; writing; schemes, diagrams, maps

and mechanical drawings; all sorts of conventional signs and so on” (Vygotsky, 1981, p. 137). To make it more specific, a well-known example can be given. If we aim to dig a hole in the ground in order to plant a tree, we can simply do it by using our hands; however, this non-mediated behavior is not so common in the modern world. When people want to dig a hole, they usually use a shovel. Therefore, not only do they spend less energy but also they have a bigger hole. Besides, when a backhoe is used for this activity, it is possible to decrease the spent energy and increase efficacy. Briefly, although our goal is the same, the appearance of the action changes “from hands to a shovel or a backhoe” (Lantolf, Thorne & Poehner, 2015, p.3).

The sociocultural theory has given importance to a “social, dynamic and collaborative dimension of learning”, and not only Bruner but also Vygotsky have emphasized the importance of transactional aspects of learning which starts with the interaction between a capable person and a novice for expanding knowledge. During this process, “language is used as a symbolic tool” (Walsh, 2013, p. 8). In other words, the process has started with the help of a more knowledgeable person, then it returns to an internal process where learners gain autonomy on their own learning.

A great number of advocates who have supported Vygotskian beliefs in the second language teaching have claimed that there are three steps of regulation: “social, private and inner speech” (Ortega, 2014, p. 220). During the social speech process, people need somebody’s help who has more experience than them. To exemplify, when a child does not solve a mathematical problem, a capable person will assist him/her to find the answer by mediating the process orally. During the private speech, which is a more contemporary usage of egocentric speech (Ortega, 2014), people have generally directed this audible speech to themselves especially when they encounter a problem (Ortega, 2014). Again, when we think about the same problem, this time the child will try to solve the problem with an audible voice, and this voice is necessary to control themselves for the child. The last one, inner speech is the final step where the speech cannot be heard by someone else, and people do not need other people’s help because they have already gained autonomy. For example, children will not need someone else’s guidance for solving the problem because they can do it by themselves.

When people encounter a problem or to achieve a goal, their consciousness will help them to regulate it in three stages (Ortega, 2014, p. 219). These three types of regulation can be entitled as “object-regulation, other-regulation and self-regulation, respectively” (Ortega, 2014, p. 220). To make it clear, it can be admitted as an example of how a baby starts to walk. In the first stage, they will need a baby-walker for redressing the balance. In other words, they will be regulated by an object to realize an action because they are in an object-regulated process. After a while, they will just need to be supported by someone else such as holding their one hand while they are trying to walk, and they will be regulated by others. At the final stage, they will not need someone else’s guidance, and they can do that action on their own. This stage what we expect to realize has been named as a self-regulated process.

In view of all that has been mentioned so far, the sociocultural theory is a theory in which social aspects of people have been placed in the first place while it has not neglected cognition. This theory has not seemed language as a product but a process, and it has been admitted as the most important symbolic tool (Ortega, 2014, p. 219). The explanations presented in this section have indicated the principles of sociocultural theory and the process of regulation. In the next section, the zone of proximal development (ZPD) will be discussed.

2.2.1. The Zone of Proximal Development (ZPD)

Chaiklin (2003) has claimed that ZPD could be the most well-recognized term which has been associated with Vygotsky’s ideas. He has also maintained that this notion has not just applied in psychology books but also in many different areas such as second language learning, moral education teaching, or teaching to disadvantaged and gifted children (Chaiklin).

Even though this concept has been associated with Vygotsky, he used this terminology just once before he passed away (Poehner, 2008, 32). The first appearance of ZPD was in 1962 in *Thought and Language*, which was written by Luria; however, this book has been criticized for just being interested in a child’s actual developmental

level. In other words, a child's success has been evaluated according to what they can do alone without interaction (Vygotsky, 1997). According to Vygotsky, this has not shown a child's developmental process, but it has just given a complete picture of their development (Vygotsky, 1997). In *Mind in Society*, ZPD appeared again, and it was announced as "The Zone of Proximal Development: A New Approach" (Vygotsky, 1978, p. 84) but this time with a developmental perspective.

Although ZPD has been found more indicative of cognitive improvement, Aljaafreh and Lantolf (1994) have claimed that Vygotsky has given importance to all two developmental aspects of ZPD. Whereas the first one has been already accomplished, and it has shown the actual developmental level (Aljaafreh & Lantolf, 1994), which has been known as the zone of actual development (ZAD), the second one has emphasized the importance of being supported by a more knowledgeable person for revealing our potential (Aljaafreh & Lantolf, 1994). The distinction between ZAD and ZPD is while ZAD has retrospectively explained development, a prospective view has been used to explain development in ZPD (Aljaafreh & Lantolf, 1994). Ebadi, Khatib, and Shabani (2010) have introduced ZAD as a reflection of "what is already developed and achieved" (p. 239), so they have claimed that ZAD cannot explain the development process of a person adequately (Ebadi, Khatib & Shabani, 2010).

ZPD is "*the distance between the actual developmental level or determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers*" (Vygotsky, 1978, p. 86, italics in original). In other words, ZPD could be explained as "the difference between what the child, or novice, is capable of when acting alone and what he or she is capable of when acting under the guidance of a more experienced other" (Lantolf & Appel, 1994, p. 10). It has been deduced that Lantolf and Appel have emphasized the importance of support, which has been provided by a more knowledgeable person, for finding out the higher cognitive process of novice people (Lantolf & Poehner, 1994).

Ortega (2014) has explained this notion as any kind of help, although it has been social or interpersonal at first, it has been finalized at an intrapersonal level (p. 224). In accordance with this definition, Ortega has highlighted the importance of the transactional aspect of learning where the abilities have been acquired in a social aspect first, then the person has internalized it, and they have gained their autonomy. This transition process has been formulated by Vygotsky as *general law of cultural development* (Lantolf & Appel, 1994, p. 11), and Veresov has claimed that it is necessary for understanding *hidden dimensions of ZPD* (2004, p. 4):

“Any function in the child’s cultural development appears on stage twice, or on the two planes. First, it appears on the social plane and then on the psychological plane. First, it appears between people as an interpsychological category and then within the child as an intrapsychological category. This is equally true concerning voluntary attention, logical memory, the formation of concepts, and the development of volition” (Vygotsky, 1981, p. 163).

It has already been discussed in the previous part, the sociocultural theory has put interaction in the first place, and language has been seen as the most important mediation tool that ensures this connection between novices and experienced people. Before gaining that autonomy where they do not need someone’s help anymore, people need a similar mediation process, namely object regulation, other regulation, or self-regulation. Vygotsky has underlined the importance of social aspect by using these words: “...every higher mental function, before becoming internal mental function, previously was a social relation between two people”. (Vygotsky, 1983, pp. 145-146). However, Aljaafreh and Lantolf (1995) have drawn our attention to the longitudinal continuum of this internalization process. They have also claimed that the development process of learners is not always *linear* but *dynamic*. To clarify, they have claimed that the progress of learners is not always going to be forward, but the learners are expected to turn back to mediation’s previous forms (Aljaafreh & Lantolf, 1995).

To sum up, ZPD has admitted that assisted performance is an acceptable premise to evaluate someone’s performance, and it has focused on not completed and

matured psychological functions of a child but the function that has just started to develop (Brown, Heath & Pea, 2003). Besides, this term has been really important for determining people's actual developmental level and their future performance (Brown, Heath & Pea, 2003). In the following part, scaffolding will be discussed.

2.2.2. Scaffolding

Scaffolding has not been a concept which was put forward by Vygotsky. However, this term has been commonly associated with Vygotsky because of not only having a collaborative but also interactional point of view (Hammond & Gibbons, 2005). Scaffolding “is placed around the outside of new buildings to allow builders access to the emerging structure as it rises from the ground” (Burns & Joyce, 2005, p. 8). After construction becomes strong enough, the scaffolding should be moved away (Burn & Joyce, 2005). When Wood, Bruner, and Ross start to use this term in an educational context (Clark & Graves, 2005), the definition has gained more educational value.

Whereas Graves, Watts, and Graves have explained scaffolding as “a temporary supportive structure that teachers create to assist a student or a group of students to accomplish a task that they could not complete alone” (1994, p. 44), Rogoff (1990) has defined it as an extension of current abilities in a supportive way to make children's skills more improved. Their interactions with scaffolding have shown that students are in their zone of proximal periods where they cannot achieve the given task alone, and they need help to succeed at that task. In literature, it has been possible to see the use of scaffolding and help synonymously, but Gibbons (2002) has claimed that scaffolding cannot be defined simply as an alternative to help because it means more than effortless assistance since scaffolding is related to helping learners make progress or collaborating with them to gain their autonomies.

Concerning these definitions, it has been possible to make an inference that scaffolding is a future-oriented process where the students are assisted by a capable person for making students progress. Besides, students should reach a level where the

support of their teachers has been withdrawn, they can achieve the task on their own. For this reason, we cannot claim that scaffolding has just meant help. Mercer (1994) have clarified these features what distinguish scaffolding from other teaching and learning types:

- Teachers' interventions are required to make students successful.
- Gaining the autonomy of students is expected by teachers.
- Teachers should plan the process beforehand on which specific skills are going to be taught.
- The indication of students' acquired skills should be clear.
- Students should indicate their autonomy by adapting the skills into another task.

(as cited in Burns & Joyce, 2005)

These characteristics have clearly indicated that there are some differences between help and scaffolding which have been discussed above. The second significant question has been related to when this scaffolding should be given to students. Gibbons (2002) has claimed that teaching should not be completely beyond students' current levels; however, it should move them to another level with challenges. Mariani has clarified this idea on a chart.

Figure 1. Four Zones of Teaching and Learning (adapted from Mariani, 1997)



This diagram which was created by Mariani has clearly shown how teachers can enhance learning by using the techniques properly. In the diagram, the vertical line has represented the challenge level, and the horizontal line has represented how much support should be given to students. It can be concluded from the chart that if the activity is beyond the students' current levels, they will not be able to show success during the activity unless they are provided with adequate support. This also has left students with increased anxiety. When the challenge and the support increase simultaneously, student development has been released. The study of Thomas and Collier (1999) has claimed that there is a positive correlation between the expectations of teachers and the success of students. When the expectation is high, the performance of students has also increased concurrently.

In short, although the concepts of ZPD and scaffolding have not been put together by the same theorist, they have been one within the other. Besides, scaffolding has not been just a notion that can be used for defining help. It has its own characteristics, and when scaffolding is given to someone within his/her ZPD, having an effective learning atmosphere is going to be inevitable. With also their dynamic aspects, ZPD and scaffolding have laid the foundation of dynamic assessment.

2.3. DYNAMIC ASSESSMENT

Instruction and assessment are two terms which have been frequently used in the educational field. Whereas Smaldino, Lowther, Russell, and Mims (2008) have defined instruction as “any intentional effort to stimulate learning by the deliberate arrangement of experiences to help learners achieve a desirable change in capability” (p. 25), assessment has been defined as “the systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development” (Palomba & Banta, 1999, p. 4). Traditionally, instruction and assessment have been admitted as two separate notions; however, DA has aimed to combine them instead of seeing them as dichotomous concepts (Poehner, 2008).

The theory’s root has come from the *Sociocultural Theory of Mind* that was brought forward by L. S. Vygotsky approximately a century ago. Antón (2003) has maintained that Vygotsky had emphasized the importance of interventions by defining ZPD elaboratively. Regarding Minick’s explanation about the relation between ZPD and DA, both of them have emphasized the importance of mediation during the assessment process; otherwise, it has not been possible to see how much a child’s mental functioning has been improved by the help of a specialist (1987, p. 120). In his introduction to the actual development and potential development, Vygotsky has accepted ZPD as a “more dynamic indicator of cognitive development” because it has been the indicator of the developing skills of someone instead of just focusing on developed ones (Polly et al., 2017). Besides, summative assessments have been criticized by Vygotsky for just concentrating on past knowledge of someone, and he has pursued that “instruction must be orientated towards the future, not the past” (Vygotsky, 1962, p. 104). Concerning the direct quotation of Vygotsky, we can claim that Vygotsky was a supporter of dynamic assessment even if he did not mention it directly.

Although it has not been possible to neglect Vygotsky’s considerable contribution to DA, he has never used *dynamic assessment*, but Luria who has been

one of the colleagues of Vygotsky, has defined the difference between *statistical* and *dynamic* aspects of assessment (Poehner & Lantolf, 2005). He has argued that statistical assessment types origin come from *psychometric principles*, and owing to this principle, students' solo performances have been admitted as an indication of their competences (Poehner & Lantolf, 2005, p. 234). However, DA Lidz (1997) has claimed that "both actual and proximal zones are necessary" for understanding the potential of a learner (p. 282). In reference to Lidz (1997), *normed, standardized, and curriculum-based approaches* have been good sources for determining someone's *actual development* or evaluating their solo performances, yet dynamic assessment' concern has been on *proximal development*. Besides, instead of proximal development, learning potential has been widely used in DA perspective because they have seen proximal development as which has been already gained, but the potential of learners becomes mastered one with the intervention of capable people (Lidz, 1997, p. 282). Further, comparing DA to NDA types has not been approved by Lidz because she has claimed that both of them have a different *ontological* and *epistemological* perspective. Whereas NDA types are good sources for seeing the examinee's present position, DA is more suitable for seeing progressive skills by using interventions (Lidz, 1991, p. 6). To return to the definition of DA, Lidz and Gindis have clarified it as:

"Dynamic Assessment (henceforth, DA) challenges conventional views on teaching and assessment by arguing that these should not be seen as separate activities but should instead be fully integrated. This integration occurs as intervention is embedded within the assessment procedure in order to interpret individuals' abilities and lead them to higher levels of functioning" (2003, p. 99).

Lidz and Gindis have also drawn our attention that it is possible to make our current levels up with the help of a person. Poehner (2008) has suggested that an examinee can extend his/her problem-solving potential with the help of an examiner thanks to the DA, and mediation has been found a must for realizing that work since completing it alone is not possible for an examinee at this level. Additionally, more recent attention has preferred to use of mediator and learner instead of examiner and

examinee, and the mediator has been defined as the person who helps the learner by using “prompts, leading questions to hints and explanations” (Poehner, 2008, p. 15).

Sternberg and Grigorenko (2002) have entitled this monistic view, which refers to a combination of instruction and assessment, as *cosmetic alteration* in the education field where traditional education assessment types have lost their popularities, and assessment procedure has gained a more modern appearance thanks to DA. They have maintained that traditional static assessment types give a chance to examinees to perform their abilities generally once at a given time without giving feedback about their performances, and learners can only receive the feedback for using their prospective performances according to the final score (Sternberg & Grigorenko, 2002, p. vii). However, Vygotsky (1998) has claimed that the application of DA provides the examiner to specify the problem clearer where the examinee encounters, so interfering in the problem at that stage is going to be easier for the examiners. It can be inferred that not only Sternberg but also Vygotsky’s opinions have underlined the importance of mediation for increasing the current level of the examinee by using interventions effectively.

Although Vygotsky and Luria are significant names whose contributions cannot be underestimated, Reuven Feuerstein is also an important name who has gained recognition as the processor of interactionist DA (Poehner & Lantolf, 2005). This approach which has been put forward by Feuerstein has been shown to have similar motives that were predominant within ZPD. He has seen people as an *open system* instead of seeing them as *closed system*. He has emphasized there the adjustability of cognitive skills which are not predetermined such as hair or eye colours, and the possibility of improving them with social interaction (Poehner & Lantolf, 2005, p. 240). Testing practitioners have been also criticized by Feuerstein because they have admitted the present operational stage of students as an indicator of students’ future success where a regulatable aspect of it has been disregarded (Poehner, 2008, p. 15).

Valsiner (2001) has claimed that these different interpretations of assessment can be explained within three general perspectives. According to the first principle, people have not been open to development but maturation. The characteristics of the innatist view have been clearly seen in this perspective (Valsiner, 2001). The second principle which has been known as *past-to-present* has claimed that the future cannot be separated from the past because the present has been admitted as continuity of our past experiences (Valsiner, 2001, p. 86). The final step, which has been known as a *present-to-future model* and also associated with ZPD, has not found past experiences enough to explain development, also present, which refers to the actual development of someone, has been accepted as an important term for “predicting and constructing future possibilities” (Valsiner, 2001, p. 86).

Congruently, the proponents of DA have not seen a person’s solo performance enough as an indicator of future success. Mediation types, amounts and also how a person responds to the mediation are the significant criteria for specifying potential performance (Poehner, 2008). What people can do with a joint interaction is an important view for understanding DA, instead of judging them failed by concentrating on their solo performance. In the next section, two different types of DA approaches will be discussed.

2.3.1. The Interventionist and Interactionist Approaches

Traditionally, learners’ future achievements have been evaluated by teachers according to standardized psychometric tests scores which have been originally designed to gather information about someone’s current level (Kozulin & Garb, 2002). Using these tests to assess students’ future performance has been criticized by many researchers because these tests have not been admitted as convenient sources to predict about learners’ future achievements, and they have suggested using direct assessment types to measure it. (Kozulin & Falik, 1995). As a result, DA has been taken to the stage, and it has been distinguished from the standardized test in point of giving instruction and feedback during the testing process, and modifying them according to the learners’ needs (Elliott, 2003, pp. 16-17). These characteristics are contrary to

standardized tests where there is no flexibility for learners, everything has been predetermined such as questions, duration or how it is going to be evaluated.

DA has been usually accused of not containing *reliability, generalizability, and validity* criteria (Poehner, 2008, p. 70). Whereas Feuerstein who is the supporter of the interactionist approach has generally questioned the effects of standardization in MLE, and he has supported the importance of mediation by showing his clinical successes (Poehner, 2008, p. 70). He put forth that “children’s potential is often underestimated and, as a consequence, low teacher expectations and assignment to special schooling may act in a self-fulfilling fashion” (Elliott, 2003, p.18). However, Budoff (1987) claimed that when there is no standardization, it is going to be difficult to compare examinees regarding their performances. Besides, Guthke and his colleague have preferred to remain faithful to traditional testing constructs, and they have adapted these constructs with an interventionist DA view (Poehner, 2008, p. 70). As a result of these points of view, interventionist and interactionist approaches have risen with their strengths and weaknesses.

According to the interactionist approach, mediation should not be given to learners in a standardized way in which the sequence of *prompts, hints and leading questions* have already arranged by the mediator, and the procedure has continued with an implicit to explicit hierarchy where all answers have represented a numerical value (Poehner, 2008, p. 45). However, interventionist approaches have also offered some advantages such as generalizability of the students’ results due to having a standardized paradigm (Poehner, 2008). “Budoff’s Learning Potential Approach, Guthke’s Learn Test Approach, Carlson and Wiedl’s Testing-the-Limits Approach, and Brown’s Graduated Prompt Approach” are the samples of interventionist dynamic assessment, which have been discussed below in a detailed way.

Although Budoff (1987) found the traditional assessment types enough for determining children’s potential, he has focused on children whose socioeconomic conditions are lower than others for determining whether their poor performances’ are a result of their advantageous educational background. He has examined whether it is

possible to increase students' performance by making them familiar with test techniques (Sternberg & Grigorenko, 2002). Even though Budoff's Learning Potential Approach has been criticized for not carrying DA's proponents because of heavily depending on traditional testing instruments, his study has shown that when adequate support is given to a learner, changing behaviors can be also possible. Therefore, he has proved that "cognitive abilities are dynamic and not stable" (Poehner, 2008, p. 46) that can be the most important proponent of dynamic assessment.

The second interventionist approach, which has been known as Guthke Learn Test Approach, has been found by Guthke and his colleagues by developing Budoff's approach (Guthke, 1982). Considering the latest updated version of this approach has been known as Leipzig Learning Test (LLT), he has preferred to separate "the mediation phase from the test administration phases – and, consequently, perpetuating the assessment–instruction dualism – Guthke's incorporates mediation into the test itself" (Poehner, 2008, p. 47). The first version of LLT has included just one clue which directs learners to think one more time when they make a mistake. However, the updated version has offered the learners five clues which have been designed concerning implicit to explicit principle. Whereas the first version one LLT has given points to learners following how many clues are given and spent time, the latest one has analyzed error types regarding assistance forms. This approach can be claimed as DA because it admits "mediation as a part of assessment process" (Poehner, 2008, p. 48).

The third interventionist approach which was developed by Carlson and Wiedl has been carrying the traces of LLT but new updates. Similar to LLT, clues have been given to learners; however, verbalization has been added to the process for understanding where students get into difficulties. Under Carlson and Wiedl's approach, every answer should be based upon verbalization regardless of being a correct or incorrect answer (Poehner, 2008, p. 49). Carlson and Wiedl have improved "various levels of standardized verbalization prompts designed in some cases to encourage learners to think aloud so that the researchers can better assess where problems occur during task solution" (1992, p. 163). They have also studied with underprivileged children like Budoff for understanding to determine the reasons for

poor performance by using verbalization techniques. In light of their study, they have understood that the reasons for poor performance can be related to focusing problems, frustration levels, or not knowing how to manage a problem (Dillon & Carlson, 1978). Besides, Kar, Dash, Das, and Carlson (1993) have claimed that learners' performances have made progress profoundly when the verbalization techniques were used.

The last interventionist approach which has been developed by Brown and her colleague, and this approach has also carried on mutual features with other interventionist approaches such as including standardized hints and leading questions and also the way how the mediation is given to the learners. What was missing in the other three approaches was *transferability* which has been associated with the Vygotskian viewpoint (Poehner, 2008, pp. 50-51). Guthke has not found adequate to perfect performance just on a final task, and she has also emphasized the importance of adaptation of the gained skill into other tasks which are going to be ranked as near transfer problems, far transfer problems, and very far transfer problems according to their difficulty levels (Campione et al., 1984, p. 81). Like other approaches, this approach has also been dynamic and integrates assessment and introduction. The mediator has always been there to help the learners when they come across difficulties, but the final step is to make the students independent learners where they have not any difficulties in integrating the gained behavior into others. (Poehner, 2008).

Feuerstein's Mediated Learning Experience (MLE), which was defined as "the very heart of DA" by Feuerstein, has been associated with Vygotsky's theory despite being developed independently from it (Poehner, 2008, p. 52). Even though this approach has an interactionist view, it has shown some similarities with the approaches which have been argued above such as emphasizing the importance of verbalization and transferability. However, the most important distinction between the interventionist and the interactionist approaches has been that interactionist approaches have an inseparable integration of assessment and instruction (Poehner, 2008, p. 53), whereas the interventionist approaches have been stuck to use standardized formats.

Firstly, Feuerstein's Structural Cognitive Modifiability Theory (SCM) has claimed that the cognitive abilities of human beings are open to development by interventions. Feuerstein has criticized the education system that gives too much attention to learners' current levels for predicting their future achievements, and it also underestimates the possibility of increasing potential with the help of interventions (Feuerstein et al., 1988, p. 83). To give an example, a child who was labeled as a mentally retarded child had a chance to get a PhD in psychology with the help of Feuerstein's assessment procedures and cognitive education program (Feuerstein et al., 1988, as cited in Poehner, 2008, p. 53). Kozulin (1998) claimed that when the mediation is not given to the learners by an experienced person, they have shaped their environments with a *trial and error* situation, and their limited knowledge cannot be enough to construct meaning for them. However, when a capable person mediates the world instead of them by "selecting, changing, amplifying and interpreting objects and processes", the children do not have to interact with the environment directly in a stimulus-response manner (p. 60).

Reuven Feuerstein, who has been admitted as "the leading advocate of interactionist DA", has developed MLE by staying connected to the principles of SCM theory (Poehner & Lantolf, p. 240). In this study, Feuerstein studied with culturally deprived, culturally different, and retarded children, and he claimed that "these children need to MLE more than others" (Poehner, 2008, p. 56). Feuerstein explained the advantages of MLE with these words:

"The more a child is subjected to mediated learning experiences, the greater will be his capacity to benefit from direct exposure to learning. On the other hand, a lack of MLE will produce an individual who will benefit very little from direct encounters with learning tasks." (Feuerstein et al., 1988, p. 58).

This point of view has had a similar notion to Vygotsky's ZPD. Both of them have claimed that learners need mediation by a capable person for developing their current levels. Although it has started with a *intermental plane*, it has been expected to reach an *intramental plane* where students do not need someone else's guidance

anymore (Poehner, 2008, p. 55). Additionally, Feuerstein claimed that it is possible to change learners' behaviors "with an expert during the session of intensive mediation – a dynamic assessment" (Poehner, 2008, p. 56).

Even though Feuerstein has underlined the importance of interaction, he claimed that not every interaction can be accepted as MLE. He has claimed that there are 11 attributes of MLEs, which makes MLE different from other interaction types (Feuerstein, Rand & Rynders, 1988). Feuerstein has emphasized the importance of the first three ones: "*intentionality and reciprocity, transcendence, and mediation of meaning*". (Poehner, 2008, p. 59). Whereas intentionality has tried to make the learning atmosphere more salient for learners by deliberate affording of mediators, reciprocity has been defined as how learners contribute to this process with their active participation (Feuerstein et al, 1988). Besides, transcendence has been related to showing the gained behaviors on more challenging tasks with adaptation (Feuerstein, Rand & Hoffman, 1979, p. 92). What makes these two attributes together is mediation of meaning which addresses the value and importance of the study (Lidz, 1997, p.282). Lidz has explained this attribute as "the mediator's attempts to get the child to notice certain features, to elaborate on their significance, and to engage in cause-and-effect and inferential thinking" (1991, p. 77). These attributes have clearly shown that mediation should be intentionally presented to learners.

To sum up, neither interventionist nor interactionist approaches are superior to the other one. Because Feuerstein's MLE has similar notions to Vygotskian view, it can be admitted as more successful than the others by some researchers. However, all approaches have some advantages and disadvantages. Whereas the interactionist approach includes fine-tuning mediation which gives a chance to co-construct mediation according to learner needs, interventionists approaches serve the mediation in a standardized way, and they are more suitable for using in formal settings such as "exploring an individual's Zone of Proximal Development and making recommendations for placement and subsequent instruction" (Poehner, 2008, p. 90). When the needs of learners are predetermined, choosing the appropriate approach is going to be easier for mediators.

2.3.2. The Implementation of DA into L2 Classrooms

Traditionally, the learning process has been defined as the transmission of knowledge from teachers to students. However, the most recent beliefs towards the learning process have been changed profoundly for the last four decades, and students' cognition has started to be seen as an open concept to modifications. (Kozulin, 1998). The researchers who have been studied on improving students' reading skills have also had the same manner, and they have accepted that reading is an interactive process (Smith, 1971), where learners have to “construct the meaning from text clues, calling upon knowledge of the language, text structure, conventions, and content concepts” (Kozulin & Garb, 2002, p. 116). Besides, successful readers have been admitted as the people who “monitor their reading, plan strategies, adjust effort appropriately and evaluate the success of their ongoing efforts to understand” (Kozulin & Garb, 2002, p. 117). In other words, metacognition has become more of an issue.

Gardner (1987) has explained that cognitive strategies can be taught, and he has suggested three guidelines for instructors. The first guideline has underlined the importance of giving adequate time to learners to be involved in the process. Brown (1981) has suggested that the process is more important than the product, so the metacognition of students should be declared. The second guideline has suggested that teachers should analyze the strategy by breaking it into pieces, and the last guideline has offered the teachers to show different conditions to learners where students have a chance to adjust them in other situations.

These suggestions have clearly shown that students should be more active, and they should also learn to use some strategies to be more qualified readers. Additionally, teachers should learn how to make the learning atmosphere more effective for learners who want to improve their reading skills. Therefore, traditional assessment types need to be redesigned for not showing learners how to use their abilities, or how they activate and manage the reading strategies (Kozulin & Garb, 2002). Again, DA has taken to the stage for compensating these deficiencies.

Garb and Kozulin conducted a study in Israel with young adults whose ages between 18-25 (Garb & Kozulin, 1999). They chose to use an interventionist format where learners were evaluated according to their pretest and posttest scores. The pretest was prepared in a non-dynamic way where students were expected to answer the short reading text (Poehner, 2008). Then, the teacher went through the text with students by “mediating for them the strategies required in each item, building together with the students process models for each item, and indicating how strategies can be transferred from one task to another” (Kozulin & Garb, 2002, p. 119). Although the mediation process was given to students for improving these general comprehension skills such as depending on grammar and vocabulary, the aim of the study was not to improve students’ posttest scores but their future development (Poehner, 2008). The results indicated that a great number of students took advantage of the mediation, and they became successful to transform the gained strategies to other tasks (Kozulin & Garb, 2002, p. 120). However, this study was criticized by many researchers for assessing student’s performance regarding difference between the learner’s pretest and posttest scores and labeling students as low, intermediate and high level students (Poehner, 2008, p. 94). Poehner (2008) claimed when there is no difference between pretest and posttest scores of learners, this does not mean non-development; however, development can be observed during the mediation process (Poehner, 2008).

The more recent study which was conducted by Naeini and Duvall in an EFL setting was aimed to “promoting the development of the EFL students’ cognition with regard to three reading comprehension sub-skills: finding the main idea, inference, and figuring out the meaning of unknown words provided” (Naeini & Duvall, 2012, p. 36). 10 ELT students at the Islamic Azad University participated in this study. Pretest, mediation, and posttest research design with an interventionist view was presented to the students. Pretest and posttest sessions consisted of four reading passages and multiple-choice questions. Besides, the mediation part aimed at “participants’ emerging conceptual understanding of reading comprehension strategies and their control over the application of the strategies in answering the comprehension questions through mediations in DA” (Naeini & Duvall, 2012, p. 30). The results showed that participants’ comprehension skills were improved dramatically. Furthermore, they claimed that NDA tests underrate students’ operation levels, and DA presents to the

mediator a more accurate picture to understand students' current levels and also what can be done for promoting their independent performances (Naeini & Duvall, 2012, p. 36).

Briefly, traditional test items cannot always be classified as good sources for determining students' potential levels because of seeing students' actual levels as an indicator of their future success. Like other skills, reading comprehension skills are also open to develop when efficient mediation techniques are presented to the learners. In addition to these techniques which have been discussed above thoroughly, verbalization is another technique which makes the learning process easier (Swain & Lapkin, 2002) because verbalization gives a chance to learners to mediate themselves when they encounter a problem. Think-Aloud which is one of the most common verbalization techniques will be discussed in the next section.

2.4. THE THINK-ALoud METHOD

The Think-Aloud method has consisted of "asking people to think aloud while solving a problem and analysing the resulting verbal protocols" (van Someren, Barnard & Sandberg, 1994, p.xi). Newell and Simon developed it as "a problem-solving strategy" in 1972 (Jahandar et al., 2012, p. 1). This method has been a good source for giving an insight into how learners think about a specific problem. By using this method, students' problem-solving skills and where they come across difficulties could be ascertained easily (van Someren et al., 1994, p. 6). Even if the same problem has been presented to two different students, the problem-solving abilities would not be the same (van Someren et al., 1994, p. 4); therefore, using this method has an important place for understanding learners' problem-solving abilities.

The meaning of problem-solving has been defined by Someren et al. as "problem-solving means that new information must be inferred from givens and knowledge in memory to accept or reject possible answers. Most problem-solving involves a combination of these two types of reasoning: constructing solutions and constructing justifications of these solutions." (van Someren et al., 1994, p. 8). In other

words, people need to process their previous knowledge to find out to reach the correct answer. During this process, Think-Aloud Protocols have been commonly used for understanding people's cognitive processes. During the data collection process, while the learners have been studying a problem-solving task, the expert has asked a question to them such as "what goes through their head" (van Someren et al., 1994, p.8). As a result, direct data can be acquired about their reasoning process (van Someren et al., 1994, p. 11).

Van Someren et al. (1994) claimed that challenging tasks are more appropriate for learners because learners cannot solve them automatically. Besides, Ericsson and Simon (1993) also maintained that easily written tests are not convenient ones since verbalization occurs in a fast and automatic way, and this is not a suitable way for verbalization where learners just paraphrase the written text. However, when the passage is difficult with "its topic, organization, poor writing or unfamiliar writing style", the learner approaches it as if it was a problem-solving activity, so gaining information has become a more effective way thanks to verbalization of participants. During this process, it has been advised to the examiner not to ask questions because it can affect the problem-solving abilities of learners. It has been suggested that the examiners should not give any feedback during the problem-solving, and the interventions should be given immediately after completing the task even if the examinees ask for help during the training (Jahandar et al, 2012, p. 3). Another suggestion towards choosing language whether it should be L1 or L2 was explained by Lee. He suggested that when learners need to verbalize in L2, they may not focus on text enough for fear of making speaking mistakes. Because of concentrating on productive skills more, this process cannot be a good reflection of student's cognitive process; therefore, he suggested to use L1 during the verbalization but if we do not focus on improving the student's speaking ability (Lee, 1986 as cited in Jahandar et al, 2012, p. 3).

Reading comprehension questions have been admitted as interactive sources where the reader needs to combine their prior and current knowledge for constructing meaning (Meyers, Gelzheiser & Pruzek, 1989, p. 3). Think-Aloud Protocol Analysis which was developed by Lytle in 1982, "refers to a specific procedure designed to

assess reading comprehension by asking the subject to think out loud while reading a passage.” (Meyers & Lytle, 1986, p. 140). She analyzed the strategies of learners with a coding system (Lytle, 1982). According to this coding system, there are moves which are “responses reflecting what the reader is doing at a particular point in time to understand what he/she is reading, and strategies are the patterns of moves utilized to solve a particular problem with comprehension” (Meyer et al., 1989, p. 4). In regard to this system, the total number of moves is 21; however, it is possible to examine them under six broad categories: “signaling understanding, monitoring doubt, elaborating the text, reasoning, analyzing text features, judging the text” (Meyers & Lytle, 1986, p. 141).

The first move which is known as signaling understanding refers to how a reader summarizes the text such as paraphrasing. The aim of the reader could be to control what they understand from the text (Bereiter & Bird, 1985). Brown (1980) has explained monitor doubts as a tactic which is used by readers when comprehension breakdowns occur such as not understanding the text or understanding it in some measure. This move has shown that the reader’s lack or partial understanding (Meyers & Lytle, 1986, p. 141). Rumelhart, Spiro, Bruce, and Brewer (1980) have explained elaborating as a substantial tactic because readers need to add some information to the text from their prior knowledge for understanding the passage. The reasoning which has been admitted as a significant part of monitoring in a comprehension tactic where “the reader asks questions, formulates hypotheses and makes predictions in an effort to facilitate understanding and to plan the sequence of moves needed to overcome comprehension difficulties” (Brown, 1980 as cited in Meyers et al. , 1989, p. 5). The last two moves which have been named as analyzing and judging the text are not appropriate for low-level students where students are expected to assess the passage in terms of not only their own but also the writer’s perspective (Meyers et al., 1989, p. 5). These moves have been highly informative to diagnose the students’ cognitive abilities which are quite impossible to be observed by other people in other settings (Block, 1986).

However, there was some suspicion towards the Think-Aloud method especially in the first half of the twentieth century because of behaviorism effects.

Behaviorism denied all process theories because of not having tangible data. However, this assumption has not been recognized because verbalization has been admitted as an indication of a simple verbalization process which is not suitable for making a general comment on a person's whole cognitive process, and verbal protocols makes the Think-Aloud method more objective. In recognition of internal cognitive processes at the end of the 1960s, the attention towards TA has risen (Meyers et al., 1989, p. 4).

A great number of theories claimed that TAPs have a positive effect on students' reading comprehension skills. Meichenbaum and Asnarow (1979) justified this theory, and they claimed that students tend to focus on conclusion while reading without understanding the passage thoroughly; however, students can have deep knowledge by using the TA method due to improving their strategic competence. Besides, Jones (1993) put forth that students learn how to manage comprehension deficiencies by adopting various types of strategies, so they have a chance to improve their understanding of the text (as cited in Jahandar et al, 2012).

In recognition of Think-Aloud as a useful method in psychology, it has also started to be used in educational settings. A great number of studies have focused on students' reading comprehension skills. With reference to these studies, verbalization has been admitted as a useful technique that makes learners' comprehension skills enhanced (e.g., Brown & Rogers, 2004; Oster, 2001; Swain & Lapkin, 2009). Besides, a great number of studies proved that strategy use of readers also developed thanks to this method (Jahandar et al, 2012). Azevedo, Cromley and Seibert claimed (2004) "Readers in think-aloud studies show evidence of planning their reading activities, enacting numerous cognitive and metacognitive strategies, monitoring the efficacy of those strategies, adjusting strategies flexibly, reflecting on and reacting to what was read, and many other processes" (as cited in Jahandar et al, 2012, p. 5).

In brief, the Think-Aloud method has been a good source for observing students' problem-solving abilities, specifying the most difficult area that students face and what kinds of strategies have been used for compensating these breakdowns (Someren et al., 1994, p. 8). It has also given insight to us to see what is happening in

our consciousness (Wilhelm, 2006 as cited in Meyers et al., 1989). Furthermore, Winne, Jamieson-Noel and Muis (2002) claimed that being applicable for triangulation by using different data collection sources such as questionnaires, teacher journals or audio recording, it is also a useful source for multi-method studies.

2.5. SUMMARY

Reading is an interactive process (Smith, 1971) where learners need to “construct the meaning from text clues, calling upon knowledge of the language, text structure, conventions and content concepts” (Kozulin & Garb, 2002, p. 116). During the process, learners need to construct knowledge with the help of a specialist. In other words, they need scaffolding. Otherwise, learners have to approach this process with a trial and error manner (Kozulin, 1998) where their world knowledge is supposed to remain incapable. DA becomes more of an issue at this stage where a mediator helps the learner by using “prompts, leading questions to hints and explanation” (Poehner, 2008, p. 15). The Think-Aloud method can also be used during this stage for specifying learners’ needs or understanding learners’ cognitive processes. After the learners’ cognition is fully understood by the mediators, they can adjust the mediation according to learner needs.

CHAPTER 3

3. METHODOLOGY

This research aims to determine the specific problematic areas that students come across while they are reading a text. Besides, the researcher mediated the process for learners with pre-prepared hints, clues, and leading questions for observing not only students' retrospective but also prospective development. A case study was used to allow the researcher to observe the participants' cognition processes very closely. During the process, the researcher aimed to answer these two research questions:

1. What are the implications of incorporating the Think-Aloud method into the dynamic assessment process for improving students' reading comprehension development?
2. What are the advantages of applying Dynamic Assessment for increasing reading awareness from the perspective of students?

3.1. RESEARCH DESIGN

A case study approach was used for observing students' development closely. Case studies have been long established in many different fields to present a detailed analysis of participants' progress. The researcher preferred to use a qualitative research design because it includes not only a great number of data collection instruments but also commentary strategies which help the researchers to analyze and make a comment on complicated situations, and it offers a chance to observe the participant in their natural settings (Creswell, 1998; Maxwell, 1996).

Besides, having qualitative studies' features, this study can be examined under a participatory action research design. Action research is defined as "a form of collective, self-reflective inquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and the situations in which these practices are carried out" (Kemmis & McTaggart, 1988, p. 1). Participatory action research has been admitted as a dynamic educational process (Marshall & Rossman, 2006; McTaggart, 1989), and some characteristics such as having a social process, being collaborative or directing people to question (McTaggart, 1989), are very similar notions with the characteristics of dynamic assessment.

3.2. PARTICIPANTS AND SETTING

The present study was carried out in an EFL setting in the 2020-2021 academic year with six university students in İstanbul, Turkey. The students who participated in this study were university students at different state and private universities. Besides, their majors were different from each other. Their departments were medicine, engineering, architecture, and international relationships.

The convenience sampling method was used whereas selecting the participants; however, the participants were not chosen randomly. The two important criteria were expected to be fulfilled by the participants. The first one was being a university student regardless of their departments, and the second one was having at least an A2 proficiency level. Only students aged between 18-25 years were included in the study. Additionally, although the participants' majors are not directly related to the English language, they are interested in English either for their professional development or a must for their education language.

During the study, pseudo names were given to participants for protecting confidentiality. Three of the students' education language is English. In other words, English is used as a medium of instruction language. One of the participants who is also a medical student has taken his lesson in L1; however, his exposure especially on

reading skills is also quite high because he has to read articles in English for his professional development. The fifth of the participants has also a B1 proficiency level, she has taken 30% of her lessons in English. The last participant is an architecture student whose proficiency level is elementary. Students' gender statistics and proficiency levels are presented in Table 3.1. and 3.2. in a detailed way.

Table 1: Gender Statistics

Gender	Percentage (%)
Female	50
Male	50

Table 1. shows the gender statistics of the research. Whereas 50% of participants were female, 50% of participants were male. It can be deduced that the distribution of participants was normally distributed.

Table 2: Proficiency Statistics

Proficiency	Percentage (%)
Elementary	16
Intermediate	34
Upper-Intermediate	34
Advanced	16

Table 2 indicates that the students' proficiency percentages differed from each other. There were four different types of proficiency levels. Whereas 16% of students had elementary and advanced levels, 34% of students had intermediate and upper-intermediate proficiency levels.

3.3. INSTRUMENTS

Gaille (2018) defines the case study as “an investigation into an individual circumstance” which includes using a great number of data collection instruments. He also maintains that not only interviews and direct observation methods can be used during the process but also audio records, journals, or questionnaires can be given to participants (p. 1). All of these instruments were used in the study for having deep knowledge about students’ developmental processes.

3.3.1. Context of the Study

As aforementioned, reading is an interactive process where learners need to “construct the meaning from text clues, calling upon knowledge of the language, text structure, conventions, and content concepts” (Kozulin & Garb, 2002, p. 116). Carrell (1985) claimed that the readers’ schemata which refers to “readers’ background knowledge and experience with the textual organization” affects students’ reading comprehension (p. 727). For understanding, this interactive process and the effects of students’ pre-existent knowledge, eight reading texts, which were prepared as TOEFL preparation sources on two different websites, were presented to students (see Appendix A).

Four leading questions for each question were prepared by the researcher to make the texts ready for the DA process. She prepared the leading questions according to implicit to explicit principles. The supervisor’s opinions were taken whereas preparing these questions. The participants have gained the score following the correct question number and clue numbers. Whereas they were studying the text, they also verbalized where they came across difficulties more, and why they chose that answer. Therefore, this stage ensured the researcher precious information about students’ cognition processes.

3.3.2. Face to Face (FtF) Interview

The purpose of qualitative research interviews is to collect data about the interviewee's point of view regarding their answers on a specific topic (Kvale, 1983). As a consequence of developing technological devices, the type of interviews have also become diversified, and computer-mediated communication (CMC) oriented interview types have arisen (Opdenakker, 2006). Although there are several types of interviews, the FtF interview has maintained its popularity due to giving importance to social cues. Thanks to these social cues such as voice, body language, or a gesture, FtF interviews have made gaining extra information, which is not stated on the verbal answers of the interviewees, possible for interviewers (Opdenakker, 2006, p. 3).

In the present study, the FtF interview was used because it has been admitted as one of the most effective sources for gaining insight into participants' thought processes. The language of the interview was Turkish in order not to worry participants about their speaking abilities. Therefore, they had a chance to express themselves clearly without considering other barriers. The interview questions were created by the mediator in direction of the supervisor's advice for understanding the whole process' effects in the participants' eyes. During the interview, participants were expected to answer these two questions (see Appendix B).

IQ1. Do you think that giving mediation has an effect on improving your reading skill?

IQ2. Do you think that verbalization has a positive effect on your cognition process?

3.3.3. Audio-Recording

One of the advantages of audio-recording is to give a chance to interviewers to focus on a topic more without thinking about note-taking which can be distracting for not only interviewers but also interviewees (Cook, n.d.). Mary (2008) claimed that

taking an audio-record during the interview helps to establish a positive relationship between the interviewer and interviewee because of offering in-depth information. Furthermore, audio-recording provides a chance for researchers to replay the process whenever they want, and also remember the key information which can be forgotten after the interview (Sullivan, 2010). By taking into account these benefits, every procedure of the study was recorded by the researcher. Besides, she took advantage of research diaries.

3.3.4. Research Diary

Despite its benefits, research diaries have not been widely applied in supporting researchers' learning (Borg, 2001). Hughes (1996) explained a research diary as “a record of the researcher's involvement in a project” which gives a chance to the researchers to reflect on their practices, follow the procedure of the study, and build a critical but supportive relationship with participants (p. 1). Furthermore, Engin (2001) claimed if the researchers did not take notes during their observations, they could forget their opinions, emotions, and decisions easily (p. 297). To remember the process more clearly, the researcher kept a diary about the mediation and verbalization processes of the participants.

3.4. DATA ANALYSIS

Poehner (2008) has criticized the researcher who scores the learners' accomplishments considering a single score (e.g., Kozulin and Garb's LPS.), and this has not been found appropriate by Poehner because of the complex structure of dynamic assessment. He has also maintained that DA is “qualitative in nature and takes account of various aspects of mediator-learner dialoguing” (p. 94). Therefore; the researcher decided that the best method to adopt for this investigation was to use multiple qualitative research sources such as reading texts prepared with a DA aspect, the Think-Aloud method, FtF interviews, research diaries, and audio-recording for data analysis.

Carlson and Wiedl's Testing-the-Limits Approach which is one of the interventionist approaches was used in this research. As it has already been mentioned, this interventionist approach includes the Think-Aloud method where learners externalize their thought, and this is beneficial for learners' comprehension of language form and lexical choice development (Swain & Lapkin, 2002, p. 285). On the other hand, Schunk (1986) has claimed that overt verbalization helps people to increase their attention on a task (p. 1). During the mediation processes, the learners were expected to verbalize their thoughts in L1. The reason why the use of L1 was given preference not to be concerned about the participant about their oral skills' qualifications. Lee (1986) has suggested using L1 during the verbalization process to increase the learners' attention on a task when the mediator is not testing their speaking abilities (Lee, 1986 as cited in Jahandar et al, 2012, p. 3). Therefore, the use of L1 was also preferred in this research because it concentrates on students' reading comprehension. Each verbalization step was audio-recorded and transcribed by the researcher.

Thematic analysis has been admitted as a commonly used method in different epistemologies which base upon "identifying, analyzing, organizing, describing, and reporting themes found within a data set" (Braun & Clarke, 2006 as cited in Nowell, Norris, White & Moules, 2017, p. 2). Whereas analyzing the dataset gained through the instrument of FtF interview questions, the interview questions were coded first, and then they were analysed depending upon the thematic analysis' requirements.

Quantitative measures were considered as a useful supplement for confirming how much each student gained insight into mediation processes. Therefore, a grading scale was created by the researcher for observing the learners' development. Whereas creating the scale, the researcher received her supervisor's opinion and approval. Considering their gained scores and their reader profiles, the learners' success was compared with each other.

Table 3: Grading Scale

Attempt	Mediation	Grade
1	Students will find the correct answer without outside help, and they can declare the reasons for their choices	4
2	The mediator directs the students to think one more time for finding the correct answer	3
3	The mediator checks the comprehension of students, and she highlights the lines where the correct answer is	2
4	The mediator explains the whole answers, and students are directed to find the correct answer	1
5	The mediator explains the correct answer	0

3.5. PROCEDURE

The implementation of DA was presented to students in four sessions. Students were expected to follow the same procedure in all sessions. Two reading passages prepared as TOEFL resources on two different web pages (see Appendix A) were given to students for each mediation process. Besides, students verbalize their thoughts whereas answering the questions. Every session took approximately 80-90 minutes despite not having time constraints.

The mediator asked the learners to verbalize the reason why they chose that answer. When the learners could not find the correct answer, or they did not understand something, the mediator helped them with ready-prepared clues or leading questions which were prepared in accordance with implicit to explicit principle. After completing all mediation processes, the researcher interviewed the participants for understanding the efficacy of these mediation processes.

4. FINDINGS

In this part of the study, the researcher has presented what she observed regarding students' reading strategies with the help of excerpts obtained directly from students' conversation with her. This part can be examined under four sections. Firstly, more contextual information will be given about the participants and their performances in the tests. Secondly, the participants' responses will be discussed by exemplifying excerpts. Thirdly, the mediator's notes about the mediation processes will be discussed. Brief summary of all parts will be given in the final part.

4.1. PARTICIPANTS

Detailed demographic explanation about participants was given in the Methodology section. Detailed contextualized information was presented here to re-orient the readers with the participants in this part. The total number of students who took part in the study was six, and pseudo names were given to all participants for protecting their confidentiality. Their age average was 24. The students who participated in the study were chosen from different departments. Three out of six students' major was medicine, one student's major was industrial engineering, and two other participants' majors were international relations and architecture. Despite having different language proficiency levels, all have them had at least an elementary proficiency level of English.

4.1.1. Participant One: Ahmet

Ahmet was a senior student at a foundation university in the Marmara region. He was twenty-three years old. His proficiency level was pre-intermediate. He was an engineering student, and the medium of instruction in this major was English. Although he has been learning English for a long time, it has been detected that he has some comprehension problems while reading a text. When he was a preparatory

student, he had an education for a half year in Miami where his university had an agreement with that university. Despite having a certificate which has shown that he had a B2 proficiency level, his level was detected as pre-intermediate by the mediator. The scores gained from each text will be presented below.

Table 4. Ahmet's Scores

Text's Name	Score	Total Score
The Creators of Grammar	22	40
Perfumery	31	48
Risk-Taking and Monkey Economy	20	36
Anthropology	24	48
Smart Energy	33	48
The Rise of Teotihuacan	28	48
Charles Darwin and the Theory of Evolution	25	48
Transgenic Plants	32	48

Table 4 shows that Ahmet displayed an optimum performance. The lowest scores belonged to the 4th text which was related to anthropology. When we look at the highest scores which are named as Smart Energy and Transgenic Plants, the scores showed parallelism where most of the students gained the highest scores.

4.1.2. Participant Two: Fatmanur

Fatmanur was an intern medicine student at a foundation university which was located in the Marmara region of Turkey. She was twenty-three years old. Her proficiency level was identified as upper-intermediate. English was a medium of instruction for her studies at university. Besides, she is interested in watching TV series with English subtitles, and she tries to improve her language proficiency for her future career plans.

Table 5. Fatmanur's Scores

Text's Name	Score	Total Score
The Creators of Grammar	30	40
Perfumery	40	48
Risk-Taking and Monkey Economy	32	36
Anthropology	35	48
Smart Energy	39	48
The Rise of Teotihuacan	43	48
Charles Darwin and the Theory of Evolution	44	48
Transgenic Plants	46	48

Table 5 shows Fatmanur's scores were above average, and she was ranked second who gained the highest scores. Despite not understanding every detail of the texts, she was good at using strategies. The lowest scores belonged to the first text which was named The Creators of Grammar. The highest scores belonged to Transgenic Plants and Charles Darwin and the Theory of Evolution where medicine terminations were frequently used. Because she was familiar with these terms beforehand, they could make the texts more understandable for her.

4.1.3. Participant Three: Efe

Efe was a junior medicine student at a state university located in the Marmara region of Turkey. He was 23 years old, and he had an upper-intermediate English proficiency level. His educational language was Turkish. According to him, computer games helped him a lot to improve his English. Although comprehension problems have not been detected a lot, he thinks that his productive skills need improving more than his receptive skills. Besides, Efe was the student who checked upon the quality of the questions. The scores gained from the texts presented in the following part.

Table 6. Efe's Scores

Text's Name	Score	Total Score
The Creators of Grammar	38	40
Perfumery	43	48
Risk-Taking and Monkey Economy	35	36
Anthropology	33	48
Smart Energy	42	48
The Rise of Teotihuacan	37	48
Charles Darwin and the Theory of Evolution	38	48
Transgenic Plants	38	48

Table 6 indicates Efe's performance was above average. Anthropology was the text where he got the lowest score. He thinks that anthropology was a topic that did not arouse his curiosity, and not having familiar with this topic affected his score. The highest scores belonged to Risk-Taking and Monkey Economy and Smart Energy which have slightly easier language than the other texts. Unlike other participants, Efe questioned the quality of questions and reading passages.

4.1.4. Participant Four: Batuhan

Batuhan was the person who got the highest scores during the process. Besides, he hardly ever needed to take mediation during the mediation process. He graduated from a highly prestigious private high school, and he has been pursuing his education in the medicine department as an intern student. Fatmanur and Batuhan were classmates, and he has been learning English as a medium instruction language. He was 22 years old. He thinks that playing computer games helped him so much for improving his English. Besides, he learned Japanese with the help of these games. Batuhan spent far less time on solving questions when compared to other participants. His proficiency level was determined as advanced. The scores gained from the passages presented below.

Table 7. Batuhan's Scores

Text's Name	Score	Total Score
The Creators of Grammar	36	40
Perfumery	34	48
Risk-Taking and Monkey Economy	32	36
Anthropology	46	48
Smart Energy	47	48
The Rise of Teotihuacan	47	48
Charles Darwin and the Theory of Evolution	46	48
Transgenic Plants	46	48

Smart Energy and The Rise of Teotihuacan were the passages where he got the highest scores. The lowest scores belonged to the first two passages, namely Perfumery and The Creators of Grammar. Unlike other students, he did not need explanations when he made a mistake. When he was directed to think one more time, or when the correct answer's place was highlighted, he tended to find the correct answer automatically. Mostly the reasons why he made mistakes were either having a lack of attention or being fast on the draw.

4.1.5. Participant Five: Deniz

Deniz was twenty-five years old, and she was a senior international relations student at a state university located in the Black Sea region. Her English proficiency level was intermediate, and thirty percent of her lessons were taught in English. Unlike other participants, she read the texts slightly aloud, she thought that hearing her own voice made the reading passages more understandable. Because she was familiar with hearing her own voice, thinking aloud did not make her nervous. The scores gained from the passages were presented in Table 8.

Table 8. Deniz's Scores

Text's Name	Score	Total Score
The Creators of Grammar	18	40
Perfumery	29	48
Risk-Taking and Monkey Economy	30	36
Anthropology	29	48
Smart Energy	36	48
The Rise of Teotihuacan	31	48
Charles Darwin and the Theory of Evolution	40	48
Transgenic Plants	30	48

Deniz showed the least successful performance on The Creators of Grammar. Charles Darwin and the Theory of Evolution and Smart Energy are the passages where Deniz showed her best performance. When we examine her overall performance, she showed an average performance.

4.1.6. Participant Six: Nilay

Nilay was a senior architecture student at a foundation university in the Marmara region. She was at the age of twenty-five. Her English proficiency level was determined as elementary, and Turkish was her medium of instruction. Although she had taken some private courses for improving her language when she was a high school student, she thought that it regressed in time because she did not need to use English for a long time. When we look at her scores, it can be deduced that she had the lowest scores.

Table 9. Nilay's Scores

Text's Name	Score	Total Score
The Creators of Grammar	26	40
Perfumery	29	48
Risk-Taking and Monkey Economy	26	36
Anthropology	13	48
Smart Energy	28	48
The Rise of Teotihuacan	30	48
Charles Darwin and the Theory Evolution	33	48
Transgenic Plants	9	48

Charles Darwin and the Theory of Evolution are the texts where she got the highest scores. She got the lowest scores on Transgenic Plants where she encountered too many unknown vocabularies; therefore, she could not understand the passage properly. Some passages were quite above her level, this restricted her comprehension.

4.2. THE IMPLICATIONS OF THE THINK-ALOUD METHOD

The Think-Aloud is a method where students need to express what they have thought whereas trying to solve a problem. Because a great majority of the texts were above the many participants' levels, they approached the questions as a problem. Therefore, a lot of useful information has been gained during the mediation process. The findings have been discussed on the questions where students face difficulties more. The following excerpts were taken from The Creator of Grammar.

Question 1. In paragraph 1, why does the writer include information about the Cherokee Language?

- A. To show how simple, traditional cultures can have complicated grammar structures
- B. To show how English grammar differs from Cherokee grammar
- C. To prove that complex grammar structures were invented by the Cherokee
- D. To demonstrate how difficult it is to learn the Cherokee language

Excerpt 1. Ahmet's Responsiveness to Question 1

- 1 M: *Did you understand what the question asks us?*
- 2 A: *Yes, what kinds of information are given by the writer, I got it but I do not think that it is a very complicated language because if I am not wrong, they prefer to use we instead of using I and you, so I have eliminated Option A.*
- 3 M: *Can you look at the paragraph one more time?*
- 4 A: *Can I comment on the question, can't I? If I did not misunderstand, where people use I and you, the Cherokee translate it as the other people and I, but I do not think that it is a complicated thing. Therefore, I oscillated between Option A and Option C; however, I eliminated Option A. I have eliminated Option A, so it can be Option C.*
- 5 M: *C is not the correct answer. Can you look here one more time which starts with nor, 4th line.*
- 6 A: *Is not C the correct answer?*
- 7 M: *Do you know the meaning of inherent? I think you will find the correct answer in the third attempt.*
- 8 A: *I have underlined inherent as an unknown vocabulary. I have eliminated A. Because I have also eliminated B and C, D is the only one but I am not sure.*
-

The verbalization process of Ahmet showed that Ahmet did not have difficulties understanding the question. He eliminated Option A at first despite being the correct answer. He thought that the language was simple because the Cherokeean

prefer to use we instead of using I and you. However, the sentence was given to show that a tribal language can also be a difficult language. It was somewhat surprising that Ahmet was a student who did not need to turn back to the eliminated option one more time. Despite remaining in between Option A and C, Option C was chosen because of that reason.

Excerpt 2. Nilay's Responsiveness to Question 1

9 M: *Is there an option which sounds more believable for you?*

10 N: *I want to look at the options one more time. Option B is not the correct answer.*

11 M: *Why is not Option B the correct answer?*

12 N: *I understand from the passage that this is written for showing us how the Cherokee language differs from English. Therefore, I can eliminate B very easily. I also want to eliminate Option C because this is not correct. I have shown the similarities in the paragraph. Option A.*

13 M: *Why did you choose Option A as the correct answer?*

14 N: *In fact, this sentence has been written for showing us how a primitive language can be complicated by comparing it English, and also there was an example which includes I and you.*

Even though Nilay was the student who had the lowest proficiency level, she answered the question easily. She understood that the example was given to readers for showing how a tribal language can be a challenging language. She thought that English and Cherokee had similarities and the example was given to show it. The result offered crucial evidence for seeing proficiency is not the only criterion for reasoning out.

The third and fourth excerpts included the mediation process of Efe and Nilay. The question was taken from the second reading passage, Perfumery. Even though Efe got 4 points, and Nilay got just 1 point, both of them succeeded to internalize the correct answer ultimately.

Question 8. How did the French Revolution affect the Parisian perfume industry?

- A. The industry declined then rose again.
- B. The industry collapsed and took a long time to recover.
- C. The industry was greatly boosted.
- D. The industry lost most of its overseas customers.

Excerpt 3. Efe's Responsiveness to Question 8

- 15 E: *I mean, it says because it was related to aristocracy at first, perfume sales were on the decline, there was a problem. However, regained momentum, it gained it back, as a wider range [translates them into Turkish]. By the way, domestic means “evcilleştirilmiş”, isn't it?*
- 16 M: *You are right. It has also a meaning like this. However, the meaning of domestic is related to being inside a country here.*
- 17 E: *Briefly, it was damaged, but it accelerated then, but why it had acceleration, I could not see it right now. Let's look at the options. Obviously, it is A. Is the rose the second form of rise? Firstly, I thought it was a rose [a kind of flower].*
- 18 M: *Yes, it is the second form.*
- 19 E: *It did not make any sense when I thought of it as a flower.*
-

According to the conversation presented in Excerpt 3, Efe understood that perfume sales fluctuated, but the sales recovered in a wider range soon. Despite understanding rose was the second form of rise, he hesitated whether it was used as a flower meaning due to the text's topic. This option was given as a distracter, and it was found that it reached its goal especially for low-level students.

Excerpt 4. Nilay's Responsiveness to Question 8

- 20 N: *I could not remember what boosted is.*
- 21 M: *Will you try, or should I explain it. Because there is a grading scale I should follow it.*
- 22 N: *Actually, I got the question, but I could not find the correct answer. Option A is not the correct answer because there is no relation with rose [a kind of flower]. Recovering took time, it has been mentioned a year here like 1791. Open in Paris, a specific time has been mentioned.*
- 23 M: *Can you look here? However, it regained momentum later as a wider range of markets were sought both in the domestic and overseas markets. Let's start here. The revolution was initially disrupted.*
- 24 N: *Actually, I am aware that the correct answer is there; however, I could not understand that sentence because of the vocabulary.*
- 25 M: *Do you know the meaning of disrupting?*
- 26 N: *No, I have highlighted it as an unknown word.*
- 27 M: *[translates all options into Turkish]. Is something familiar with you from these options?*
- 28 N: *B is not the correct answer. The industry collapsed and took time to recover. I do not think that it collapsed. The United Kingdom has been mentioned in the passage, but I am not sure whether it has been lost. I could not take to mean Option D. I do not know whether I can deduce that it has lost it totally. I think A is the correct answer.*
- 29 M: *How did you understand it?*
- 30 N: *Because rose is the second form of rise.*
-

Despite having just 1 point, Nilay succeeded to find the correct answer. Similar to Ahmet, she thought that rose was a kind of flower at first. These findings confirm that low-level students have difficulties in determining the form of words. After the mediator explained that it was the second form of the verb rise, she reached to find the correct option. Besides, having a lot of unknown vocabularies which made the text complicated for Nilay, she tried to find the correct answer in the correct place.

Excerpt 5 and Excerpt 6 were taken from Risk-Taking and the Monkey Economy, and the third question was taken under examination. Similarly, Deniz and Fatmanur chose D which is the distractor as a correct answer. Even though both of them found the correct answer in the third attempt, Deniz took 1 point, and Fatmanur took 2 points from this question.

Question 3. Which of the following statements is the best paraphrase of the highlighted sentence?

On a more optimistic note, however, humans are capable of overcoming limitations once we have identified them.

- A. Hopefully, humans will soon be able to solve these problems.
- B. Fortunately, humans can solve problems that we know about.
- C. Luckily, humans do not have many limitations which have been identified.
- D. We are happy to note that we can solve the problems which we have identified.

Excerpt 5. Deniz's Responsiveness to Question 3

- 31 D: *I have eliminated both Option A and Option B.*
 - 32 M: *Why did you eliminate them?*
 - 33 D: *Because they think in a positive way, and when people work with their full performance, they can exceed their limits when we identify them.*
 - 34 M: *What was the meaning of once here?*
 - 35 D: *When it is done one time, isn't it? When it is completed once, isn't it? Identity means ID card, doesn't it? I understand it as when something was identified to them.*
 - 36 M: *I think this sentence was difficult for you because of unknown words.*
 - 37 D: *Yes, I could not understand the sentence totally.*
 - 38 M: *Do you know the meaning of capable?*
 - 39 D: *I think it has a close meaning with capacity. Therefore, I will choose Option D.*
 - 40 M: *Option D is not the correct answer.*
 - 41 D: *Then, I want to say Option C.*
-

-
- 42 M: *C is not also the correct answer. Let's talk about the question first. It says optimistic note, and hopefully, fortunately, luckily carries a similar meaning for optimistic note. When we identify them, once has the same meaning as when, it does not mean one time.*
- 43 D: *Uh-huh*
- 44 M: *[translates the sentence into Turkish]*
- 45 D: *Then Option A, no it is Option B because we know it and they can solve the problems.*
- 46 M: *Yes, B is the correct answer.*
-

Deniz could not understand the sentence completely because of unknown vocabularies. Identify, capable, once were the words that Deniz did not know their meaning. In her first attempt, she eliminated Option A and B although B was the correct one. Then, she learned that once had the same meaning as when as conjunction. Besides, it was observed that she was confused about capacity and capable words. However, after the mediation process including the Turkish translation of some words, she found the correct answer in the third attempt.

Excerpt 6. Fatmanur's Responsiveness to Question 3

- 47 F: *I think A is the correct answer.*
- 48 M: *Why?*
- 49 F: *Because an optimistic note is written.*
- 50 M: *Think one more time, please. By the way, what does this sentence mean "humans will be able to solve these problems?"*
- 51 F: *It means people can overcome the problems very soon. Sorry, I have not read it until the end. It should be Option D.*
- 52 M: *Why did you choose Option D?*
- 53 F: *Because they can solve the problems after specifying them. In option D, it is written that we are happy since we can solve the problem which was identified by us.*
- 54 M: *According to Option D, after recognizing them, we can solve the problems. Are we the people who solve the problems or they?*
-

55 F: *We are going to identify them, people solve them. Then, B is the correct option. Sorry, I think we are in the same category as people because we are also human beings (laughing).*

56 M: *Yes, correct.*

Fatmanur found the correct answer in the third attempt similar to Deniz. However, not only were their scores different from each other but also the reason why they chose the wrong options was different. Fatmanur chose A as a correct answer because of not reading the given answers totally. Then, she chose Option D which was the distractor of the correct answer. Because, being a member of the same category, Fatmanur thought that humans referred to we rather than they. Despite having similar scores to Deniz, Fatmanur had no comprehension problem on this question.

The seventh and eighth excerpts were taken from the fourth reading passage's the fifth question. Batuhan and Fatmanur's mediation process were examined. Whereas Batuhan found the correct answer in the second attempt, Fatmanur failed to find the correct answer. Although Fatmanur could not get any point, she was good at comprehending the main idea of the paragraph.

Question 5. The writer believes that the most difficult aspect of fieldwork for educated westerners is...

- A. the lack of companionship
- B. poor sanitary conditions
- C. failure to meet expectations
- D. never being left alone

Excerpt 7. Batuhan's Responsiveness to Question 5

- 57 B: *The answer to the fifth question is A.*
- 58 M: *Why Option A?*
- 59 B: *I understand that there are some cultures where being alone can be understood as a problem. Because of the way people think in these cultures, staying in these cultures can cause a problem for Europeans.*
- 60 M: *A is not the correct answer. Actually, you have tried to find the correct answer in the correct place. Are you looking at the place which starts with it?*
- 61 B: *Yes. But I misinterpreted it. Never being alone.*
- 62 M: *Yes, you misunderstood it first, but you got it then.*
- 63 B: *D is the correct option.*
-

Batuhan had usually no comprehension problems because of his proficiency level. A great number of texts were below his level; therefore, when the mediator asked the reason for his choices, he generally paraphrased what was written in the text. Unlike the other questions, he found the correct answer in the second attempt because of carelessness. When the mediator directed him to think one more time, he understood that he misinterpreted the sentence, and he found the correct answer so readily.

Excerpt 8. Fatmanur's Responsiveness to Question 5

- 64 F: *Never being left alone is not the correct answer. The lack of companionship is not the correct one. I guess it is poor sanitary conditions because the writer has discussed encountering unfamiliar climate, strange food, and low standards of hygiene in the text.*
- 65 M: *You are right. The author has discussed these topics; however, focus on the most difficult aspect, please. Poor sanitary conditions are not the correct one. Think one more time.*
- 66 F: *Because frustration has been written here, I will say failure to meet expectations.*
-

-
- 67 M: *This is not also the correct answer. Actually, these answers are not completely wrong, but please focus on educated westerners. It is written in the third paragraph, and it starts with it often.*
- 68 F: *Being alone has been considered as a pitiful thing. So, I will say the lack of companionship*
-

Fatmanur did not get any point from this question even though she understood the passage pretty much. Firstly, she could not find the correct answer since she focused on the whole paragraph, not scanning it for the Europeans. Then, she internalized that she should have scanned it for a specific group; however, she misinterpreted it. Therefore, she could not get any point from this question.

Extract 9 and Extract 10 were taken from Smart Energy's fourth question. Whereas Deniz did not get any point from this question, Ahmet got 2 points. Similarly, both of them did not understand the question totally; however, they reasoned the contextual clues well. Both of them understood that there was a problem with the power supply, but they chose Option B which was the distractor. The mediation process of participants was presented below.

Question 4. According to paragraph 4, what is the problem with using renewable sources of power?

- A. They do not provide much energy
- B. They often cause system failure and blackouts.
- C. They do not supply a continuous flow of energy
- D. They can't be used at off-peak times.

Excerpt 9. Ahmet's Responsiveness to Question 4

- 69 A: *I guess, I will choose Option D.*
- 70 M: *They can't be used at off-peak times. Can you look at the paragraph one more time?*
- 71 A: *Okay, I do not know the meaning of blackout, but I guess it has a similar meaning to failure. It has been written in Option B. Okay, I guess it is B. It has been mentioned in the sentence; however, I am not so certain whether I understand it in a correct way.*
- 72 M: *There is a small detail.*
- 73 A: *May lead the system blackouts.*
- 74 M: *What does may mean here?*
- 75 A: *It can be.*
- 76 M: *It has been written that it causes breakout frequently, but there is a possibility in this sentence. The same meaning could be given to us in a different way.*
- 77 A: *It has been mentioned that they did not need to use so much energy, but I could not see it as a problem. Provide means to need.*
- 78 M: *Provide means to supply.*
- 79 A: *Then, C is the most sensible choice.*
-

Because off-peak times have been mentioned at the end of the passage, Ahmet tended to choose Option D at first. Despite not knowing the meaning of blackout, he succeeded to understand that there was a problem to supply the sources. However, he chose Option B because system failure and blackouts were also mentioned there. He found the correct answer by eliminating the options, and he got 2 points.

Excerpt 10. Deniz's Responsiveness to Question 4

- 80 D: *I could not find it.*
- 81 M: *It has been written in the fourth paragraph. Did you understand the question?*
- 82 D: *What are the sources of renewable energy, how are they used. I could not understand the question. What are the problems?*
-

-
- 83 M: *Yes.*
- 84 D: *Blackout has been written there. Then, Electricity at off-peak times has been mentioned, so I am a little bit confused. Actually, the paragraph seems easy. The system problems can be observed, and it can cause itself automatically. So, Option B.*
- 85 M: *Why Option B?*
- 86 D: *It stood to reason. I understand that the system fails and closes itself.*
- 87 M: *It has been written that it causes system failure and blackouts frequently. Think one more time, please.*
- 88 D: *I am curious about the meaning of off-peak times.*
- 89 M: *Do you know the meaning of the peak?*
- 90 D: *The top-level*
- 91 M: *Off-peak?*
- 92 D: *I doubt whether it is the lowest degree, or it can be closing. Then, Option A.*
- 93 M: *Why is Option A the correct answer?*
- 94 D: *It could not produce so much electricity.*
- 95 M: *This is not the correct one, either. Can you at the line which starts with. It is in the third line from the bottom up.*
- 96 D: *More difficult [tr.]. System collapse means to be destroyed, doesn't it?*
- 97 M: *Yes.*
- 98 D: *System collapse and blackouts are more difficult?*
- 99 M: *It may cause system collapses and blackouts. Because of the use of often, Option B is not the correct one. There is just a possibility. Go on, please.*
- 100 D: *Potential solutions, improving the way energy sources have been produced for potential solutions. Store energy.*
- 101 M: *[explains the paragraph]. What is the reason for it?*
- 102 D: *Option D*
- 103 M: *Option C*
-

Deniz mentioned that the paragraph was easy; however, she could not understand it completely. She was aware of focusing on the problem, so she chose Option B as a first attempt. However, the possibility of not supplying energy had been mentioned in the text, so it was not the correct one. She failed to find the correct answer because of unknown vocabularies written in Option C. Although she was conscious of what she should have scanned in the passage, unknown words restricted her.

In extract 11 and Extract 12, Batuhan's and Efe's responses to mediation were presented. Although their proficiency levels were suitable for understanding the question and the related paragraph, the way Efe thought on the question directed him to focus on the other answers more. Where finding the correct answer was an easy job for Batuhan, and he just paraphrased what was written in the sentence, Efe traded off the orchard for an apple. Therefore, he could not take any point from this question although he completely understood what the message of the paragraph was.

Question 4. What can be inferred from paragraph 3 about Cuicuilco prior to 200 B.C.?

- A. It was a fairly small city until that time.
- B. It was located outside the Valley of Mexico.
- C. It emerged rapidly as an economical and political center.
- D. Its economy relied heavily on agriculture.

Excerpt 11. Batuhan's Responsiveness to Question 4

104 B: *I will choose Option D as the correct answer.*

105 M: *How did you get it?*

106 B: *Because lava has reached the city, they came across difficulties on a large scale. Therefore, their economy should rely on agriculture.*

As aforementioned, Batuhan's proficiency level was detected as advanced; therefore, he could find the correct answers very easily. Unlike other participants, Batuhan did not need to think aloud on questions, and he just paraphrased what was

written on the texts when he defended his choices. He followed the same pattern in this mediation process, and he justified the reasons for this option.

Excerpt 12. Efe's Responsiveness to Question 4

- 107 E: *Let's return to paragraph 3. Sorry, it is the wrong one. Okay, Cuilco was the largest one of the small towns, one of the largest ones. I got it. It has been affected by volcanic eruption substantially, and its agricultural lands were covered by lava. It has been eliminated as a potential rival, and as a result of this, the other modest towns have emerged as a political and economic potential. Option A is not the correct one, I could not deduce it.*
- 108 M: *Uh-huh*
- 109 E: *It was located outside the Valley of Mexico. This is possible, but I want to examine the others. It emerged rapidly as an economic and political center. No, this cannot be the correct one. Because of its elimination, the other cities became popular. Its economy relied heavily on agriculture. Does its economy rely heavily on agriculture?*
- 110 M: *Can you make an inference from the passage?*
- 111 E: *No, its many agricultural lands were covered by lava; however, I could not understand that it has many agricultural lands.*
- 112 M: *Do you know the meaning of rely on?*
- 113 E: *Yes, to depend. Depending on agriculture, I could not see something related to it, but I will read the paragraph rapidly one more time.*
- 114 M: *Efe, You have eliminated all options.*
- 115 E: *No, I will say B because it has been written around the Valley of Mexico.*
- 116 M: *However, it has been written as a place which is near the Valley of Mexico. What is the meaning of outside?*
- 117 E: *In the near of Mexico.*
- 118 M: *Outside has been written here.*
- 119 E: *Okay, I think being outside and close are the same thing. I am close to it now, but I am also outside of it. Am I wrong?*
-

-
- 120 M: *Actually, being outside of something means being far away from something. Okay, Let's think about this option. Cuicuilco was affected by a volcanic eruption on a vast scale. As a result of it, its agricultural lands were covered by lava, and it was eliminated as a potential rival. What can be the reason?*
- 121 E: *Should I understand it in this way? If we assume that its economy relied on another thing, it would not have been affected by it.*
- 122 M: *Absolutely.*
-

Efe started the mediation process by summarising what he understood from the related paragraph. Despite finding out what was written, he found Option B more believable since he thought being outside meant being close to something. In other words, the exact opposite was said there. He did not get any point because of misinterpreting the sentence; however, it did not mean that he did not understand the paragraph. One of the most important advantages of dynamic assessment was to make all of these reasons recognizable for the mediator.

Extract 13 and Extract 14 indicated the mediation processes of Nilay and Fatmanur. Although both of them gave the correct answer, Nilay needed to take mediation for comprehending the question.

Question 4. According to paragraph 3, what is natural selection most comparable to as a process?

- A. branching trees
- B. selective breeding
- C. irreducibly complex system
- D. the human eye

Excerpt 13. Nilay's Responsiveness to Question 4

123 N: *I could not understand the question totally. Where was natural selection observed in the best manner, or*

124 M: *According to paragraph 3, we can compare natural selection with?*

125 N: *Option B, selective breeding. It has been written there, it parallels it.*

Firstly, Nilay misinterpreted the question because of not knowing the meaning of comparable. When the mediator helped her by paraphrasing the sentence in other words, Nilay understood where she should search for the correct answer, and she found it easily.

Excerpt 14. Fatmanur's Responsiveness to Question 4

126 F: *Option B because it has been mentioned directly here. Natural selection is parallel to selective breeding.*

Fatmanur did not need to take any mediation for this question, and she just showed the place where the correct answer was written. The findings confirmed the claims of Ericsson and Simon (1993). According to them, when questions are below students' levels, they just verbalize the reasons in a fast and automatic way instead of approaching questions as a problem-solving activity.

Excerpt 15 and Excerpt 16 showed the verbalization processes of Ahmet and Efe. Whereas Efe did not find the question difficult, Ahmet did not find it since he just scanned the keywords. During the mediation processes of Ahmet, he usually tried to scan the text to find the same words or sentences when he got confused about the meaning, and this mediation process showed also a similar pattern.

Question 7. According to paragraph 5, a sustainable approach to weed and pest control includes all of the following EXCEPT

- A. planting non-transgenic crops
- B. Applying pesticides only when needed
- C. Keeping a close eye the crop
- D. Using multiple types of herbicide throughout the growing season.

Excerpt 15. Ahmet's Responsiveness to Question 7

- 127 A: *I am not so sure but it should be Option C. I could not see it.*
- 128 M: *The question asks which one has not been mentioned. All of these followings have been given to us in order. Plant non-transgenic corn was written here. Which option does it refer to?*
- 129 A: *It has been written here.*
- 130 M: *Applying pesticides only when needed has been given us as a second choice. Is there an answer related to it?*
- 131 A: *Applying pesticides only when needed.*
- 132 M: *Yes, it has also given us directly. Keep a close eye on the crops. What does it mean?*
- 133 A: *I have not seen it. To be honest, I have just scanned the words.*
- 134 M: *Follow them thoughtfully. Is there something in the sentence which has a close meaning with it?*
- 135 A: *Because Option D has been given to us, I did not concentrate on this option.*
- 136 M: *Using multiple types of herbicide throughout the growing season. Did it mention it in the passage?*
- 137 A: *'Monitor the fields throughout the growing season' was written. I have thought that it refers to this option.*
- 138 M: *Actually, it refers to C. It says us to control or to monitor.*
- 139 A: *Is that so?*
- 140 M: *Okay, I got it. Because of the growing season, you have understood it in that way.*
- 141 A: *Yes, it seems to copy and paste.*
-

Applying pesticides only when needed was written clearly in the sentence, so Ahmet eliminated it very easily. However, instead of controlling, keeping a close eye on the crops was written in the options, and Ahmet could not understand that it referred to controlling. This was the method which was observed very frequently during Ahmet's mediation processes. When he could not understand the details, he tended to find a word which was directly written on the passage.

Excerpt 16. Efe's Responsiveness to Question 7

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- 142 E: *The correct answer is D, but I want to look at the other options one more time. Okay, there are transgenic crops, monitor the field, apply the pesticide. However, the herbicide has not been mentioned here. Okay, I will say D again. What is keeping a close eye here, is it an idiom? When I translate it word by word, it does not come to mean.*
- 143 M: *It mean it is controlling.*
-

Efe was quite sure about the correct answer; however, he wanted to skim through the options one more time. Although he did not know the meaning of keeping a close eye on something, he understood that its meaning was close to monitoring, and he got 4 points from this question.

4.3. THE PARTICIPANTS' BELIEFS TOWARDS DYNAMIC ASSESSMENT

The first interview question was about commenting on the whole mediation process. In other words, the participants were expected to share their beliefs towards the reciprocating aspect of dynamic assessment, and the participants were also asked to comment on what the advantages and disadvantages of thinking aloud were. The interview questions were presented below.

IQ1. Do you think that giving mediation has an effect on improving your reading skill?

The first participant Ahmet indicated that the reciprocating aspects of dynamic assessment had a quite positive effect on improving his reading abilities. Because immediate feedback was given to participants, he thought that it would help him in the long process. Similar to Ahmet, Fatmanur also thought that the dualistic aspect of dynamic assessment has a positive effect on their reading comprehension skills. She claimed that taking feedback had a positive effect on the learning process. In the traditional education system, when she was torn between two choices, she could not get any point when she chose the wrong one. However, she claimed that not only taking feedback gives them a second chance to concentrate on the question, but it also makes them ready for the following questions techniques. Whereas Ahmet emphasized the importance of longevity of learning, Fatmanur focused on more to have a second chance which is very rare in the conventional education system, Fatmanur's emphasis was also on the transferability of learned techniques.

The third participant, Deniz was a student who also thought dynamic assessment has a beneficial effect on improving their reading strategies. According to her, taking immediate feedback, highlighting the important parts, and giving participants a second chance to find the correct answers were some of the advantages of dynamic assessment. The fourth participant, Efe also confirmed the advantages of dichotomous aspects of dynamic assessment, and he thought that taking immediate feedback will help him to recall the words' meaning in the long run. He mentioned that he sometimes ignores to look up dictionaries due to the accessibility of technological devices when he needs them. However, he claimed that learning the meaning of words in a context would help him to remember them. Deniz and Batuhan arrived at a consensus about the efficacy of immediate feedback's beneficial effects, and Deniz also mentioned that she found it beneficial to have a second chance to give the correct answer and to know where she should look for the correct answer.

Batuhan was the fifth participant of the study, and although he hardly ever needed to take mediation during the process, he also thought that dynamic assessment can help them to improve their reading skills. He also mentioned that directing them to think one more time or highlighting the related place helped him more to focus on the question. The last participant, Nilay arrived at a consensus with other participants, and she also believed that the binary aspect of dynamic assessment will help them to improve their reading comprehension skills in the long run. She compared these passages with the reading passages that she studied when she was a high school student, and she claimed that she would tend to skip the text when she found them challenging. Because she knew that the mediator would help her when she came across difficulties, it helped her to focus on the text more. Both Batuhan and Nilay claimed that dynamic assessment helped them to focus on the questions more. Besides, Nilay mentioned that she normally preferred to skip the texts when they were above her proficiency level; however, she made more effort on the texts due to the accessibility of immediate guidance.

IQ2. Do you think that verbalization has a positive effect on your cognition process?

Ahmet mentioned that although he did not feel uncomfortable whereas thinking aloud, he questioned the effects of it. He was not sure of the benefits of the Think-Aloud method in terms of making the progress easier for him. He also thought the Thinking-Aloud could make some people nervous. Unlike Ahmet, Fatmanur was familiar with the Thinking-Aloud method because a few of her professors expected to provide justification from their students in their lessons. She believed that thinking aloud made the learning atmosphere more recognizable because she concentrated on the topic more; however, she also claimed that it can cause to spend too much time on a question, and even hearing their own voices can be distracting.

Deniz was familiar with hearing her own voice since she normally preferred to read slightly aloud, the Thinking-Aloud method also did not make her feel unconfident. However, she claimed that although she did not feel under pressure whereas thinking aloud, this could make her nervous if one of her professors was there.

Similarly, Efe underlined the beneficial effects of thinking aloud as he thought when he approached the questions with a problem-solving perspective, long-term memory started to work, so it would be expected to be more permanent over the long run. However, he found the Think-Aloud technique time consuming like Fatmanur.

Batuhan was doubtful about the efficacy of the Think-Aloud method, and he claimed that it did not pave the way for him. Additionally, he mentioned that this method could be more suitable for young learners. Nilay claimed that she used the Think-Aloud method when she was alone; however, she could not feel comfortable during the mediation process because of not understanding passages very well. She explained that she prefers to think silently when she is not alone.

To sum, these findings validated the usefulness of dynamic assessment on students' comprehension skills. Taken as a whole, all participants claimed that taking mediation made the learning atmosphere more salient for learners, and the overall response to dynamic assessment was quite positive. The participants put forth that the techniques and words would be permanent, and they would transfer them into new tasks. However, just a small number of participants reported that the Think-Aloud was a useful method. The most common concerns about the Think-Aloud method were identified as to make students nervous and to spend too much time on a question.

4.4. THE MEDIATOR'S NOTES ABOUT THE MEDIATION PROCESSES

In the previous two sections, the participants' beliefs towards dynamic assessment and the Think-Aloud method were discussed. However, the mediator had also gathered a great deal of useful information about the participants' inner world and the way of their thought casts thanks to the reciprocating aspects of dynamic assessment and making the learning atmosphere a visible aspect of the Think-Aloud method. The researcher discussed her personal opinions towards dynamic assessment which was not just evaluated students according to their correct answer numbers and the Think-Aloud method with the help of excerpts in this part of the study.

Question 2. The main reason for anthropological researchers remaining in a community for an extended time period is that...

- A. they can gather as much information as possible.
- B. they can try out a range of different research methodologies.
- C. they want local people to behave naturally around them.
- D. they need time to become accustomed to the conditions.

Excerpt 17. Ahmet's Responsiveness to Question 2

144 M: *It has been mentioned in the first paragraph.*

145 A: *I do not have any idea about this topic. I could not say I understood the paragraph completely. I do not know the meaning of emphasising here. I guess I will choose Option C.*

146 M: *Can you look at the line which starts with although. "Although the length of field studies varies from a few weeks to years, it is generally agreed that anthropologists should stay in the field long enough for their presence to be considered natural by permanent residents. "*

147 A: *I mean, I did not understand that part.*

According to Excerpt 17, Ahmet found the correct answer at once; however, when the mediator questioned the reasons, she recognized that he found it by chance. Whereas traditional test systems tend not to examine the reason for students' choices when the correct answers are given by students, the Think- Aloud made these reasons observable for the mediator. Despite giving the correct answer, Ahmet did not get any point from this question. The mediator gained an advantage from this example that she should also question the participants' reasoning process for eliminating the chance factor.

Question 9. London came to lead the perfume industry because...

- A. The French Revolution meant that there were fewer customers in France.
- B. Napoleon's new laws affected the profitability of perfume-making.
- C. The production of perfume ceased during the Napoleonic wars.
- D. The French were unable to export perfumes for a period of time.

Excerpt 18. Fatmanur's Responsiveness to Question 9

148 F: *I do not think that it was related to French Revolution. Let's examine them one by one. It is not related to the French Revolution because they overcome this problem inside the country. This is not the correct one. Because Napoleon is related to war... No, Napoleon refuses to use perfumery for internal consumption; however, he affects the perfumery industry in other aspects, so I will choose Option B.*

149 M: *Think one more time, please*

150 F: *Okay, I got it now. During the war, the French could not produce perfume because of British surrounding, so the English started to produce and sell perfumes. Therefore, I will choose D.*

One of the major benefits of the Think-Aloud method directed students to focus on the questions more. According to Excerpt 18, Fatmanur tended to choose Option A at first because she thought that Napoleon was associated with war. Then, she recognized that Napoleon rejected the use of perfumery for internal consumption. However, she took to mean from this sentence that they started to use perfumery in other fields, so she chose Option B. Whereas she was thinking aloud, she noticed that the country was surrounded by the British; therefore, they could not produce perfume. Finally, she found the correct answer. This excerpt showed the mediator how students can correct themselves when they focus on the questions more.

Question 4. Why does the author mention “mustard weed species” in the discussion of plants that hybridize?

- A. To give an example of a weed that may become resistant to glyphosate due to hybridizing with a transgenic plant
- B. To argue that creating transgenic plants in the laboratory is not always necessary, as some can be created through hybridizing in the fields
- C. To give evidence that related types of plants are unaffected by transgenic plants
- D. To support the claim that it is difficult to decide if a harvest plant has been planted far enough away from any weeds

Excerpt 19. Deniz’s Responsiveness to Question 4

-
- 151 D: *Is it Option A because mustard weed species have been mentioned here. Discussing has also been written. I could not understand what hybridizing means. It sounds more believable when I have eliminated the options. Might have transferred with... herbicide-resistant genes. They have changed it. I mean, it has been given as an example to these weeds.*
- 152 M: *That is to say, you have found the correct answer by focusing on keywords which include giving an example.*
- 153 D: *Arguing, giving evidence, and supporting have been mentioned in other options; however, giving example has been written in Option A. It has been more acceptable to my mind.*
-

Excerpt 19 indicates although Deniz had comprehension breakdowns on these questions, she used contextual clues very well, and she reached the correct answer thanks to this technique. The vocabulary restricted her understanding, but she understood the mustard weed species were given to exemplify hybridizing plants. This excerpt helped the mediator how the contextual clues could be used by the students.

Question 5. The writer believes that the most difficult aspect of fieldwork for educated westerners is

- A. the lack of companionship
- B. poor sanitary conditions
- C. failure to meet expectations
- D. never being left alone

Excerpt 20. Nilay's Responsiveness to Question 5

-
- 154 N: *I could not understand the question completely, but I have skimmed through the paragraph one more time.*
- 155 M: *[the mediator explains the question by translating it into Turkish].*
- 156 N: *Being alone is considered pitiful, I guess loneliness during the fieldwork has been mentioned here. Never being alone or something like that has been argued, but I am not quite sure whether it is the correct option or not. I think it is Option D because I could not make an inference for other options.*
- 157 M: *[the mediator explains the options].*
- 158 N: *Actually, poor sanitary conditions have been also mentioned; however, I want to say Option D?*
- 159 M: *Why did you choose Option D?*
- 160 N: *In my opinion, this topic has been mentioned more than others.*
-

It was somewhat surprising that Nilay has been an insight into finding the correct answer since the very beginning because this question was one of the most challenging questions where the participants got into difficulties for finding the correct option. Even though Nilay could not understand the question and the answers completely, she thought it was related to being alone. After obtaining detailed information about the question and the options, she was on the fence, but she chose the correct one in the end. Thanks to this excerpt, the mediator had one more chance to observe that the proficiency level of students was not the only criterion for interpreting the message correctly.

Question 7. In paragraph 4, it is implied that...

- A. Master glove and perfume makers created a new perfume each week.
- B. Mercers, spicers, and other traders began to call themselves masters.
- C. The Royal Court only bought perfume from masters.
- D. Cosmetics were still only popular within the Royal Courts.

Excerpt 21. Batuhan's Responsiveness to Question 7

- 161 B: *I am not so sure about the correct answer, but it can be Option A.*
- 162 M: *Why do you think in this way?*
- 163 B: *They use different perfumes each week. If they use different ones, producing different perfumes can also be possible.*
- 164 M: *It is not the correct one. Think one more time, please.*
- 165 B: *Do these people think that they are masters? I do not think so. Then, the correct answer is Option B.*
- 166 M: *It has been written implying in the question, be careful. Can you look at the fourth paragraph's first line until the end of each week?*
- 167 B: *Royal courts become regular at visiting masters. They produce different perfumes every week; therefore, I have chosen Option A.*
- 168 M: *What is the reason for these visitations?*
- 169 B: *Then, Option C.*
- 170 M: *Yes, the royal court prefers to buy the perfumes from the master of its domain, but producing different perfumes has not been mentioned here.*
-

Although Batuhan rarely made mistakes, he found the correct answer in his second attempt when the mediator caught his attention to another perspective. A great majority of the passages' levels were below Batuhan's proficiency level, so he rarely made mistakes. The mediator has a chance to observe the reasons for his wrong choices, and it was detected as a misinterpretation in this example.

Question 3. Which of the following is NOT a benefit of Smart Grid technology to consumers?

- A. It can reduce their electricity bills.
- B. It can tell them how much energy each appliance is using.
- C. It can allow them to turn appliances on and off when they are not at home.
- D. It can reduce the amount of energy needed to power appliances.

Excerpt 22. Efe's Responsiveness to Question 3

-
- 171 E: *The question asks which one is not one of the advantages of Smart Grid technology.*
- 172 M: *Yes, you are right.*
- 173 E: *Option A has been mentioned in the washing example. Option B has been already mentioned, but I will get back this option later because it should be as clear as black and white. Option C and Option D have also been mentioned in paragraph three.*
- 174 M: *Okay, you have eliminated Option A and C, and you have oscillated between Option B and D, right?*
- 175 E: *Yes, if I read it one more time, I can find it. Okay, it has been written "they will be able to collect real-time information on their energy use for each appliance", but I do not know that this information has been shared with the consumers? Have I made myself clear?*
- 176 M: *Yes, I got it. I think it has been shared by the consumers because the advantages have been mentioned in the question.*
- 177 E: *If they share this knowledge, it is obviously D. However, Let's think about Google. It gathers a lot of information about me, but I do not know them, so it is not a benefit for me. I am just criticising the question right now.*
-

As stated previously, Efe was the person who questioned the quality of questions a lot. Unlike other participants, he dipped back into details; therefore, he

tended to miss out the main points. He understood the paragraph thoroughly, but he was not sure about the correct answer because of not knowing whether this gained information was shared by the consumers. As it has been mentioned in the literature review part, there are six general moves which show a person's cognitive skills, and analyzing and judging the passages are moves which are known as high-ranking skills. Efe was the only person who had this ability during the mediation processes.

These excerpts were chosen for indicating the effects of the Think-Aloud method from the mediator's perspective. Not only did this method provide the mediator to observe the students' cognition very closely, but it gave her a chance to interfere in misunderstanding. Although the participants had controversial ideas about the efficacy of the method, this method had several benefits for the mediator such as getting involved in the process very closely, specifying the reasons of wrong choices, and adjusting mediation according to students' needs. Besides, the reciprocating aspect of dynamic assessment provided the mediator to have deep knowledge about students' development.

4.5. SUMMARY

In this part of the study, the researcher presented the outcomes of her study with the help of twenty-two excerpts which were gained direct interaction of the mediator and the participants. The results indicated that all participants had a consensus about the positive effect of dynamic assessment on their reading skills. However, some controversial ideas were specified about the Think-Aloud method. Whereas some students thought that this method made them concentrate on the topic more, the other ones found it ineffective or time-consuming. However, the researcher claimed that the Think-Aloud method provided her considerable insight into the way of participants' thought processes.

CHAPTER 5

5. CONCLUSION

In this part of the research, general overview of the research, summarize of the findings of two research questions, discussion of these findings as dividing them into two parts, namely discussion of the first and second question, pedagogical implications of the present research, and encountered limitations during the research, suggestions for further research, and conclusion part have been presented, respectively.

5.1. OVERVIEW OF THE RESEARCH

Vygotskian Sociocultural Theory which emerged as a reaction to behaviorism has not admitted learners as passive recipients (Ellis, 2005). According to this theory, culture and social interaction are undivided (Polly et al., 2017). Whereas Vygotsky was laying the foundation of Sociocultural Theory, he took advantage of Marx's three principles. The first principle concern is the holistic analysis of human cognition (Thorne, 2005, p. 394), and the second one gives priority to the social aspects of people. Finally, the third one gives importance to using tools for human functioning where the language is admitted as the most important tool (Walsh, 2013, p. 8).

Ortega (2014) claims that people go through three processes before gaining their autonomy (p. 219), namely "object-regulation, other-regulation, and self-regulation" processes (Ortega, 2014, p. 220). Self-regulation is the final step where a learner does not need to be supported neither an object nor a person. However, before arriving at the ultimate level, they need a capable person's guidance especially in their zone of proximal development. Vygotsky (1978) explains the ZPD as the distinction between what a person can do alone, and with the help of a competent person.

Dynamic assessment which takes its roots from the Sociocultural theory objects to separate instruction and assessment premises. Lidz and Gindis have admitted separating instruction and assessment as a traditional view, and they have claimed that they should be fully integrated to take students a step further (2003, p. 99). Feuerstein has also objected to admitting human cognition as a closed system. He has highlighted the importance of adjustability of cognitive skills, and he has claimed that social interaction makes it possible (Poehner & Lantolf, 2005, p. 245). Dynamic assessment has two different approaches, namely the interventionist approaches and the interactionist approach. Whereas the interventionist approaches give the mediator a chance to generalize the results more easily due to having the standardized patterns, the advocates of the interactionist approach claim that the mediation process should not be presented to the learners in a standardized way. In other words, the mediator should arrange the learning atmosphere according to learners' needs based on implicit to explicit hierarchy (Poehner, 2002, p.45). The main motivation of the researcher to choose one of the interventionist approaches, namely Carlson and Wield's Testing the Limits Approach (1992) was to include not only standardized paradigms but also incorporated into the Think-Aloud method. Due to the integration of this method into the process, the researcher has gained a great deal of useful information about participants' problem-solving strategies.

To sum up, dynamic assessment adds a new wrinkle to the education world by interconnecting instruction and assessment processes. Unlike the traditional educational system, it admits interventions are important sources for taking students a step further (Lidz & Gindis, 2003, p. 99). Although two different kinds of approaches have emerged with their benefits and drawbacks, predetermined learners' needs will help the mediators to choose the most appropriate approach.

5.2. SUMMARY OF THE FINDINGS

Two research questions guided this study. Whereas the first question's concern was to determine the advantages of including the Think-Aloud method in the dynamic assessment process, the second question was related to getting the participants' opinions towards the dualistic aspect of dynamic assessment and the Think-Aloud method. The mediator's opinions also added to the process since she had the opportunity to observe students' way of thinking straightforwardly.

1. What are the implications of incorporating the Think-Aloud method into the dynamic assessment process for improving students' reading comprehension development?

Eight reading passages which were prepared as TOEFL preparation sources were chosen from different websites, and they were presented to the participants with readily-prepared clues. The participants' correct answer numbers, and also the order of giving the correct answers affected the participants' scores. Besides, the participants were expected to state a reason for their choices so as not to luck into the correct answer. Hence, the Think-Aloud method was inserted into the dynamic assessment process where students needed to reason out and verbalize their answers.

Each question represented a numerical value, and the participants' scores were calculated according to the grading scale which was created by the mediator. Besides, the study was qualitative in nature, and the mediator obtained information thanks to the transcription of the required data, research diaries, and also interview questions. According to the detailed analysis of the data, Batuhan was the most successful participant whose English proficiency level was also higher than the other ones. Fatmanur and Efe had also a similar proficiency level which was determined as upper-intermediate by the mediator; however, Fatmanur's scores were slightly above Efe's scores because she was more successful to use given clues. Besides, Deniz and Ahmet's proficiency levels were specified as pre-intermediate. Although the scores had parallels with each other, Ahmet's scores were slightly above her. The least

successful person was identified as Nilay's performance who also had the lowest proficiency level. The results indicated that the proficiency level of students was a criterion which affected the success; however, it was not the only one. How the students approach the question, their problem-solving techniques, the way to use the contextual clues, or how the students react to the mediator clues were important criteria which affected the participants' scores.

Although the great majority of participants put forward that they had doubts about the effectiveness of the Think-Aloud method because of the feeling of being observed, being time-consuming, or not paving their ways to reach the correct answers, a considerable amount of participants highlighted how the Think-Aloud method directed them to focus on the questions more, or how it affected to have more permanent information due to making the long-term memory more active. It was fundamental to note that the Think-Aloud method also provided the mediator in deep knowledge of students' cognition and problem-solving strategies since she had a chance to observe students at first hand.

2. What are the advantages of applying Dynamic Assessment for increasing reading awareness from the perspective of students?

The participants shared their personal opinions via FtF interviews which were conducted at the end of the mediation processes so as to understand the efficacy of dynamic assessment on their reading skills from participants' own perspective. The feedback was quite positive. All participants built consensus about the positive effects of the dualistic aspect of dynamic assessment.

Some of the most striking comments on the dynamic assessment process were to make learning more permanent due to the learning new grammatical structures or new words in a context, to have a second chance to give the correct answer which is not so common in the traditional education system, and to have immediate guidance of the mediator when they had comprehension problems. Even though students were

not accustomed to being evaluated in this way before, their opinions towards dynamic assessment were quite favourable.

5.3. DISCUSSION OF THE FINDINGS

This part has been divided into two parts regarding two research questions. In the first part, the mediator has focused on the advantages of the Think-Aloud more for improving students' reading comprehension skills, and she has also mentioned the positive effects of dynamic assessment in the second part.

5.3.1. Discussion of the First Research Question

Smith has admitted reading as an interactive process where the learners need to structure content by using different techniques such as “constructing meaning from text clues, calling upon knowledge of the language, text structure, conventions, and content concepts” (Kozulin & Garb, 2002, p. 116). Successful readers have not just admitted just to give the correct answer to questions, but indeed they have been defined as people who are good at controlling the text, using strategies, regulating their efforts, and having an idea of their own performance (Kozulin & Garb, 2002, p.117).

The first research question has aimed at specifying the attributions of the Think-Aloud method in a dynamic way. The application of this method has confirmed Kozulin and Garb's claims, the researcher has gained a whole range of information about the participants' strategies and gained insight into their retrospective and prospective performances. Whereas studying on a text, the students were expected to verbalize their thoughts; therefore, students' problem-solving strategies and the places where they face difficulties identified very easily as stated by van Someran et. al (1994). Although a great number of researchers have accepted verbalization as a useful technique where students are expected to increase their comprehension skills (e.g. Brown & Rogers, 2004; Oster, 2001; Swain & Lapkin, 2009), just a small number of the participants have claimed that it would help them to improve their reading comprehension skills. Contrary to expectations, the number of students who found the

Think-Aloud method beneficial lower than expected. The general criticism towards the method was to have no effect on making the passages easier for the participants, to feel under pressure. However, the mediator has confirmed van Someran et. al's claims, she put forward that the verbalization lent herself to identify students' reading strategies and problematic parts (van Someran et. al, 1994).

Gibbons (2002) has brought forward that teaching should be beyond students' current levels for carrying students a step forward; however, it should not completely exceed their levels. Whereas choosing the reading passages, the mediator has also taken this advice into consideration for observing students' problem-solving abilities.

Whereas a great majority of the students had difficulties for understanding the text completely because they were generally above their levels, Batuhan was the student who found them pretty easy. He tended to paraphrase what was written in the passage when the mediator asked him questions for verbalization. Although the number of people having this proficiency level was just one, and requiring more students for generalization, the finding of Batuhan confirmed the claims of Ericsson and Simon (1993), who could not find easily written texts appropriate for verbalization because this process would be expected to be realized automatically.

According to the Four Zones of Teaching and Learning which was created by Mariani (1997), when the tasks are far beyond the students' current levels, it would leave the students with increased anxiety and frustration unless adequate guidance is provided. Nilay who has the lowest proficiency level has confirmed this claim, and she has mentioned that she had a tendency to skip the texts when they were too challenging for her. However, she has also claimed that she did not need to do it because she knew that immediate mediation would be given to her. This claim also confirmed the efficacy of scaffolding where students could not complete a task without the help of their teacher or peers (Graves & Watts, 1994, p. 1994), and these skills are expected to be more improved for extending students' current abilities (Rogoff, 1990).

5.3.2. Discussion of the Second Research Question

The second question has sought to the effectiveness of dynamic assessment for increasing students' reading comprehension awareness. To my best knowledge, although there were limited studies related to reading comprehension skills on dynamic assessment, the findings were in line with previous studies (Kozulin & Garb, 2002, p. 119; Naeini & Duvall, 2012, p.30), and it confirmed the positive effects of the dualistic aspect of dynamic assessment. However, the previous two studies observed the participants' success regarding their pretest and posttest scores, the mediator observed these improvements in terms of participant's claims and her direct observations.

Furthermore, Naeini and Duval (2012) have claimed that dynamic assessment presents the mediator to observe students' current and potential levels more properly, and non-dynamic tests tend to undervalue students' cognitions (p. 36). As proposed by Naeini and Duval (2012), the findings I observed have had a quite positive role for understanding the participants' actual and potential levels. Besides, incorporating into the Think-Aloud method has drawn a more accurate picture on determining the participant's levels. In contrast to traditional tests, students have had a chance not to be labeled as successful or unsuccessful readers predicating just on their present levels.

According to Gardner's (1987) three guidelines for instructors, which are related to giving the students adequate time for making learners more active in the process, analyzing strategies by taking apart them, and adapting them in other tasks, helped students to teach cognitive strategies. These suggestions without the last one were taken into consideration, and students had no time constraints for solving questions, and different techniques were used for analyzing students' problem-solving strategies. However, the mediator could not have a chance to observe the gained subjects in other tasks which were indicated as a limitation in the following section.

Whereas a great number of studies have tended to classify students' achievements according to the difference between their pretest and posttest scores (e.g. Poehner, 2005; Davin, 2011; Naeini & Duval, 2012, Levi, 2017; Zadeh, 2018, Şentürk, 2019), Poehner (2008) has been objected to this approach by saying that observing no difference between pretest and posttest scores does not mean to undevelopment. A great number of excerpts have also confirmed this view of Poehner. For example, although Efe completely understood the question and the paragraph, he did not get any point because of misinterpretation of the message (see Excerpt 12), or although Nilay had limited knowledge about the paragraph and the question, she was so close to give the correct answer since she was good at using clues (see Excerpt 20). Briefly, dynamic assessment with the help of the Think-Aloud method helped the mediator to observe what were the underlying reasons of the participants' choices.

As stated before, the mediator has preferred to apply one of the interventionist approaches, namely Carlson and Wiedl's Testing-the-Limits Approach where the participants need to advocate their choices regardless of whether they are correct or incorrect. Carlson and Wiedl (1992) have mentioned that standardized verbalization prompts would help the mediator to determine the problematic parts of learners where they needed to think aloud whereas studying on a task. Finally, the mediator has gained lots of information about students' current and potential levels with the help of incorporating this method.

5.4. PEDAGOGICAL IMPLICATION OF THE RESEARCH

Even though dynamic assessment has been studying in the education world for than 40 years, the number of studies are still inadequate. Besides, the studies generally tend to be on grammar, so skill-based studies need studying more for observing the effects of the reciprocating aspect of dynamic assessment. To my best knowledge, there are just two studies which focus on reading skill, and none of them has been conducted in the Turkish educational setting. This study has contributed to the field in some ways. First and foremost, it shows that reading comprehension skills are also open to development like other skills. Second, incorporating the Think-Aloud method

helps us to have more knowledge about the students' way of thinking. Finally, it extends our knowledge of determining participants' current and potential levels whereas conventional education systems tend to focus on the current level of students more.

5.5. LIMITATIONS TO THE RESEARCH

The first limitation of the study was about the major's of the participants. Three out of six participants' departments were medicine, and some reading passages included a great number of terms related to medicine; therefore, the mediator hesitated whether being familiar with these terms before to grant privileges for these participants.

The second limitation of the study was not to have a chance to observe students' reading comprehension improvement in other tasks. Although the participants built a consensus about the positive effects of dynamic assessment, the learned vocabularies or grammar topics could not be tested on other tasks. In other words, the mediator could not observe the transferability of these topics in the long run.

The final limitation was that students were not familiar with the verbalization process. Only Batuhan and Fatmanur were students who were familiar with this technique. For keeping the participants' anxiety levels minimum, they could have got accustomed to the technique before the mediation processes. Even though students claimed that they did not feel under pressure, the mediator observed the nervousity especially in the very beginning of the mediation sections.

5.6. SUGGESTIONS FOR FUTURE RESEARCH

A natural progression of this research was to determine students' beliefs towards the process and efficacy of application of dynamic assessment on students' reading comprehension skills by predetermined clues, hints, or leading questions. Although the research provides a great number of insights for future research, the transferability part of the study has stayed as a missing part of this study. I suggest to prospective researchers to observe this missing part in their studies.

Another suggestion to further research is to choose the reading texts which do not include terminologies related to a specific branch. The 50 percent of the participants' majors were medicine; therefore, they were familiar with some terminologies which took part in the selected passages. It puts a question mark in the researcher's mind whether knowing these terms before grants the medical students a privilege. Taken together, transferability of the gained knowledge and reading passages' choices are the important topics where further research is needed to account for them.

CONCLUSION

The knowledge of dynamic assessment on reading skill was largely based on limited studies. The aim of the present research was thus to widen current knowledge about dynamic assessment by the guidance of two research questions: (i) What are the implications of incorporating the Think-Aloud method into the dynamic assessment process for improving students' reading comprehension development? (ii) What are the advantages of applying dynamic assessment for increasing reading awareness from the perspective of students? To find an answer to these questions, six voluntary university students were selected from different proficiency levels and majors. Thanks to the data gathered direct interaction of the mediator and the participants, the research made an important contribution to dynamic assessment by demonstrating students' reading skills are also open to development. Besides, the researcher incorporated the Think-Aloud method for having deep knowledge about the participants' way of thought casts.

The findings of the research indicated that participants arrived at a consensus about the positive effects of dynamic assessment on improving their reading skills. They reported that having immediate guidance, having a second chance to give the correct answer, or learning new vocabularies or grammar topics in context were some of the advantages of dynamic assessment. However, very few of participants (33%) said that the Think-Aloud method had a positive impact on the learning process. The most important criticisms towards the method were not to pave the students' way, to make students feel under pressure, or to be time-consuming. Notwithstanding these claims, the method helped the researcher to gain noteworthy pieces of information about the participants' thought processes. She observed that although the proficiency level of students played an important role in reaching the correct answer, it was not the only criterion. The Think-Aloud method helped the researcher to observe how students use strategies when they encountered a comprehension problem, how they interpreted the written messages, or how they used contextual clues at first hand.

The previous studies related to dynamic assessment tended to assess students' achievements with the help of the difference between their pretest and posttest scores. However, the researcher did not use this point of view because she thought that no difference between the scores meant nondevelopment. In this qualitative study, the researcher observed the participants' developments by using multiple techniques such as interviews, research diaries, audio recordings, and the reading texts with readily-prepared clues. Thanks to the integration of multiple data collection sources, this study provided additional support for understanding the importance of dichotomous aspects of instruction and assessment terms on students' reading comprehension skills.

As a conclusion, the implementation of dynamic assessment is still a new field in the education world where new studies need conducting for seeing its effects on various areas. Although there are satisfactory agreements on the positive effects of dynamic assessment similar to this present study, further studies are required to see its benefits on different skills and participants.

REFERENCES

1. Books

- Brown, J. S., Heath, C., & Pea, R. (2003). *Vygotsky's educational theory in cultural context*. Cambridge University Press.
- Budoff, M. (1987) The validity of learning potential assessment. In C. S. Lidz (Ed.) *Dynamic Assessment: An Interactional Approach to evaluating learning potential*. New York: Guilford Press.
- Burns, A., & Joyce, H. D. S. (2005). *Teachers' Voices: Explicitly supporting reading and writing in the classroom*. Sydney: NCELTR.
- Chaiklin, S. (2003). The zone of proximal development in Vygotsky's analysis of learning and instruction. *Vygotsky's educational theory in cultural context, 1*, 39-64.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: choosing among five traditions*. Thousand Oaks, CA: Sage.
- Ellis, R. (2003). *Task-based language learning and teaching*. Oxford University Press.
- Ellis, V. (Ed.). (2013). *Learning and teaching in secondary schools*. Learning Matters.
- Feuerstein, R., Rand, Y., & Hoffman, M. B. (1979). *The dynamic assessment of retarded performers: The learning potential assessment device, theory, instruments, and techniques*. Baltimore, MD: University Park Press.
- Feuerstein, R., Rand, Y. A., & Rynders, J. E. (1988). *Don't accept me as I am: Helping retarded performers excel*. New York: Plenum.
- Gardner, R. (1987) *Metacognition and reading comprehension*. Norwood, NJ: Ablex Publishing Corporation.
- Gibbons, P. (2002). *Scaffolding language, scaffolding learning*. Portsmouth, NH: Heinemann.
- Graves, M.F., Watts, S., & Graves, B.B. (1994). *Essentials of classroom teaching: Elementary reading*. Boston: Allyn & Bacon
- Kozulin, A. (1990). *Vygotsky's psychology: A biography of ideas*. Cambridge: Harvard University Press.

- Kozulin, A. (1992). *Vygotsky and education: Instructional implications and applications of sociohistorical psychology*. Cambridge: Cambridge University Press.
- Kozulin, A. (1998). *Psychological tools: A sociocultural approach to education*. Cambridge, Mass: Harvard University Press.
- Lantolf, J. P., & Appel, G. (eds.). (1994). *Vygotskian approaches to second language research*. Norwood, NJ: Ablex.
- Lantolf, J. P., & Poehner, M. E. (2014). *Sociocultural theory and the pedagogical imperative in L2 education: Vygotskian praxis and the research/practice divide*. New York: Routledge.
- Lantolf, J., Thorne, S. L., & Poehner, M. (2015). Sociocultural Theory and Second Language Development. In B. van Patten & J. Williams (Eds.), *Theories in Second Language Acquisition* (pp. 207-226). New York: Routledge.
- Lidz, C.S. (1991). *Practitioner's Guide to Dynamic Assessment*. New York: Guilford.
- Lidz, C. S. (1997). Dynamic assessment approaches. *Contemporary intellectual assessment: Theories, tests and issues*, 281-296.
- Lidz, C. S., & Elliott, J. (Eds.). (2000). *Dynamic assessment: Prevailing models and applications*. New York, NY: Jai.
- Lidz, C.S., & Gindis, B. (2003). Dynamic assessment of the evolving cognitive functions in children. *Vygotsky's Educational Theory in Cultural Context* (pp. 99-116). Cambridge: Cambridge University Press.
- Marshall, C. & Rossman, G. (2006). *Designing qualitative research*, (4th Ed.). Thousand Oaks: Sage.
- Mary, L. (2008). Interview Techniques. In: *Encyclopedia of Epidemiology*, 1st ed. Sage Publications.
- Maxwell, J. A. (1996). *Qualitative research design: an interactive approach*. Thousand Oaks, CA: Sage Publications.
- McLachlan, C., Flear, M., & Edwards, S. (2018). *Early childhood curriculum: Planning, assessment and implementation*. Cambridge, United Kingdom: Cambridge University Press.
- Meichenbaum, D., & Asnarow, J. (1979). *Cognitive-behavioral modification and metacognitive development: Implications for the classroom*. New York: Academic Press.

- Minick, N. (1987). Implications of Vygotsky's theories for dynamic assessment. In C. Lidz (Ed.), *Dynamic assessment: An interactional approach to evaluating learning potential* (pp. 116–140). New York: Guilford Press.
- Ortega, L. (2014). *Understanding second language acquisition*. Routledge.
- Palomba, C. A., & Banta, T. W. (1999). *Assessment essentials: Planning, implementing, and improving assessment in higher education*. San Francisco: Jossey-Bass.
- Poehner, M. E. (2008). *Dynamic assessment: A Vygotskian approach to understanding and promoting L2 development*. New York: Springer.
- Polly, D., Allman, B., Casto, A., & Norwood, J. (2017). Sociocultural perspectives of learning. *Foundations of learning and instructional design technology*.
- Rogoff, B. (1990). *Apprenticeship in thinking*. New York: Oxford University Press.
- Raphael, T. E., Highfield, K., & Au, K. H. (2006). *QAR now: A powerful and practical framework that develops comprehension and higher-level thinking in all students*. New York: Scholastic.
- Rumelhart, D. E., Spiro, R. J., Bruce, B., & Brewer, W. (1980). *Theoretical issues in reading comprehension*.
- Sacks, P. (1999). *Standardized minds: The high price of America's testing culture and what we can do to change it*. Cambridge, MA: Perseus
- Smaldino, S. E., Lowther, D. L., Russell, J. D., & Mims, C. (2008). *Instructional technology and media for learning*.
- Smith, F. (1971). *Understanding reading: A psycholinguistic analysis of reading and learning to read*. New York, Holt, Rinehart and Winston.
- Sternberg, R. J., & Grigorenko, E. L. (2002). *Dynamic testing: The nature and measurement of learning potential*. Cambridge: Cambridge University Press.
- Thomas, W., & Collier, V. (1999). *School effectiveness for language minority students*. Washington, DC: National Clearinghouse for Bilingual Education.
- Walsh, S. (2013). *Classroom discourse and teacher development*. Edinburgh University Press.
- Wertsch, J. V. (1985). *Vygotsky and the social formation of mind*. Cambridge, MA: Harvard University Press.
- Van Someren, M. W., Barnard, Y. F., & Sandberg, J. A. C. (1994). *The think aloud method: A practical approach to modelling cognitive*. London: Academic Press.

Vygotsky, L. S. (1962). *Thought and language*. Cambridge, Massachusetts: MIT Press.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Vygotsky, L. S. (1997). *The collected works of LS Vygotsky: The history of the development of higher mental functions* (Vol. 4). Springer Science & Business Media.

Vygotsky, L.S. (1998). The problem of age. In R.W. Rieber (Ed.) *The Collected Works of L. S. Vygotsky. Child Psychology* (Vol. 5). New York: Plenum

2. Journals and Proceedings

Aljaafreh, A., & Lantolf, J. P. (1994). Negative feedback as regulation and second language learning in the zone of proximal development. *The Modern Language Journal*, 78(4), 465-483.

Antón, M. (2003). *Dynamic assessment of advanced foreign language learners*. Paper presented at the meeting of the American Association of Applied Linguistics. Washington, DC.

Antón, M. (2009). Dynamic assessment of advanced second language learners. *Foreign Language Annals*, 42(3), 576-598.

Azevedo, R., & Hadwin, A. F. (2005). Scaffolding self-regulated learning and metacognition—implications for the design of computer-based scaffolds. *Instructional Science*, 33(5/6), 367-379.

Bereiter, C., & Bird, M. (1985). Use of thinking aloud in identification and teaching of reading comprehension strategies. *Cognition and Instruction*, 2(2), 131-156.

Block, E. (1986). The comprehension strategies of second language readers. *TESOL Quarterly*, 20(3), 463-494.

Borg, S. (2001). The research journal: A tool for promoting and understanding researcher development. *Language Teaching Research*, 5, 156-177.

Brown, A. L. (1981). Metacognition: The development of selective attention strategies for learning from texts. *Directions in reading: Research and Instruction*, 21-43.

Campione, J. C., Brown, A. L., Ferrara, R. A., & Bryant, N. R. (1984). The zone of proximal development: Implications for individual differences and learning. *New Directions for Child and Adolescent Development*, 1984(23), 77-91.

- Carlson, J. S., & Wiedl, K. H. (1992). Principles of dynamic assessment: The application of a specific model. *Learning and Individual Differences*, 4(2), 153-166.
- Carrell, P. L. (1985). Facilitating ESL Reading by Teaching Text Structure. *TESOL Quarterly*, 19(4), 727.
- Clark, K. F., & Graves, M. F. (2005). Scaffolding students' comprehension of text. *The Reading Teacher*, 58(6), 570-580.
- Cook, B. (n.d.). Are you recording this? – The case for audio recording of interviews.
- Çalış, S. (2018). *The impact of the implementation of dynamic assessment on students' metasyntactic awareness* (Unpublished master's thesis), Cag University, Mersin.
- Davin, K. J. (2011). *Group dynamic assessment in an early foreign language learning program: Tracking movement through the zone of proximal development* (Doctoral dissertation, University of Pittsburgh).
- Dillon, R., & Carlson, J. S. (1978). Testing for competence in three ethnic groups. *Educational and Psychological Measurement*, 38(2), 437-443.
- Elliott, J. (2003). Dynamic assessment in educational settings: Realising potential. *Educational Review*, 55(1), 15-32.
- Engin, M. (2011). Research diary: A tool for scaffolding. *International Journal of Qualitative Methods*, 10(3), 296-306.
- Ericsson, K. A., & Simon, H. A. (1980). Verbal reports as data. *Psychological Review*, 87(3), 215.
- Jahandar, S., Khodabandehlou, M., Seyedi, G., & Abadi, R. M. D. (2012). The think-aloud method in EFL reading comprehension. *International Journal of Scientific & Engineering Research*, 3(9), 1-9.
- Garb, E. & Kozulin, A. (2002). Dynamic Assessment of EFL Text Comprehension. *School Psychology International*, 23(1), 112–127.
- Guthke, J. (1982). The learning test concept – An alternative to the traditional static intelligence test. *The German Journal of Psychology*, 6(4), 306–324.
- Hammond, J., & Gibbons, P. (2005). Putting scaffolding to work: The contribution of scaffolding in articulating ESL education.
- John-Steiner, V., & Mahn, H. (1996). Sociocultural approaches to learning and development: A Vygotskian framework. *Educational psychologist*, 31(3-4), 191-206.

- Kar, B. C., Dash, U. N., Das, J. P., & Carlson, J. (1993). Two experiments on the dynamic assessment of planning. *Learning and Individual Differences*, 5(1), 13-29.
- Kozulin, A., & Falik, L. (1995). Dynamic cognitive assessment of the child. *Current Directions in Psychological Science*, 4(6), 192-196
- Kozulin, A., & Garb, E. (2002). Dynamic assessment of EFL text comprehension. *School Psychology International*, 23(1), 112-127.
- Kvale, Steinar (1983). The qualitative research interview: A phenomenological and a hermeneutical mode of understanding. *Journal of Phenomenological Psychology*, 14, 171-196.
- Lantolf, J. P., & Alfred, A. (1995) Second language learning in the Zone of Proximal Development: A revolutionary experience. *International Journal of Educational Research*, 23(7), 619-32.
- Lantolf, J. P., & Frawley, W. (1988). Proficiency: Understanding the construct. *Studies in second language acquisition*, 10(2), 181-195.
- Levi, T. (2017). Developing L2 oral language proficiency using concept-based Dynamic Assessment within a large-scale testing context. *Language and sociocultural theory*, 4(1), 77-100.
- Lidz, C. S. (1997). Dynamic assessment approaches. *Contemporary Intellectual Assessment: Theories, Tests and Issues*, 281-296.
- Lytle, S. L. (1982). *Exploring comprehension style: A study of twelfth-grade readers' transactions with text*. (Doctoral dissertation). The University of Pennsylvania, the USA
- Mahn, H. (1999). Vygotsky's methodological contribution to sociocultural theory. *Remedial and Special education*, 20(6), 341-350.
- Mariani, L. (1997). Teacher support and teacher challenge in promoting learner autonomy. Perspectives: *A Journal of TESOL*, 23(2).
- Meyers, J., & Lytle, S. (1986). Assessment of the learning process. *Exceptional Children*, 53, 138-144.
- Meyers, J., Gelzheiser, L., & Pruzek, R. (1989). Think-Aloud Protocol analysis of reading comprehension tactics used by students with reading problems.
- Naeini, J., & Duvall, E. (2012). Dynamic assessment and the impact on English language learners' reading comprehension performance. *Language Testing in Asia*, 2(2), 22.

- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International journal of qualitative methods*, 16(1).
- Opendakker, R. (2006). Advantages and disadvantages of four interview techniques in qualitative research. *Qualitative social research*, 7(4).
- Oster, L. (2001). Using the think-aloud for reading instruction. *The Reading Teacher*, 55(1), 64-69.
- Özdemir-Yılmaz, M. (2018). *Transformation of English language instructors in Dynamic Assessment: An oral skill teaching experience in university preparatory program* (Doctoral dissertation). Çukurova University, Adana.
- Poehner, M. E. (2005). *Dynamic assessment of oral proficiency among advanced L2 learners of French* (Unpublished doctoral dissertation). Pennsylvania State University, Pennsylvania
- Poehner, M. E., & Lantolf, J. P. (2005). Dynamic assessment in the language classroom. *Language Teaching Research*, 9(3), 233-265.
- Prawat, R. (2000). Dewey meets the “Mozart of psychology” in Moscow: The untold story. *American Education Research Journal*, 37, 663–696.
- Rea-Dickins, P. (2011). Formative assessment: Scoping the horizons. *Classroom-Based Language Assessment*, 9-14.
- Rupp, A. A., Ferne, T., & Choi, H. (2006). How assessing reading comprehension with multiple-choice questions shapes the construct: A cognitive processing perspective. *Language testing*, 23(4), 441-474.
- Schunk, D. H. (1986). Verbalization and children's self-regulated learning. *Contemporary Educational Psychology*, 11(4), 347-369.
- Şentürk, Y. (2019). *Dynamic assessment of secondary EFL learners' tense preferences in writing activities* (Unpublished master's thesis), Kocaeli University, Kocaeli.
- Shabani, K., Khatib, M., & Ebadi, S. (2010). Vygotsky's zone of proximal development: Instructional implications and teachers' professional development. *English Language Teaching*, 3(4), 237-248.
- Sönmez, Y., & Sulak, S. E. (2018). The effect of the Thinking-Aloud strategy on the reading comprehension skills of 4th grade primary school students. *Universal Journal of Educational Research*, 6(1), 168-172.
- Sullivan, T. P. (2010). The evolution of law enforcement attitudes to recording custodial interviews. *The Journal of Psychiatry & Law*, 38(1-2), 137-175.

- Swain, M., & Lapkin, S. (2002). Talking it through: Two French immersion learners' response to reformulation. *International Journal of Educational Research*, 37(3-4), 285-304.
- Thorne, S. L. (2005). Epistemology, politics, and ethics in sociocultural theory. *The Modern Language Journal*, 89(3), 393-409.
- Winnie, P. H., Jamieson-Noel, D., & Muis, K. (2002). Methodological issues and advances in researching tactics, strategies, and self-regulated learning. *Advances in motivation and achievement: New directions in measures and methods*, 12, 121-155.
- Valsiner, J. (2001). Process structure of semiotic mediation in human development. *Human Development*, 44(2-3), 84-97.
- Veresov, N. (2004). Zone of proximal development (ZPD): The hidden Dimension. *Development*, 42-48.
- Vygotsky, L. S. (1981). The instrumental method in psychology. *The Concept of Activity in Soviet Psychology*, 2(3), 135-143.
- Vygotsky, L. S. (1983). *Sobranie sochinenii* [The collected works]. Moscow: Pedagogika.
- Zadeh, H. H. (2018). The Impact of Dynamic Assessment on EFL Learners' Vocabulary Learning. *Annals of Language and Literature*, 2(3), 1-7.

3. Electronic Sources

- Debois, S. (2019). 10 Advantages and Disadvantages of Questionnaires. Retrieved from <https://surveyanyplace.com/questionnaire-pros-and-cons/>
- Hughes, I. (1996). How to Keep a Research Diary. Retrieved from <http://www.aral.com.au/arow/rdiary.html>
- McTaggart, R. (1989). 16 tenets of participatory action research. Retrieved from <http://www.caledonia.org.uk/par.htm>.
- Gaille, B. (2018). 12 Case Study Method Advantages and Disadvantages. Retrieved from <https://brandongaille.com/12-case-study-method-advantages-and-disadvantages/>

APPENDICES

APPENDIX A: Reading Texts

Reading Text 1

Read the passage. Then answer the questions below. After you have answered the first 10 questions you will answer a 'Summary Question'.

The Creators of Grammar

No student of a foreign language needs to be told that grammar is complex. By changing word sequences and by adding a range of auxiliary verbs and suffixes, we are able to communicate tiny variations in meaning. We can turn a statement into a question, state whether an action has taken place or is soon to take place, and perform many other word tricks to convey subtle differences in meaning. Nor is this complexity inherent to the English language. All languages, even those of so-called 'primitive' tribes have clever grammatical components. The Cherokee pronoun system, for example, can distinguish between 'you and I', 'several other people and I' and 'you, another person and I'. In English, all these meanings are summed up in the one, crude pronoun 'we'. *Grammar is universal and plays a part in every language, no matter how widespread it is.* So the question which has baffled many linguists is - who created grammar?

At first, it would appear that this question is impossible to answer. To find out how grammar is created, someone needs to be present at the time of a language's creation, documenting its emergence. Many historical linguists are able to trace modern complex languages back to earlier languages, but in order to answer the question of how complex languages are actually *formed*, the researcher needs to observe how languages are started *from scratch*. Amazingly, however, this is possible.

Some of the most recent languages evolved due to the Atlantic slave trade. At that time, slaves from a number of different ethnicities were forced to work together under colonizer's rule. Since they had no opportunity to learn each other's languages, they developed a *make-shift* language called a *pidgin*. Pidgins are strings of words copied from the language of the landowner. They have little in the way of grammar, and in many cases it is difficult for a listener to deduce when an event happened, and who did what to whom. [A] Speakers need to use circumlocution in order to make their meaning understood. [B] Interestingly, however, all it takes for a pidgin to become a complex language is for a group of children to be exposed to it at the time when they learn their mother tongue. [C] Slave children did not simply copy the strings of words uttered by their elders, they adapted their words to create a new, expressive language. [D] Complex grammar systems which emerge from pidgins are termed creoles, and they are invented by children.

Further evidence of this can be seen in studying sign languages for the deaf. Sign languages are not simply a series of gestures; they utilise the same grammatical machinery that is found in spoken languages. Moreover, there are many different languages used worldwide. The creation of one such language was documented quite recently in Nicaragua. Previously, all deaf people were isolated from each other, but in 1979 a new government introduced schools for the deaf. Although children were taught speech and lip reading in the classroom, in the playgrounds they began to invent their own sign system, using the gestures that they used at home. It was basically a pidgin. Each child used the signs differently, and there was no *consistent* grammar. However, children who joined the school later, when this inventive sign system was already around, developed a quite different sign language. Although it was based on the signs of the older children, the younger children's language was more fluid and compact, and it utilised a large range of grammatical devices to clarify meaning. What is more, all the children used the signs in the same way. A new creole was born.

Some linguists believe that many of the world's most established languages were creoles at first. The English past tense -ed ending may have evolved from the verb 'do'. 'It ended' may once have been 'It end-did'. Therefore it would appear that even the most widespread languages were partly created by children. Children appear to have innate grammatical machinery in their brains, which springs to life when they are first trying to make sense of the world around them. Their minds can serve to create logical, complex structures, even when there is no grammar present for them to copy.

1. In paragraph 1, why does the writer include information about the Cherokee language?

- A. To show how simple, traditional cultures can have complicated grammar structures
- B. To show how English grammar differs from Cherokee grammar
- C. To prove that complex grammar structures were invented by the Cherokees.
- D. To demonstrate how difficult it is to learn the Cherokee language

2. What can be inferred about the slaves' pidgin language?

- A. It contained complex grammar.
- B. It was based on many different languages.
- C. It was difficult to understand, even among slaves.
- D. It was created by the land-owners

3. All the following sentences about Nicaraguan sign language are true EXCEPT:

- A. The language has been created since 1979.
- B. The language is based on speech and lip reading.
- C. The language incorporates signs which children used at home.
- D. The language was perfected by younger children.

4. In paragraph 3, where can the following sentence be placed?

It included standardised word orders and grammatical markers that existed in neither the pidgin language, nor the language of the colonizers.

- A. a B. b
- C. c D. d

5. 'From scratch' in paragraph 2 is closest in meaning to:

- A. from the very beginning
- B. in simple cultures
- C. by copying something else
- D. by using written information

6. 'Make-shift' in paragraph 3 is closest in meaning to:

- A. complicated and expressive
- B. simple and temporary
- C. extensive and diverse
- D. private and personal

7. Which sentence is closest in meaning to the highlighted sentence?

Grammar is universal and plays a part in every language, no matter how widespread it is.

- A. All languages, whether they are spoken by a few people or a lot of people, contain grammar.
- B. Some languages include a lot of grammar, whereas other languages contain a little.
- C. Languages which contain a lot of grammar are more common than languages that contain a little.
- D. The grammar of all languages is the same, no matter where the languages evolved.

8. All of the following are features of the new Nicaraguan sign language EXCEPT:

- A. All children used the same gestures to show meaning.
- B. The meaning was clearer than the previous sign language.
- C. The hand movements were smoother and smaller.
- D. New gestures were created for everyday objects and activities.

9. Which idea is presented in the final paragraph?

- A. English was probably once a creole.
- B. The English past tense system is inaccurate.
- C. Linguists have proven that English was created by children.
- D. Children say English past tenses differently from adults.

10. Look at the word 'consistent' in paragraph 4. This word could best be replaced by which of the following?

- A. Natural C. imaginable
- B. predictable D. uniform

Reading Text 2

Read the text and answer the questions.

1. The craft of perfumery has an ancient and global heritage. The art flourished in Ancient Rome, where the emperors were said to bathe in scent. After the fall of Rome, much of the knowledge was lost, but survived in Islamic civilizations in the Middle Ages. Arab and Persian pharmacists developed essential oils from the aromatic plants of the Indian peninsula. They developed the processes of distillation and suspension in alcohol, which allowed for smaller amounts of raw materials to be used than in the ancient process, by which flower petals were soaked in warm oil. This knowledge was carried back to European monasteries during the Crusades.

2. At first, the use of fragrances was primarily associated with healing. Aromatic alcoholic waters were ingested as well as used externally. Fragrances were used to purify the air, both for spiritual and health purposes. **During the Black Death, the bubonic plague was thought to have resulted from a bad odour which could be averted by inhaling pleasant fragrances such as cinnamon.** The Black Death led to an aversion to using water for washing, and so perfume was commonly used as a cleaning agent.

3. Later on, the craft of perfume re-entered Europe, and was centred in Venice, chiefly because it was an important trade route and a centre for glass-making. Having such materials at hand was essential for the distillation process. In the late seventeenth century, trade soared in France, when Louis XIV brought in policies of protectionism and patronage which stimulated the purchase of luxury goods. Here, perfumery was the preserve of glove-makers. The link arose since the tanning of leather required **putrid** substances. Consequently, the gloves were scented before **they were sold and worn. A glove and perfume makers' guild had existed here since 1190.** Entering it required 7 years of formal training under a master perfumer.

4. The trade in perfume flourished during the reign of Louis XV, as the master glove-and-perfume makers, particularly those trading in Paris, received patronage from the royal court, where it is said that a different perfume was used each week. The perfumers diversified into other cosmetics including soaps, powders, white face paints and hair dyes. They were not the sole sellers of beauty products. Mercers, spicers, vinegar-makers and wig-makers were all cashing in on the popularity of perfumed products. Even simple shopkeepers were coming up with their own concoctions to sell.

5. During the eighteenth century, a more modern, capitalist perfume industry began to emerge, particularly in Britain where there was a flourishing consumer society. In France, the revolution initially disrupted the perfume trade due to its association with aristocracy, however, it regained momentum later as a wider range of markets were sought both in the domestic and overseas markets. The guild system was abolished in 1791, allowing new high-end perfumery shops to open in Paris.

6. Perfume became less associated with health in 1810 with a Napoleonic ordinance which required perfumers to declare the ingredients of all products for internal consumption. Unwilling to divulge their secrets, traders concentrated on products for external use. Napoleon affected the industry in other ways too. With French ports blockaded by the British during the Napoleonic wars, the London perfumers were able to dominate the markets for some time.

7. One of the significant changes in the nineteenth century was the idea of branding. Until then, trademarks had had little significance in the perfumery where goods were consumed locally, although they had a long history in other industries. One of the pioneers in this field was Rimmel who was nationalized as a British citizen in 1857. He took advantage of the spread of railroads to reach customers in wider markets. To do this, he built a brand which conveyed prestige and quality, and were worth paying a premium for. He recognised the role of design in enhancing the value of his products, hiring a French lithographer to create the labels for his perfume bottles.

8. Luxury fragrances were strongly associated with the affluent and prestigious cities of London and Paris. Perfumers elsewhere tended to supply cheaper products and knock-offs of the London and Paris brands. The United States perfume industry, which developed around the docks in New York where French oils were being imported, began in this way. Many American firms were founded by immigrants, such as William Colgate, who arrived in 1806. At this time, Colgate was chiefly known as a perfumery. Its Cashmere Bouquet brand had 625 perfume varieties in the early 20th century

1. The purpose of the text is to...

- A. compare the perfumes from different countries
- B. describe the history of perfume making
- C. describe the problems faced by perfumers
- D. explain the different uses of perfume over time

2. Which of the following is NOT true about perfume making in Islamic countries?

- A. They created perfume by soaking flower petals in oil.
- B. They dominated perfume making after the fall of the Roman Empire.
- C. They took raw materials for their perfumes from India.
- D. They created a technique which required fewer plant materials.

3. Why does the writer include this sentence in paragraph 2?

During the Black Death, the bubonic plague was thought to have resulted from a bad odour which could be averted by inhaling pleasant fragrances such as cinnamon.

- A. To explain why washing was not popular during the Black Death
- B. To show how improper use of perfume caused widespread disease
- C. To illustrate how perfumes used to be ingested to treat disease
- D. To give an example of how fragrances were used for health purposes

4. Why did the perfume industry develop in Paris?

- A. Because it was an important trade route
- B. Because of the rise in the glove-making industry
- C. Because of the introduction of new trade laws
- D. Because of a new fashion in scented gloves

5. What does putrid mean (paragraph 3)?

- A. Bad-smelling C. Prestigious
- B. Rare D. Numerous

6. Which of the following people most influenced the decline of perfumes as medicine?

- A. Louis XIV C. Rimmel
- B. Louis XV D. Napoleon

7. In paragraph 4, it is implied that...

- A. Master glove and perfume makers created a new perfume each week.
 - B. Mercers, spicers and other traders began to call themselves masters.
 - C. The Royal Court only bought perfume from masters.
 - D. Cosmetics were still only popular within the Royal Courts.
8. How did the French Revolution affect the Parisian perfume industry?
- A. The industry declined then rose again.
 - B. The industry collapsed and took a long time to recover.
 - C. The industry was greatly boosted.
 - D. The industry lost most of its overseas customers.

9. London came to lead the perfume industry because...

- A. The French Revolution meant that there were fewer customers in France.
- B. Napoleon's new laws affected the profitability of perfume-making.
- C. The production of perfume ceased during the Napoleonic wars.
- D. The French were unable to export perfumes for a period of time.

10. Which of the following is NOT true of Rimmel?

- A. He was one of the first people to utilise trademarks.
- B. He created attractive packaging for his products.
- C. His products were more expensive than other brands.
- D. He transported his goods to potential customers by train.

11. What is implied about the New York perfume industry?

- A. It was the fastest-growing perfume industry in the world at that time.
- B. It was primarily developed by immigrants arriving from France.
- C. It copied luxury fragrances and sold them cheaply.
- D. There was a wider range of fragrances available here than elsewhere.

12. Which city is being described in this sentence?

'The perfume industry developed here because the city produced materials and equipment necessary for perfume production'.

- A. Paris C. Venice
- B. London D. New York

Reading Text 3

Risk-Taking and the Monkey Economy

Humans are uniquely smart among all the other species on the planet. We are capable of outstanding feats of technology and engineering. Then why are we so prone to making mistakes? And why do we tend to make the same ones time and time again? When Primate Psychologist Laurie Santos from the Comparative Cognition Lab at Yale University posed this question to her team, they were thinking in particular of the errors of judgement which led to the recent collapse of the financial markets. Santos came to two possible answers to this question. Either humans have designed environments which are too complex for us to fully understand, or we are biologically prone to making bad decisions.

In order to test these theories, the team selected a group of Brown Capuchin monkeys. Monkeys were selected for the test because, as distant relatives of humans, they are intelligent and have the capacity to learn. However, they are not influenced by any of the technological or cultural environments which affect human decision-making. The team wanted to test whether the capuchin monkeys, when put into similar situations as humans, would make the same mistakes.

[A] Of particular interest to the scientists was whether monkeys would make the same mistakes when making financial decisions. [B] In order to find out, they had to introduce the monkeys to money. [C] The monkeys soon *cottoned on*, and as well as learning simple exchange techniques, were soon able to distinguish 'bargains' – If one team-member offered two grapes in exchange for a metal disc and another team-member offered one grape, the monkeys chose the two-grape option. [D] Interestingly, when the data about the monkey's purchasing strategies was compared with economist's data on human behaviour, there was a perfect match.

So, after establishing that the monkey market was operating effectively, the team decided to introduce some problems which humans generally get wrong. One of these issues is risk-taking. Imagine that someone gave you \$1000. In addition to this \$1000, you can receive either A) an additional \$500 or B) someone tosses a coin and if it lands 'heads' you receive an additional \$1000, but if it lands 'tails' you receive no more money. Of these options, most people tend to choose option A. They prefer guaranteed earnings, rather than running the risk of receiving nothing. Now imagine a second situation in which you are given \$2000. Now, you can choose to either A) lose \$500, leaving you with a total of \$1500, or B) toss a coin; if it lands 'heads' you lose nothing, but if it lands 'tails' you lose \$1000, leaving you with only \$1000. Interestingly, when we stand to lose money, we tend to choose the more risky choice, option B. And as we know from the experience of financial investors and gamblers, it is unwise to take risks when we are on a losing streak.

So would the monkeys make the same basic error of judgement? The team put them to the test by giving them similar options. In the first test, monkeys had the option of exchanging their disc for one grape and receiving one bonus grape, or exchanging the disc for one grape and sometimes receiving two bonus grapes and sometimes receiving no bonus. It turned out that monkeys, like humans, chose the less risky option in times of plenty. Then the experiment was reversed. Monkeys were offered three grapes, but in option A were only actually given two grapes. In option B, they had a fifty-fifty chance of receiving all three grapes or one grape only. The results were that monkeys, like humans, take more risks in times of loss.

The implications of this experiment are that because monkeys make the same irrational judgements that humans do, maybe human error is not a result of the complexity of our financial institutions, but is embedded in our evolutionary history. If this is the case, our errors of judgement will be very difficult to overcome. *On a more optimistic note however, humans are fully capable of overcoming limitations once we have identified them.* By recognising them, we can design technologies which will help us to make better choices in future.

1. What was the aim of the experiment outlined above?

- A. To investigate whether monkeys could learn to use money
- B. To investigate where human mistakes come from
- C. To find out whether it is better to take risks in times of loss
- D. To determine whether monkeys make more mistakes than humans

2. Where in paragraph 3 could the sentence below be best placed?

The team distributed metal discs to the monkeys, and taught them that the discs could be exchanged with team-members for food.

- A. a
- B. b
- C. c
- D. d

3. Which of the following statements is the best paraphrase of the highlighted sentence?

On a more optimistic note however, humans are fully capable of overcoming limitations once we have identified them.

- A. Hopefully, humans will soon be able to solve these problems.
- B. Fortunately, humans can solve problems that we know about.
- C. Luckily, humans do not have many limitations which have been identified.
- D. We are happy to note that we can solve the problem which we have identified.

4. The words 'cottoned on' are closest in meaning to:

- A. learnt
- B. knew
- C. completed
- D. concluded

5. Which paragraph addresses why monkeys were chosen for the experiment?

- A. Paragraph 2
- B. Paragraph 3
- C. Paragraph 4
- D. Paragraph 5

6. What can be inferred about Laurie Santos?

- A. She thinks that both humans and monkeys are greedy.
- B. Her job frequently involves working with monkeys.
- C. She believes that humans should never take risks.
- D. She prefers monkeys to humans.

7. 10-12 Which THREE of the following statements are supported by the text?

- A. Both monkeys and humans take risks at any opportunity.
- B. Risk-taking behaviour among humans is the same as that among monkeys.
- C. Human mistakes are due to the complexity of our environment.
- D. Monkeys and humans take more risks if there is the chance they will lose out.
- E. Humans' perception of risk has probably been part of our minds for millions of years.
- F. Monkeys make fewer errors of judgement than humans do.

Read the text and answer the questions.

1) Anthropology distinguishes itself from the other social sciences by its greater emphasis on fieldwork as the source of new knowledge. The aim of such studies is to develop as intimate an understanding as possible of the phenomena investigated. Although the length of field studies varies from a few weeks to years, it is generally agreed that anthropologists should stay in the field long enough for their presence to be considered 'natural' by the permanent residents.

2) Realistically, however, anthropologists may never reach this status. Their foreign mannerisms make them appear clownish, and so they are treated with curiosity and amusement. If they speak the local language at all, they do so with a strange accent and flawed grammar. They ask tactless questions and inadvertently break rules regarding how things are usually done. Arguably this could be an interesting starting point for research, though it is rarely exploited. Otherwise, anthropologists take on the role of the 'superior expert', in which case they are treated with deference and respect, only coming into contact with the most high-ranking members of the society. Anthropologists with this role may never witness the **gamut** of practices which take place in all levels of the society.

3) No matter which role one takes on, anthropologists generally find fieldwork extremely demanding. Anthropological texts may read like an exciting journey of exploration, but rarely is this so. Long periods of time spent in the field are generally characterised by boredom, illness and frustration. Anthropologists in the field encounter unfamiliar climates, strange food and low standards of hygiene. It is often particularly trying for researchers with middle-class, European backgrounds to adapt to societies where being alone is considered pitiful. It takes a dedicated individual to conduct research which is not in some way influenced by these personal discomforts.

4) Nonetheless, fieldwork requires the researcher to spend as much time as possible in local life. A range of research methodologies can be utilised to extract information. (1) These can be classified as **emic** or **etic**. (2) While emic descriptions are considered more desirable nowadays, they are difficult to attain, even if the researcher does his utmost to reproduce the facts from the native's point of view. (3) More often than not, aspects of the researcher's own culture, perspective and literary style seep into the narrative. Moreover, research generally involves translations from one language to another and from speech into writing. In doing this, the meaning of utterances is changed. (4) The only truly emic descriptions can be those given by the natives themselves in their own vernacular.

5) The least invasive type of research methodology is observation. Here, the researcher studies the group and records findings without intruding too much on their privacy. This is not to say, however, that the presence of the researcher will have minimal impact on the findings. An example was Richard Borshay Lee, who, in studying local groups in the Kalahari refused to provide the people with food so as not to taint his research, leading to an inevitable hostility towards the researcher which would not otherwise have been present.

6) A variant on the observation technique, participant observation requires that the anthropologist not only observes the culture, but participates in it too. It allows for deeper immersion into the culture studied, hence a deeper understanding of it. By developing a deeper rapport with the people of the culture, it is hoped they will open up and **divulge** more about their culture and way of life than can simply be observed. Participant observation is still an imperfect methodology, however, since populations may adjust their behavior around the researcher, knowing that they are the subject of research.

7) The participatory approach was conceived in an attempt to produce as emic a perspective as possible. The process involves not just the gathering of information from local people, but involves them in the interpretation of the findings. That is, rather than the researcher getting actively involved in the processes within the local community, the process is turned on its head. The local community is actively involved in the research process.

1. The main premise of the text is...

A. the steps to be followed when undertaking anthropological fieldwork.

B a history of anthropological fieldwork methodology.

C. the effects that anthropological fieldwork has on local communities.

D. the problems with conducting anthropological fieldwork.

2. The main reason for anthropological researchers remaining in a community for an extended period of time is that...

- A. they can gather as much information as possible.
- B. they can try out a range of different research methodologies.
- C. they want local people to behave naturally around them.
- D. they need time to become accustomed to the conditions.

3. What does the passage say about researchers who are considered a 'clown' by locals?

- A. They do culturally unacceptable things without realising it.
- B. They do not gain respect among high-ranking members of the community.
- C. They cannot conduct any research of value.
- D. They do not study the language and culture of the region before their arrival.

4. What does 'gamut' mean?

- A. idea or impression C. range or extent
- B. prohibition or taboo D. secret or mystery

5. The writer believes that the most difficult aspect of fieldwork for educated westerners is

- A. the lack of companionship.
- B. poor sanitary conditions.
- C. failure to meet expectations.
- D. never being left alone.

6. In paragraph 3, it is implied that...

- A. the fieldworker's emotions and mood prejudice the research.
- B. the longer a researcher spends in the field, the more depressed he gets.
- C. middle-class Europeans find field research more difficult than researchers from other backgrounds.
- D. anthropological texts tend to exaggerate the difficult conditions that researchers experience.

7. Where in paragraph 4 does this sentence belong?

A native's point of view of his own lifestyle is emic, while the analytical perspective of the outsider is etic.

- A. 1 B. 2 C. 3 D. 4

8. Which of the following is NOT true about an emic account?

- A. It is likely to be more analytical in style than an etic account.
- B. It is told from the perspective of the person being studied.
- C. It is currently the preferred way of conducting anthropological research.
- D. It cannot be translated without altering its meaning.

9. Why is the example of Richard Borshay Lee given in paragraph 5?

- A. to demonstrate that observation is an ineffective method of gathering data.
- B. to highlight why it is important that researchers minimize their impact on a community.
- C. to show the dangers of researchers trying to lessen their impact on a community
- D. to show how a researcher's choice of methodology can influence the validity of his findings.

10. How does participant observation differ from straightforward observation?

- A. It requires the researcher to become actively involved in the daily lives of those being studied.
- B. It allows the subjects of the research a greater degree of privacy.
- C. It eradicates the problem of research subjects altering their behaviour towards researchers.
- D. It takes longer to perform this type of research effectively.

11. In paragraph 6, divulge is closest in meaning to...

- A. explain C. reveal
- B. illustrate D. propose

12. Which of the following is NOT true of the participatory approach?

- A. It attempts to reduce etic accounts of a culture to a minimum.
- B. It does not require a researcher to be present.
- C. It aims to involve the subjects in both information gathering and analysis.
- D. It is the reverse of the participant observation technique.

Reading Text 5

Smart Energy

The next few decades will see great changes in the way energy is supplied and used. In some major oil producing nations, 'peak oil' has already been reached, and there are increasing fears of global warming. Consequently, many countries are focusing on the switch to a low carbon economy. This transition will lead to major changes in the supply and use of electricity. [A] Firstly, there will be an increase in overall demand, as consumers switch from oil and gas to electricity to power their homes and vehicles. [B] Secondly, there will be an increase in power generation, not only in terms of how much is generated, but also how it is generated, as there is growing electricity generation from renewable sources. [C] To meet these challenges, countries are investing in Smart Grid technology. [D] This system aims to provide the electricity industry with a better understanding of power generation and demand, and to use this information to create a more efficient power network.

Smart Grid technology basically involves the application of a computer system to the electricity network. The computer system can be used to collect information about supply and demand and improve engineer's ability to manage the system. With better information about electricity demand, the network will be able to increase the amount of electricity delivered per unit generated, leading to potential reductions in fuel needs and carbon emissions. Moreover, the computer system will assist in reducing operational and maintenance costs.

Smart Grid technology offers benefits to the consumer too. They will be able to collect real-time information on their energy use for each appliance. Varying tariffs throughout the day will give customers the incentive to use appliances at times when supply greatly exceeds demand, leading to great reductions in bills. For example, they may use their washing machines at night. Smart meters can also be connected to the internet or telephone system, allowing customers to switch appliances on or off remotely. Furthermore, if houses are fitted with the apparatus to generate their own power, appliances can be set to run directly from the on-site power source, and any excess can be sold to the grid.

With these changes comes a range of challenges. The first involves managing the supply and demand. Sources of renewable energy, such as wind, wave and solar, are notoriously unpredictable, and nuclear power, which is also set to increase as nations switch to alternative energy sources, is inflexible. With oil and gas, it is relatively simple to increase the supply of energy to match the increasing demand during peak times of the day or year. With alternative sources, this is far more difficult, and may lead to blackouts or system collapse. Potential solutions include investigating new and efficient ways to store energy and encouraging consumers to use electricity at off-peak times.

A second problem is the fact that many renewable power generation sources are located in *remote* areas, such as windy uplands and coastal regions, where there is currently a lack of electrical infrastructure. New infrastructures therefore must be built. Thankfully, with improved smart technology, this can be done more efficiently by reducing the reinforcement or construction costs.

Although Smart Technology is still in its infancy, pilot schemes to promote and test it are already *underway*. Consumers are currently testing the new smart meters which can be used in their homes to manage electricity use. There are also a number of demonstrations being planned to show how the smart technology could practically work, and trials are in place to test the new electrical infrastructure. It is likely that technology will be added in 'layers', starting with 'quick win' methods which will provide initial carbon savings, to be followed by more advanced systems at a later date. Cities are prime candidates for investment into smart energy, due to the high population density and high energy use. It is here where Smart Technology is likely to be promoted first, utilising a range of sustainable power sources, transport solutions and an infrastructure for charging electrically powered vehicles. The infrastructure is already changing fast. By the year 2050, changes in the energy supply will have transformed our homes, our roads and our behaviour.

1. According to paragraph 1, what has happened in some oil producing countries?

- A. They are unwilling to sell their oil any more.
- B. They are not producing as much oil as they used to.
- C. The supply of oil is unpredictable.
- D. Global warming is more severe here than in other countries.

2. Where in paragraph 1 can the following sentence be placed?

There is also likely more electricity generation centres, as households and communities take up the opportunity to install photovoltaic cells and small scale wind turbines.

- A. A B. B C. C D. D

3. Which of the following is NOT a benefit of Smart Grid technology to consumers?

- A. It can reduce their electricity bills.
- B. It can tell them how much energy each appliance is using.
- C. It can allow them to turn appliances on and off when they are not at home.
- D. It can reduce the amount of energy needed to power appliances.

4. According to paragraph 4, what is the problem with using renewable sources of power?

- A. They do not provide much energy.
- B. They often cause system failure and blackouts.
- C. They do not supply a continuous flow of energy.
- D. They can't be used at off-peak times.

5. In paragraph 5, what can be inferred about cities in the future?

- A. More people will be living in cities in the future than nowadays.
- B. People in cities will be using cars and buses powered by electricity.
- C. All buildings will generate their own electricity.
- D. Smart Grid technology will only be available in cities.

6. The word 'remote' in paragraph 5 could be best replaced by:

- A. isolated C. attractive
- B. crowded D. alone

7. The word 'underway' in paragraph 6 is closest in meaning to:

- A. permanent C. beneficial
- B. complete D. in progress

8. What is the main idea of the final paragraph? (paragraph 6).

- A. To describe who will benefit from Smart Grid technology first.
- B. To outline the advantages of Smart Grid technology.
- C. To summarise the main ideas in the previous paragraphs.
- D. To describe how, where and when Smart Technology will be introduced.

9. In paragraph 6, what can be inferred about the introduction of Smart Grid Technology?

- A. The technologies which produce most benefits will be introduced first.
- B. The cheapest technologies will be introduced first.
- C. The technologies which are most difficult to put into place will be introduced first.
- D. Technologically advanced systems will be introduced first.

10. Which THREE of the aspects below are answered in the passage?

- A. How consumers are likely to respond to Smart Grid technology.
- B. The problems which will have to be overcome in switching to Smart Grid technology.
- C. The reasons why Smart Grid technology will be needed in the future.
- D. A comparison between Smart Grid technology and the present electrical distribution system.
- E. The ways Smart Grid technology will affect the way consumers use energy.
- F. An analysis of the costs and benefits of Smart Grid technology.

Reading Text 6

The Rise of Teotihuacán

The city of Teotihuacán, which lay about 50 kilometers northeast of modern-day Mexico City, began its growth by 200–100 B.C. At its height, between about A.D. 150 and 700, it probably had a population of more than 125,000 people and covered at least 20 square kilometers. It had over 2,000 apartment complexes, a great market, a large number of industrial workshops, an administrative center, a number of massive religious edifices, and a regular grid pattern of streets and buildings. Clearly, much planning and central control were involved in the expansion and ordering of this great metropolis. Moreover, the city had economic and perhaps religious contacts with most parts of Mesoamerica (modern Central America and Mexico).

How did this tremendous development take place, and why did it happen in the Teotihuacán Valley? Among the main factors are Teotihuacán's geographic location on a natural trade route to the south and east of the Valley of Mexico, the obsidian resources in the Teotihuacán Valley itself, and the valley's potential for extensive irrigation. The exact role of other factors is much more difficult to pinpoint—for instance, Teotihuacán's religious significance as a shrine, the historical situation in and around the Valley of Mexico toward the end of the first millennium B.C., the ingenuity and foresightedness of Teotihuacán's elite, and, finally, the impact of natural disasters, such as the volcanic eruptions of the late first millennium B.C.

This last factor is at least circumstantially implicated in Teotihuacán's rise. Prior to 200 B.C., a number of relatively small centers coexisted in and near the Valley of Mexico. Around this time, the largest of these centers, Cuicuilco, was seriously affected by a volcanic eruption, with much of its agricultural land covered by lava. With Cuicuilco eliminated as a potential rival, any one of a number of relatively modest towns might have emerged as a leading economic and political power in Central Mexico. The archaeological evidence clearly indicates, though, that Teotihuacán was the center that did arise as the predominant force in the area by the first century A.D.

It seems likely that Teotihuacán's natural resources—along with the city elite's ability to recognize their potential—gave the city a competitive edge over its neighbors. The valley, like many other places in Mexican and Guatemalan highlands, was rich in obsidian. The hard volcanic stone was a resource that had been in great demand for many years, at least since the rise of the Olmecs (a people who flourished between 1200 and 400 B.C.), and it apparently had a secure market. Moreover, recent research on obsidian tools found at Olmec sites has shown that some of the obsidian obtained by the Olmecs originate near Teotihuacán. Teotihuacán obsidian must have been recognized as a valuable commodity for many centuries before the great city arose.

Long-distance trade in obsidian probably gave the elite residents of Teotihuacán access to a wide variety of exotic goods, as well as a relatively prosperous life. Such success may have attracted immigrants to Teotihuacán. In addition, Teotihuacán's elite may have consciously attempted to attract new inhabitants. It is also probable that as early as 200 B.C. Teotihuacán may have achieved some religious significance and its shrine (or shrines) may have served as an additional population magnet. Finally, the growing population was probably fed by increasing the number and size of irrigated fields.

The picture of Teotihuacán that emerges is a classic picture of positive feedback among obsidian mining and working, trade, population growth, irrigation, and religious tourism. The thriving obsidian operation, for example, would necessitate more miners, additional manufacturers of obsidian tools, and additional traders to carry the goods to new markets. All this led to increased wealth, which in turn would attract more immigrants to Teotihuacán. The growing power of the elite, who controlled the economy, would give them the means to physically coerce people to move to Teotihuacán and serve as additions to the labor force. More irrigation works would have to be built to feed the growing population, and this resulted in more power and wealth for the elite.

1. **obsidian**: a type of volcanic glasslike rock used for manufacturing tools and ceremonial objects

Directions: Answer the questions.

1. In paragraph 1, each of the following is mentioned as a feature of the city of Teotihuacán between A.D. 150 and 700 EXCEPT:

- A. regularly arranged streets
- B. several administrative centers spread across the city
- C. many manufacturing workshops
- D. apartment complexes

2. The word "ingenuity" in paragraph 2 is closest in meaning to:

- A. ambition
- B. sincerity
- C. faith
- D. cleverness

3. Which of the following is NOT mentioned in paragraph 2 as a main factor in the development of Teotihuacán?

- A. The presence of obsidian in the Teotihuacán Valley
- B. The potential for extensive irrigation of Teotihuacán Valley lands
- C. A long period of volcanic inactivity in the Teotihuacán Valley
- D. Teotihuacán's location on a natural trade route

4. What can be inferred from paragraph 3 about Cuicuilco prior to 200 B.C.?

- A. It was a fairly small city until that date.
- B. It was located outside the Valley of Mexico.
- C. It emerged rapidly as an economical and political center.
- D. Its economy relied heavily on agriculture.

5. Which of the following allowed Teotihuacán to have "a competitive edge over its neighbors"?

- A. A well-exploited and readily available commodity
- B. The presence of a highly stable elite class
- C. Knowledge derived directly from the Olmecs about the art of toolmaking
- D. Scarce natural resources in nearby areas such as those located in what are now the Guatemalan and Mexican highlands

6. According to paragraph 4, what has recent research on obsidian tools found at Olmec Sites shown?

- A. Obsidian's value was understood only when Teotihuacán became an important city.
- B. The residents of Teotihuacán were sophisticated toolmakers.
- C. The residents of Teotihuacán traded obsidian with the Olmecs as early as 400 B.C.
- D. Some of the obsidian used by the Olmecs came from the area around Teotihuacán.

7. Select the TWO answer choices that are mentioned in paragraph 5 as being features of Teotihuacán that may have attracted immigrants to the city. To receive credit, you must select TWO answers.

- A. The prosperity of the elite
- B. Plenty of available housing
- C. Opportunities for well-paid agricultural employment
- D. The presence of one or more religious shrines

8. In paragraph 6, the author discusses "The thriving obsidian operation," in order to:

- A. explain why manufacturing was the main industry of Teotihuacán
- B. give an example of an industry that took very little time to develop in Teotihuacán
- C. illustrate how several factors influenced each other to make Teotihuacán a powerful and wealthy city
- D. explain how a successful industry can be a source of wealth and a source of conflict at the same time

9. In paragraph 1 of the passage, there is a missing sentence. The paragraph is repeated below and shows four letters (A, B, C, and D) that indicate where the following sentence could be added.

In fact, artifacts and pottery from Teotihuacán have been discovered in sites as far away as the Mayan lowlands, the Guatemalan highlands, northern Mexico, and the Gulf Coast of Mexico.

Where would the sentence best fit?

The city of Teotihuacán, which lay about 50 kilometers northeast of modern-day Mexico City, began its growth by 200 –100 B.C. At its height, between about A.D. 150 and 700, it probably had a population of more than 125,000 people and covered at least 20 square kilometers. (A) It had over 2,000 apartment complexes, a great market, a large number of industrial workshops, an administrative center, a number of massive religious edifices, and a regular grid pattern of streets and buildings. (B) Clearly, much planning and central control were involved in the expansion and ordering of this great metropolis. (C) Moreover, the city had economic and perhaps religious contacts with most parts of Mesoamerica (Modern Central America and Mexico). (D)

- A. Option A B. Option B C. Option C D. Option D

10. Directions: An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage.

- A. The number and sophistication of the architectural, administrative, commercial, and religious features of Teotihuacán indicate the existence of centralized planning and control.
- B. Teotihuacán may have developed its own specific local religion as a result of the cultural advances made possible by the city's great prosperity.
- C. Several factors may account for Teotihuacán's extraordinary development, including its location, rich natural resources, irrigation potential, intelligent elite, and the misfortune of rival communities.
- D. As a result of its large number of religious shrines, by the first century A.D., Teotihuacán became the most influential religious center in all of Mesoamerica.
- E. In many important areas, from the obsidian industry to religious tourism, Teotihuacán's success and prosperity typified the classic positive feedback cycle.
- F. Although many immigrants settled in Teotihuacán between A.D. 150 and 700, the increasing threat of coerced labor discouraged further settlement and limited Teotihuacán's population growth.

Reading Text 7

Charles Darwin and the Theory of Evolution

[1] Charles Darwin's Theory of Evolution is known as one of the most important and controversial scientific theories ever published. Darwin was an English scientist in the 19th century best known for his book "On the Origin of Species." In his book, Darwin **postulated** different species shared characteristics of common ancestors, that they branched off from common ancestors as they evolved, and that new traits and characteristics were a result of natural selection. **The theory is based on the assumptions that life developed from non-life and progressed and evolved in an indirect manner.** Therefore, the Theory of Evolution, while controversial, has shaped and influenced the modern scientific world's thinking on the development of life itself. Darwin was born February 12, 1809 in England. Although initially entering into medicine, Darwin chose to pursue his interest in natural science and embarked on a five-year journey aboard the H.M.S. Beagle, a British sloop belonging to the Royal Navy. Because of his experience aboard the Beagle, he laid the foundation for his Theory of Evolution while also establishing himself within the scientific community. Specifically, Darwin's keen observation of the fossils and wildlife he saw during his time on the Beagle served as the basis for the cornerstone of his theory: natural selection.

[2] Natural selection contributes to the basis of Darwin's Theory of Evolution. One of the core tenets of Darwin's theory is that more offspring are always produced for a species than can possibly survive. Yet, no two offspring are perfectly alike. As a result, through random mutation and genetic drift, over time offspring develop new traits and characteristics. Over time beneficial traits and characteristics that promote survival will be kept in the gene pool while **those** that harm survival will be selected against. Therefore, this natural selection ensures that a species gradually improves itself over an extended duration of time. On the other hand, as a species continues to 'improve' itself, it branches out to create entirely new species that are no longer capable of reproducing together.

[3] Through natural selection, organisms could branch off of each other and evolve to the point where they no longer belong to the same species. Consequently, simple organisms evolve into more complex and different organisms as species break away from one another. Natural selection parallels selective breeding employed by humans on domesticated animals for centuries. Namely, horse breeders will ensure that horses with particular characteristics, such as speed and endurance, are allowed to produce offspring while horses that do not share those above-average traits will not. Therefore, over several generations, the new offspring will already be predisposed towards being excellent racing horses.

[4] Darwin's theory is that 'selective breeding' occurs in nature as 'natural selection' is the engine behind evolution. Thus, the theory provides an excellent basis for understanding how organisms change over time. Nevertheless, it is just a theory and elusively difficult to prove. One of the major holes in Darwin's theory revolves around "irreducibly complex systems." An irreducibly complex system is known as a system where many different parts must all operate together. As a result, in the absence of one, the system as a whole collapses. Consequently, as modern technology improves, science can identify these "irreducibly complex systems" even at microscopic levels. These complex systems, if so inter-reliant, would be resistant to Darwin's supposition of how evolution occurs. As Darwin himself admitted, "To suppose that the eye with all its inimitable contrivance for adjusting the focus for different distances, for admitting different amounts of light, and for the correction of spherical and chromatic aberration, could have been formed by natural selection, seems, I free confess, absurd in the highest degree".

[5] In conclusion, "On the Origin of Species" is known as one of the most consequential books ever published. Darwin's Theory of Evolution remains, to this day, a lightning rod for controversy. The theory can be observed repeatedly, but never proven, and there are a **plethora** of instances that cast doubt on the processes of natural selection and evolution. Darwin's conclusions were a result of keen observation and training as a naturalist. Despite the controversy that swirls around his theory, Darwin remains one of the most influential scientists and naturalists ever born due to his Theory of Evolution.

1. Which sentence is most similar to the following sentence from paragraph 1?

The theory is based on the assumptions that life developed from non-life and progressed and evolved in an indirect manner.

A. The Theory of Evolution is founded on evidence that non-organic compounds are the basis of life, developed in an unguided way.

B. Based on certain assumptions, we can prove that evolution occurs in all living and nonliving entities.

C. According to Darwin, if we assume that life at its origin was created from non-organic compounds and developed in an unguided manner, his theory holds true.

D. Due to the controversy, it is hard to make assumptions about the Theory of Evolution.

2. According to paragraph 2, what are the causes for species developing new traits and characteristics?

A. medicine and longevity

B. survival and selection

C. mutation and genetic drift

D. tenets and theory

3. The word 'those' in paragraph 2 refers to:

A. gene pool

C. natural selection

B. survival

D. traits and characteristics

4. According to paragraph 3, what is natural selection most comparable to as a process?
- branching trees
 - selective breeding
 - irreducibly complex systems
 - the human eye
5. What is the purpose of paragraph 3 in the passage?
- To show the simple-to-complex nature of natural selection in context
 - To create doubt as to the validity of the theory
 - To contrast with the ideas presented in paragraph 2
 - To segue into the main point presented in paragraph 4
6. All of the following are mentioned in paragraph 4 as a viewpoint to state that natural selection is difficult to prove EXCEPT
- The belief that the complexity of the human eye could have been formed by natural selection seems highly unlikely
 - The presence of irreducibly complex system contradicts how evolution occurs
 - Modern technology has been used to prove that irreducibly complex systems exists
 - Selective breeding is the major hole in the theory of natural selection
7. Examine the four █ in the selection below and indicate at which block the following sentence could be inserted into the passage:
- The five-year voyage proved to be a major turning point in his life.
- █ [A] Darwin was born February 12, 1809 in England. █
 [B] Although initially entering into medicine, Darwin chose to pursue his interest in natural science and embarked on a five-year journey aboard the H.M.S. Beagle, a British sloop belonging to the Royal Navy. █ [C]
 Because of his experience aboard the Beagle, he laid the foundation for his Theory of Evolution while also establishing himself within the scientific community. █ [D].
- [A]
 - [B]
 - [C]
 - [D]

8. In paragraph 4, what was the author's purpose of including a quote that the belief that the complexity of the human eye could have been formed by natural selection seems highly unlikely
- To provide evidence that irreducibly complex systems exists
 - To prove that the natural selection contradicts the basis of Darwin's Theory of Evolution
 - To support that the natural selection contributes to the basis of Darwin's Theory of Evolution
 - To support the claim that natural selection is just a theory and difficult to prove
9. The word 'plethora' in paragraph 5 is closest in meaning to:
- large
 - sufficient
 - essential
 - Prominent
10. Directions: An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage.

Charles Darwin's Theory of Evolution was a revolutionary idea that described how natural selection influences the evolution of species.

- Natural selection explains how species change gradually over time.
- The Theory of Evolution describes how species 'branch out' from a common ancestor
- Creationists strongly object to the premise of the Theory of Evolution
- Charles Darwin originally enrolled to study medicine.
- The Theory of Evolution was proven by Darwin's book "On the Origin of Species."
- Both Darwin and " On the Origin of Species " are among the most influential things to happen to naturalist science.

Reading Text 8

Transgenic Plants

[1] Ranging from viruses to humans, genes from virtually all kinds of organisms can now be inserted into plants, creating what are known as transgenic plants. Now used in agriculture, there are approximately 109 million acres of transgenic crops grown worldwide, 68 percent of which are in the United States. The most common transgenic crops are soybeans, corn, cotton, and canola. More often than not, these plants will contain a gene that either makes them resistant to the herbicide glyphosate, or produces an insect-resistant protein called Bt toxin.

[2] Advocates of transgenic crops argue that the benefit of these crops is that they're environmentally friendly, allowing farmers to use smaller amounts of less noxious chemicals for crop production. For example, there has been a 21 percent reduction in the use of insecticide reported on Bt cotton (a transgenic cotton that produces Bt toxin). In addition, when glyphosate is used to control weeds, other more **persistent** herbicides do not need to be applied.

[3] However, adversaries of transgenic crops suggest that there are still many unanswered questions which must be addressed before transgenic crops will be safe to grow on a larger scale. Some questions concern the effects that Bt plants have on non-target organisms, such as beneficial insects, worms, and birds that consume the genetically engineered crop. For example, monarch caterpillars feeding on milkweed plants near Bt cornfields feed on corn pollen that has fallen on the milkweed leaves. Laboratory studies indicate that caterpillars can die from eating Bt pollen. However, field tests indicate that Bt corn is not likely to harm monarchs. Furthermore, the application of pesticides (the alternative to growing Bt plants) has been demonstrated to cause widespread harm to non-target insects.

[4] Another question which remains unanswered is whether herbicide-resistant genes will move into the various populations of weeds. Crop plants are sometimes grown in areas where weedy relatives also live. If the crop plants cross breed and reproduce with weedy relatives, then this herbicide-resistant gene will be **perpetuated** in the offspring. In this way, the resistant gene can make its way into the weed population. If this happens, a farmer can no longer use glyphosate, for example, to kill those weeds. This **scenario** is not likely to occur in many instances when there are no weedy relatives growing near the crop plant. However, in some cases, it may become a serious problem. For example, canola readily hybridizes with mustard weed species and could transfer its herbicide-resistant genes to those weeds. We know that evolution will occur when transgenic plants are grown on a large scale over a period of time. The development of insect populations resistant to the Bt toxin is of particular concern. This pesticide has already been applied to plants for decades without the development of insect-resistant populations. However, transgenic Bt plants express the toxin in all tissues throughout the growing season. Therefore, all insects carrying genes that make them susceptible to the toxin will die. Such an event would leave only the genetically resistant insects alive to perpetuate the population. When these resistant insects mate, they will produce a high proportion of offspring capable of surviving in the presence of the Bt toxin. Farmers are using different methods in an attempt to slow the development of insect resistance in Bt crops. For example, some farmers are planting nontransgenic border rows to provide a refuge for susceptible insects. These insects may allow Bt susceptibility to remain in the population.

[5] Perhaps the most serious concern about the transgenic crop plants currently in use is that they encourage farmers to move farther away from sustainable agricultural farming practices, meaning ones that allow natural resources to continually regenerate over the long run. Transgenic plants, at least **superficially**, simplify farming by reducing the choices made by the manager. Planting a glyphosate-resistant crop commits a farmer to use that herbicide for the season, probably to the exclusion of all other herbicides and other weed-control practices. Farmers who use Bt transgenic may not feel that they need to follow through with integrated pest-management practices that use beneficial insects and timely applications of pesticides to control insect pests. A more sustainable approach would be coming soon! You would be to plant non-transgenic corn, monitor the fields throughout the growing season, and then apply a pesticide only if and when needed.

1. According to paragraph 2, supporters claim that producing transgenic plants enables farmers to

- A. control weeds without the use of chemicals
- B. take advantage of more effective pesticides
- C. use fewer and less toxic chemicals
- D. increase harvesting up to 21 percent

2. Which of the following can be inferred about monarch caterpillars from paragraph 3?

- A. They are considered beneficial insects.
- B. They are the species most resistant to herbicides.
- C. There is little to no existing research available concerning their behavior.
- D. They regularly cause harm to all kinds of crops.

3. What conclusion does the author make in passage 3 about the impact of Bt plants on nontarget living beings?

- A. Bt plants have been shown in field studies to cause great harm to micro-organisms.
- B. Bt plants do not cause as much harm to non-target species as the use of conventional pesticides.
- C. Bt toxins don't influence non-target organisms who consume transgenic plants at all.
- D. Even if Bt poisons don't influence insects that feed on the plants, they effectively affect birds and human beings.

4. Why does the author mention "mustard weed species" in the discussion of plants that hybridize?

- A. To give an example of a weed that may become resistant to glyphosate due to hybridizing with a transgenic plant
- B. To argue that creating transgenic plants in the laboratory is not always necessary, as some can be created through hybridizing in the fields
- C. To give evidence that related types of plants are unaffected by transgenic plants
- D. To support the claim that it is difficult to decide if a harvest plant has been planted far enough away from any weeds

5. Paragraph 4 makes all of the following claims about Bt resistance in insect populations EXCEPT

- A. Because Bt plants are toxic in all tissues, they allow no insects that are susceptible to survive and reproduce.
- B. The evolution of Bt-resistant insect populations will happen eventually if the use of transgenic plants becomes widespread.
- C. Planting no transgenic plants alongside Bt plants may help Bt-susceptible insects to remain part of the population.
- D. Regular use of Bt pesticides has not created resistant insect populations, so the use of Bt plants is probably safe as well.

6. Which of the following best expresses the essential information in the highlighted sentence? Incorrect answer choices change the meaning in important ways or leave out essential information.

Perhaps the most serious concern about the transgenic crop plants currently in use is that they encourage farmers to move farther away from sustainable agricultural farming practices, meaning ones that allow natural resources to continually regenerate over the long run.

- A. The transgenic crop plants currently in use are behind the transgenic plants of the future in terms of their sustainability.
- B. Transgenic plants grown as crops may be used in place of other, more sustainable agricultural practices, and this is perhaps their biggest disadvantage.
- C. Farmers who use transgenic crop plants are heading towards good growing habits which will result in a surplus amount of crops.
- D. The most serious concern about the transgenic crop plants currently in use is the possibility that they may not be sustainable over the long run.

7. According to paragraph 5, a sustainable approach to weed and pest control includes all of the following EXCEPT

- A. Planting non-transgenic crops
- B. Applying pesticides only when needed
- C. Keeping a close eye on the crops
- D. Using multiple types of herbicide throughout the growing season

8. The word 'superficially' in paragraph 5 is closest in meaning to:

- A. when done incorrectly C. on the surface
B. right now D. with deeper analysis

9. Examine the four █ in the selection below and indicate at which block the following sentence could be inserted into the passage:

It is especially rare in the United States, where most transgenic plants are grown because most of the crops grown in the United States originated elsewhere.

If the crop plants cross breed and reproduce with weedy relatives, then this herbicide-resistant gene will be perpetuated in the offspring. █ [A] In this way, the resistant gene can make its way into the weed population. █ [B] If this happens, a farmer can no longer use glyphosate, for example, to kill those weeds. █ [C] This scenario is not likely to occur in many instances because there are no weedy relatives growing near the crop plant. █ [D] However, in some cases, it may become a serious problem. For example, canola readily hybridizes with mustard weed species and could transfer its herbicide-resistant genes to those weeds.

- A. [A] B. [B] C. [C] D. [D]

10. Directions: An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage.

Transgenic plants include genes from other organisms that make them resistant to glyphosate or toxic to insects.

A. Opponents of transgenic plants worry that resistance to glyphosate may spread to weeds and that resistance to Bt toxin may develop among insect pests.

B. Use of transgenic plants may lead farmers to neglect more sustainable agricultural practices, and may also cause harm to non-target organisms.

C. One argument against Bt plants is that some of the most harmful pests are not Bt-susceptible, making application of supplementary pesticides necessary.

D. Over the long term, transgenic plants are likely to lose their glyphosate resistance through evolution and hybridization with non-resistant relatives.

E. Although transgenic plants are useful in some areas, they are not particularly useful in place of pesticides.

F. Proponents of transgenic plants argue that they reduce the use of harmful pesticides and allow the use of more environmentally friendly herbicides

APPENDIX B: INTERVIEW QUESTIONS

INTERVIEW QUESTIONS

IQ1. Do you think that giving mediation has an effect on improving your reading skill?

IQ2. Do you think that verbalization has a positive effect on your cognition process?



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