



**THE IMPACT OF COMPUTERIZED DYNAMIC ASSESSMENT ON
STUDENTS' ACHIEVEMENT IN READING COMPREHENSION**



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TELİF HAKKI VE TEZ FOTOKOPİ İZİN FORMU

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Tez yazma sürecinde bilimsel ve etik ilkelere uyduğumu, yararlandığım tüm kaynakları kaynak gösterme ilkelerine uygun olarak kaynakçada belirttiğimi ve bu bölümler dışındaki tüm ifadelerin şahsıma ait olduğunu beyan ederim.

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ÖZ

Kökeni Vygotsky'nin sosyokültürel teorisine dayanan dinamik ölçme, öğrencilerin gelişimini desteklemek amacıyla farklı dolayımleme formları kullanarak öğretme ve ölçmeyi birleştiren bir yenilik olarak tanımlanabilir. Dinamik ölçmenin bilgisayar temelli kullanımı, bilgisayarların eğitimcilerin rolünü üstlenerek dolayımleme kaynağı olarak işlev görebilmesi avantajını sunar. Bu karma yöntemli vaka çalışması, bilgisayar temelli dinamik ölçmenin öğrencilerin okuduğunu anlama becerisi üzerindeki etkisini açıklayıcı sıralı desen kullanarak ortaya çıkartmayı hedefler. Bu desende, nicel veri sonuçlarına dayalı olarak yapılan çıkarımlara daha detaylı bir bakış açısı sağlayabilmek, çalışmanın her iki kısmında elde edilen sonuçlar arasında bir benzerlik olup olmadığını ortaya koyabilmek ve bilgisayar temelli dinamik ölçmenin etkisini etraflıca açıklayabilmek için nicel araştırma kısmını nitel araştırma kısmı takip eder. Araştırmacı bu çalışmayı Ankara'da bir vakıf üniversitesinin genel İngilizce dersi öğrencileriyle gerçekleştirmiştir. Pilot çalışmaya yönetim bilişim

sistemleri bölümünden 23 öğrenci katılırken, tıp/dış (birleştirilmiş sınıf), eczacılık, hukuk, psikoloji ve uluslararası ticaret ve finansman olmak üzere altı bölümden toplam 130 öğrenci ana çalışmaya katılmıştır. Araştırmanın nicel kısmında, seçeneklere ipuçlarının yerleştirilebildiği bir yazılım programı veri toplama aracı olarak kullanılmıştır. Öntest deneme ve kontrol gruplarında dinamik olmayan formatta uygulanırken, sontest deneme grubunda dinamik, kontrol grubunda herhangi bir değişiklik yapılmadan dinamik olmayan formatta uygulanmıştır. Bu aşamayı takiben, öğrenciler öntest sonuçlarına göre düşük, orta ve yüksek olarak başarı gruplarına ayrılmıştır ve yarı yapılandırılmış görüşmeler bu başarı gruplarından toplam 9 öğrenci ile gerçekleştirilmiştir. Öntest ve sontest sonuçları SPSS 24.0 programıyla analiz edilmiştir ve yarı yapılandırılmış görüşmelerden elde edilen verinin içerik analizinde MAXQDA programı kullanılmıştır. Çalışmanın sonuçlarına göre, bilgisayar temelli dinamik ölçme öğrencilerin okuduğunu anlama becerisinin desteklenmesinde etkilidir ve öğrenciler bilgisayar temelli dinamik ölçme ile gerçekleştirilen okuma testlerinde, detayların ve hataların fark edilmesi konusunda ipuçlarından yardım alabildiği için daha iyi bir performans sergilediğini düşünmektedir.

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ABSTRACT

Dynamic assessment (DA) which has its origins in Vygotsky's Sociocultural Theory can be defined as a breakthrough unifying the instruction and assessment with the purpose of promoting learners' development by means of different forms of mediation. The computerization of dynamic assessment offers the advantage that computers are able to play the role of educators and function as the source of mediation. The present case study aims to account for the impact of computerized dynamic assessment (C-DA) on students' achievement in reading comprehension by employing the explanatory sequential mixed methods design in which quantitative phase of the study is followed by the qualitative phase to provide a deeper insight into inferences on the basis of quantitative data and illustrate if an analogy lies between the results of both phases to clarify the impact of C-DA thoroughly. The researcher has conducted the study with the participants in general English course at a foundation university in Ankara. 130 freshmen students from 6 different departments which

are medicine/dentistry (joint class), pharmacy, law, psychology, and international trade and finance participated in the main study while the piloting study was carried out with 23 participants from the department of management information systems. An online software program in which hints can be inserted by choice has been utilized as the data collection tool in the quantitative phase. The pretest in both the experiment and control group was implemented in non-dynamic format. On the other hand, the posttest was formed in dynamic format in the experiment group while the non-dynamic format remained unchanged in the control group. Next, the participants were categorized into achievement groups, labelled as high, mid and low in compliance with the results of the pretest, and the semi-structured interviews were conducted with 9 participants designated from each achievement group. The results of the pretest and posttest were analyzed through SPSS 24.0 and the software program MAXQDA was employed in the content analysis of data gathered from the semi-structured interviews. The results of the study have revealed that computerized dynamic assessment (C-DA) is efficacious in terms of fostering learners' achievement in reading comprehension and students are of the opinion that they were able to display a better performance in reading tests conducted via C-DA since the hints were helpful to notice further details and detect the mistakes.

Keywords : Dynamic Assessment, Computerized Dynamic Assessment, Reading Comprehension, Mediation
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LIST OF ABBREVIATIONS

C-DA: Computerized Dynamic Assessment

CDRT: Computerized Dynamic Reading Test

DA: Dynamic Assessment

ELT: English Language Teaching

NDA: Non-Dynamic Assessment

SCT: Sociocultural Theory

ZPD: Zone of Proximal Development

CHAPTER I

INTRODUCTION

1.1. Introduction

The present study aims to ascertain the impact of computerized dynamic assessment (C-DA) on students' achievement in reading comprehension at a foundation university in Ankara. This chapter involves detailed information about the background to the study, statement of the problem, significance of the study, aim of the study, and operational definitions.

1.2. Background to the Study

Reading is one of the four main language skills and learners are expected to form a link between written scripts and meaning. In assessing learners' performance in reading practices, most of the tools are rooted in non-dynamic assessment (NDA), also called static assessment, which is product-oriented and it measures what learners have already learned based on some predetermined indicators (Feuerstein, Rand, & Hoffman, 1979). As Celce-Murcia (2014) states, reading process includes learners' acting on or interpreting the text and the interpretation is affected by learners' experiences, language background, cultural capital, and their purpose for reading. While reading process is dynamic in itself, assessing reading

through non-dynamic assessment tends to serve insufficient and unwished-for results with regard to learners' ability in language or achievement in a specific language skill. In other words, abilities of human beings are not inborn and stable, but emergent and dynamic; thus it would be a fallacy to consider that these abilities can be measured precisely in a static format by ignoring the role of individuals' social interactions in the past (As cited in Poehner, 2008, Lidz & Gindis, 2003). Poehner (2008) also states that "Through participating in various activities, and through being mediated by those around us, we each come to master our cognitive functions in unique ways" (p.14). As reported by Cioffi and Carney (1983), non-dynamic assessment procedures are capable of divulging learners' knowledge of skills whilst they are deficient in presuming the students' learning potential and describing the frame in which the cognitive development occurs. Correspondingly, Teo (2006) asserts that dynamic assessment (DA) presents greater indicators of the students' educational needs compared to the non-dynamic assessment (NDA) in the way that it highlights the impact of teachers' mediation on students' learning processes dissimilar to the non-dynamic assessment which only focuses on teaching and testing of instruction. Furthermore, the findings of several studies reveal different perspectives on the implementation of dynamic assessment (DA). According to Kozulin and Garb (2002), the use of dynamic assessment is advantageous in terms of both the development of cognitive performance and foreign language learning. In Rea-Dickins' study (2004), it is underlined that dynamic assessment (DA) develops a contemporary attitude defending teaching and assessment should be unified, unlike non-dynamic assessment (NDA) which forces teachers to decide on "their role as facilitator and monitor of language development and that of assessor and judge of language performance as achievement" (p.253). Similarly, the study conducted by Pishghadam and Barabadi (2012) has revealed that computerized dynamic assessment (C-DA) plays a significant role in fostering learners' reading comprehension and it accounts for the potential learning which is a valuable guide for the educators for planning further classroom practices.

1.3. Statement of the Problem

According to Poehner (2008, p.4), teachers are not satisfied with the employment of non-dynamic assessment processes for the reason that they are defined as “distinct from, and perhaps even at odds with, the goals of teaching”. From the perspective of students, their language abilities are evaluated based on the administration of tests without any mediation and only focuses on matured functions. As Vygotsky (1998) explains, non-dynamic assessment processes address only the products of learning by ignoring how learning is formed, and he adds that dynamic assessment (DA) points out developing abilities by enabling cognitive activities to be discovered while they are being formed.

As for the problem in this study, the language skills of the students in Turkish context are mostly evaluated via the implementation of non-dynamic assessment (NDA) processes the same as the participants of this research. When they refer to their previous experience in language learning, they make use of utterances describing the learning process as useless and ineffective. As for their academic performance in English lessons, most of them have difficulty in the basics of English. When it is taken into consideration that the students have passed many English courses throughout the years until starting the university, there is a huge question to consider: “Could they have been assisted in an alternative way to promote in-depth learning of language?”. This study examines the impact of computerized dynamic assessment on students reading skills from the Vygotskian perspective with the aim of finding explanations about the efficacy of an alternative assessment type.

1.4. Significance of the Study

The effort to justify the effects of dynamic assessment is significant for both educators and students because of the fact that rather than solemn numbers, it supplies deep insights into students’ competences, the reasons for failure, and unique ways to promote the learning process (Poehner, 2008). With the assistance of the mediation process, “assessment and

instruction focus on developing abilities through intervention” (Lidz, 1991, p. 6). The intervention is explained as embedded in the assessment itself with the aim of depicting learners’ abilities and guiding them for a further stage of functioning (Lidz and Gindis, 2003). By means of that, difficulties in the learning process can be cured at an enhancing level. Moreover, Poehner & Lantolf (2010) assert that mediation process is a key factor in aiding learners’ development at the point they have difficulty in moving beyond their present performance individually. The abovementioned mediation process is presented in this study as hints served according to the answers of the students during the reading practice. In this way, the researcher finds out whether there is an impact of computerized dynamic assessment (C-DA) on students’ reading performance on reading tests or not. Moreover, if there is an impact, explaining the effects of dynamic assessment in the students’ eyes will be a splendid source for language teachers. The results of this study are very crucial for academia since they will deliver current explanations about the paradigm of computerized dynamic assessment (C-DA) on the basis of reading comprehension.

1.5. Aim of the Study

This study aims to investigate whether there is a difference in learners’ achievement in reading comprehension when computerized dynamic assessment (C-DA) is employed rather than non-dynamic assessment (NDA) in general English course at a foundation university. If there is a difference in the scores of the experiment and the control group, the study aims to clarify the possible implications of this difference from the perspective of learners’ ideas and explanations by carrying out interviews.

The research questions of the study are listed as below:

RQ1: Does the implementation of computerized dynamic assessment cause a difference in students' achievement in reading comprehension?

RQ2: If there is a difference, how do the students explain the difference between dynamic and non-dynamic practices from their perspective as learners?

1.6. Operational Definitions

1.6.1. Dynamic Assessment

Dynamic assessment is defined by Haywood and Tzuriel (2002) as “a subset of interactive assessment that includes deliberate and planned mediational teaching and the assessment of the effects of that teaching on subsequent performance” (p.40). Similarly, dynamic assessment is characterized by Lidz (1997) as:

approaches to the development of decision-specific information that most characteristically involve interaction between the examiner and examinee, focus on learner metacognitive processes and responsiveness to intervention, and follow a pre-test–intervention– post-test administrative format. (p.281)

1.6.2. Mediation

Poehner & Lantolf (2010) describes mediation as “offering appropriate assistance that is not aimed at helping the individual solve a problem but to move the individual toward independent, agentive performance and to be able to transfer what is appropriated in a given circumstance to future situations” (p.316). Moreover, Teo (2012) portrays mediation as “the focused intervention, which comes from a more mature counterpart, can be from a human, a cultural artifact, an object, or a tool” (p.11).

1.6.3. Non-Dynamic Assessment

Sternberg and Grigorenko (2002, p.7) describes non-dynamic assessment as follows: “The examiner presents items, either one at a time or all at once, and each examinee is asked to respond to these items successively, without feedback or intervention of any kind”.

1.6.4. Vygotskian Sociocultural Theory

Vygotskian Sociocultural Theory is explained by Kozulin (2003) as it “stipulates that the development of the child’s higher mental processes depends on the presence of mediating agents in the child’s interaction with the environment” (p.17).

1.6.5. Zone of Proximal Development

Zone of proximal development (ZPD) is described by Vygotsky (1978, p.86) as “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”.

CHAPTER II

REVIEW OF LITERATURE

2.1. Vygotsky's Sociocultural Theory (SCT)

Lev S. Vygotsky, who pioneered studies in different fields as philosophy, linguistics, psychology, law and sociology, is the originator of the Sociocultural Theory (SCT) and his notions and ideas have been valued by educational authorities and teaching professionals worldwide. Sociocultural Theory (SCT) accounts for human cognitive development from a peculiar point of view and alleges that human cognitive development shows progress by means of interacting with social and physical environments (Engeström, 1987). Alternatively, as cited by Lantolf & Thorne (2007, p.197), SCT underpins that functioning of human mind is “a mediated process that is organized by cultural artifacts, activities, and concepts” (Ratner, 2002). Namely, SCT argues that cognitive development of human mind can prosper by means of the interaction with other people or things such as peers, parents, teachers, games, objects, texts, activities, tasks, etc. Hence, the mediation process is the centerpiece of the notions introduced by SCT. The rationale behind the Sociocultural Theory (SCT) is prescribed by Poehner and Infante (2016) as “... to provide a coherent account of the human mind, including the processes of its formation” (p.276).

Furthermore, the Vygotskian perspective acknowledges the Marxist doctrine proclaiming the development of human mind is reinforced by means of a dialectic relationship with the environmental constituents and the main principles of Marxist doctrine having an impact on SCT are listed by Wertsch (1985, p.199) as follows:

1. the idea that human consciousness is fundamentally social, rather than merely biological, in origin
2. human activity is mediated by material artifacts (e.g., computers, the layout of built environments) and psychological and symbolic tools/signs (e.g., language, literacy, numeracy, concepts)
3. units of analysis for understanding human activity and development should be holistic in nature (As cited in Lantolf, Thorne & Poehner, 2015, p.2)

In basic terms, mediation can be defined as the inclusion of a third factor (mediator) in the process of transaction between two parties such as people, incidents and things and mediators can be categorized as physical, symbolic and psychological tools. (Kozulin, 2018). For instance, a door can be opened by using a key which functions as the mediator or a TV can be switched on with the help of a remote control which forms a mediation process between the agent and the TV. By means of creating and utilizing sorted physical tools, human beings can relate to the world in a particular way which is superior to animals. By means of that, human beings are able to control the physical world, transform their environment and get beyond their innate biological capacities. For instance, it is not possible for human beings to run faster than a cheetah; however, by employing physical tools such as an airplane developed by themselves, they can overcome the biological inabilities and the cheetah would be the loser of the race.

Through the abovementioned transformation process which is unique to humanity, not only the environment but also human beings themselves are transformed. As cited by Poehner (2008, p.25-26) "... human beings shape and are shaped by their environments through

concrete activity mediated by physical tools and they extended this to psychological plane, proposing that human cognitive functions are also mediated” (Leont’ev, 1981).

Moreover, the Vygotskian perspective asserts that while physical tools are employed by people to mediate the connection with the outer world in a concrete level, symbolic tools, which are also called cultural artifacts, (charts, graphs, tables, numbers, etc.) are utilized with the aim of forming a relation in an abstract level (Poehner, 2008). In this way, the function representing an outward activity at first starts to be rebuilt to occur inwardly, which is one of the transformation steps in the internalization process (Vygotsky, 1978). Likewise, this process is defined by Lantolf & Thorne (2007) as using present cultural artifacts to compose further ones which facilitate controlling the “biological and behavioral” activities.

Additionally, Vygotsky and his colleagues conducted several studies on children to bring into the open the function of symbolic tools in sociocultural activities. Based on these studies, they allege that human beings’ cultural development occurs firstly on the social plane (inter-psychological) and then on the individual plane (intra-psychological), and “all the higher functions originate as actual relations between human individuals” (Vygotsky, 1978, p. 57). It can be concluded that Vygotsky underscores the formation of higher mental functions occurs with the assistance of mediation.

According to Poehner (2008), Vygotsky accepted human beings have certain biological capacities to perform lower level functions; however, these biological capacities can be altered thanks to the internalization of mediation in social and cultural forms by employing psychological tools and higher mental functions are generated at the end. Hereby, human beings have a greater awareness and supervision on the psychological functions which can be exemplified as attention, perception, and memory (Ibid). Also, Kozulin (1998) remarks that psychological tools can be defined as the mental functions negotiated in virtue of the transformation process facilitated by symbolic tools. With reference to the psychological

tools, Vygotsky (1978, p. 57) states that “In the instrumental act, humans master themselves from the outside through psychological tools.” which clearly illustrates the core idea of Sociocultural Theory (SCT) and he adds:

The internalization of cultural forms of behavior involves the reconstruction of psychological activity on the basis of sign operations. Psychological processes are incorporated into this system of behavior and are culturally reconstituted and developed to form a new psychological entity. The use of external signs is also radically reconstructed. The developmental changes in sign operations are akin to those that occur in language. (Ibid)

Additionally, the relationship between psychological tools and other key concepts in Sociocultural Theory (SCT) is presented in Figure 1 by Kozulin (2003, p.18):

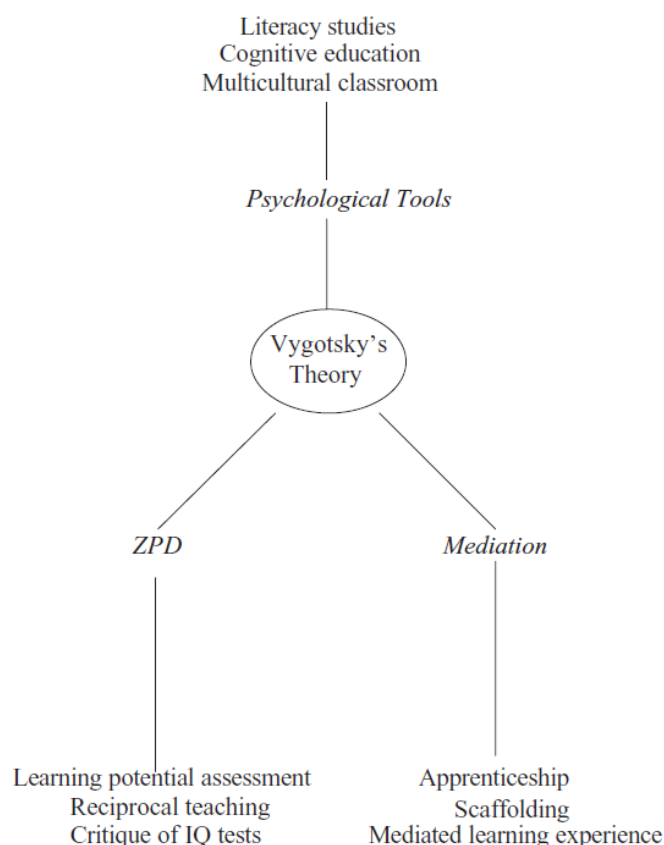


Figure 1. Vygotsky's theory and contemporary educational issues

Furthermore, to be able to have a deeper insight on SCT, it would be prolific to include further details about the aforementioned internalization process in which cognitive functions

are developed with the assistance of cultural artifacts. Internalization process is carried out by three regulation stages named object-regulation, other-regulation and self-regulation by Vygotsky (1986). To begin with, object-regulation indicates being mediated by a physical item during the proceeding of cognitive functions. For instance, a student receives aid from a coursebook while completing homework and in that case, the student is regulated by the object to support his/her cognition. Next, other-regulation refers to the explicit and implicit mediation offered by human beings such as teachers, parents, etc. (Lantolf & Thorne, 2007). For example, a student getting assistance from a teacher on how to spot and correct pronunciation mistakes in a speaking task is mediated by other regulation. The last stage is self-regulation which is defined as cited in Lantolf et al. (2015, p.4):

... individuals who have internalized external forms of mediation for the execution or completion of a task. In this way, development can be described as the process of gaining greater voluntary control over one's capacity to think and act either by becoming more proficient in the use of mediational resources, or through a lessening or severed reliance on external mediational means. (Thorne & Tasker, 2011)

Moreover, Poehner (2008) explains self-regulation as being able to contemplate on necessary details in certain ways to achieve the targets and control behaviors by taking into consideration the possible alternatives by selecting or eliminating them. In that case, students who are able to regulate themselves can be successful without mediation from an outer source because the assistance from outer sources in the previous stages have been internalized and they are present to be employed independently when there is a need.

Even though self-regulation is the last stage to arrive, the process is not a road of no return and it is possible to repass the previous stages in case of certain circumstances. As Lantolf & Thorne (2007) exemplifies, adults may need to use a calculator or a pen and paper to make calculations with large numbers or people with advanced language proficiency may be in need of mediation from outer sources in difficult situations. In this case, the ones who have already been in the self-regulation step may get assistance from an object or a person and get back to the object-regulation or other-regulation stages.

2.2. Zone of Proximal Development (ZPD)

The concept of the zone of proximal development (ZPD) has been influential on different fields, especially in education and psychology throughout the years since it was coined by Vygotsky in *Mind in Society* (1978) with the intend of addressing the difference between learners' independent performance and mediated performance in collaboration with a person or tool.

The most popular definition of the zone of proximal development (ZPD) was uttered by Vygotsky (1978, p. 86) as “the distance between the actual development level as determined by independent problem solving and the level potential development as determined through problem solving under adult guidance or in collaboration with more capable peers”. In other words, ZPD demands a social interaction between a more capable person and a less capable person, and the less capable person ends up with an individual performance which is good enough to master what was succeeded with the help of the more capable one at the very beginning (Chaiklin, 2003).

As stated by Cook (2008), learning requires cooperation between different units and in this way, it is possible for learners to internalize information thanks to an external agent. Also, he underlines the unique disposition of ZPD as it serves as a bridge to compensate the gap between learners' current and future performance with the help of mediation provided by other people or tools. In the same vein, Vygotsky (1987, p. 211) accounts for the same process as “what the child is able to do in collaboration today, he will be able to do independently tomorrow”. To this respect, ZPD draws attention to the fact that there is a gap between learners' actual and potential development, and actual development cannot be the indicator of potential development which is dynamic and formed by means of the collaboration between learners and mediators (Poehner & Lantolf, 2010).

Moreover, ZPD does not only refer to improvement by means of a mediation process offered by more capable others and it is purposeful only if it matches with the “maturing functions

needed for transition to the next age period” Chaiklin (2003, p.57). According to Poehner and Infante (2016), ZPD is indicative of learners’ future potential development, which is not completely formed, yet in the phase of improving. A similar statement was made by Vygotsky (1978, p. 86) to define ZPD as “the functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in an embryonic state”. Furthermore, the reason behind popularity of ZPD in the fields of education and psychology is explained by Lantolf et al. (2015) as ZPD proclaims that what is achieved today by means of a mediation process is the predictor of what learners can achieve individually tomorrow, as opposed to traditional testing which presents only the current performance level. Hence, assessment practices based on ZPD are prone to reveal much about the matured and maturing performance of learners.

Moreover, Lantolf et al. (2015) clarify Vygotsky’s stance on ZPD by stating that Vygotsky was particularly interested in instruction in school environment and its long term effects on learner’s cognitive development, and they explain the importance of it by underlining that more than a type of assessment, ZPD is a conceptual tool which can be employed by teachers to determine learners’ emerging capacities prematurely and design learning environments promoting learner improvement for further practices. On the same matter, Poehner (2008) demonstrates Vygotsky’s stance by concluding that assessment practices creating an environment which enables teachers to mediate learners’ performance with the aim of discovering their capacities thoroughly are more favorable rather than the practices isolating learners.

With relation to dynamic assessment, Poehner & Lantolf (2005) argue that mediated performance of learners is a better indicator of to what extent they can improve their performance in the future compared to non-dynamic assessment. The reason behind is that non-dynamic practices display only the current actual development of learners while ZPD aspires to designate the ongoing skills development. As Lidz and Gindis (2003, p.102) states

“... major objections to standardized tests were that they confused latent capacities with developed abilities; they mixed lower (natural) capability with higher (socially learned) expertise; they had low “ecological validity”; and they were only marginally relevant to educational processes”. The most significant reflections of ZPD on dynamic assessment are summarized by Kozulin (2003) as follows:

1. It puts emphasis on psychological functions of learners that are emerging at a certain time; however, they have not been fully built up yet.
2. Mediated performance is presented by the notion of ZPD as one of the legitimate parameters in assessment procedure.
3. ZPD is functional in terms of characterizing the difference between the level of actual performance and learners’ future potential performance. (p.17)

As cited in Poehner & Lantolf (2010), ZPD favors comprising different kinds of mediation to be able to assist learners in all possible ways effectively and appeal to the individual differences of learners (Aljaafreh and Lantolf, 1994). On the same issue, Wertsch (1984) alleges that the teachers and practitioners are required to be supersensitive towards ZPD of learners, which would be the best way to boost learners’ development rather than only assisting them to finish a target work. Moreover, Aljaafreh and Lantolf (1994) conducted a study on ZPD and they came up with some helpful suggestions for further practices. Firstly, it was advised that constituents of mediation process need to be closely linked to the actual needs of learners. In that way, mediators can maximize relevance of the assistance to learners’ needs and serve them in the most efficient way. Next, the presentation of mediation should follow a gradual pattern from implicit to explicit so that learners can have the opportunity to dwell on mediation techniques such as prompts or hints in accordance with to what extend they are in need of assistance. Lastly, mediation process should come to an end when learners gain the ability to display individual performance successfully. Further to that, as cited in Lantolf et al. (2015, p.8), they addressed to the idea that “this process requires

continuous assessment of the learner's emerging abilities and subsequent tailoring of help to best facilitate progression from other-regulation to self-regulation" (Aljaafreh & Lantolf, 1994).

2.3. Dynamic Assessment (DA)

Dynamic assessment (DA) is mainly grounded on the key concepts of Vygotsky's Sociocultural Theory, especially the zone of proximal development (ZPD), and the practices by Feuerstein (1979) who put forward the Learning Potential Assessment Device (LPAD) are accepted as pioneer studies in DA. Even though Vygotsky did not utter the term "dynamic assessment", the ideas set forth by him envision the essentials and practices of DA. To illustrate, DA can be defined as a framework "to distinguish between the analysis of an object and of a process" in Vygotsky's (1978, p. 61) words. Moreover, a great number of definitions of DA are existent; however, in basic terms, it refers to the integral unification of assessment and instruction through a mediation process in which the responsiveness of learners is perceived as the source of information about learning (Lidz & Gindis, 2003; Haywood & Tzuriel, 2002; Lantolf, 2009; Pishghadam & Barabadi, 2012). Haywood and Tzuriel (2002, p.40) describes dynamic assessment as "a subset of interactive assessment that includes deliberate and planned mediational teaching and the assessment of the effects of that teaching on subsequent performance". Similarly, as Lidz and Gindis (2003) define, dynamic assessment (DA) is "an approach that takes individual differences into account providing interventions during the assessment process" (p. 99). Namely, even though approaches to dynamic assessment diversify, what they share in common is combining assessment and instruction by attaching importance to individual performance of learners. Lantolf & Poehner (2010) designate the link between assessment and instruction as a "dialectical relation" by virtue of offering a mediation process addressing the ZPD to diagnose "emergent abilities" and promoting the independent development of learners. In other words, the unification of assessment and instruction aspires to fulfill two targets which

are assisting individuals' improvement on a certain set of skills and inquiring about potential learning of them on the basis of cognitive processes reinforced by mediation procedures. It can be concluded that dynamic assessment (DA) guides test-takers to perform better, and the difference between pretest and posttest achievement refers to the learning score of the test-takers (Sternberg & Grigorenko, 2002). Also, Lantolf & Poehner (2010) describe the difference between pretest and posttest as "an indicator of whether the abilities being assessed lay within the individual's ZPD" (p.13).

Within DA procedures, the main focus on learners' current performance is underestimated while the endeavor to understand how learners pay effort to perform better during the assessment itself is valued and for the same purpose, mediators are required to be in touch with learners during the assessment to be able to have a detailed understanding (Khaghaninejad, 2015). In that way, dynamic assessment (DA) encourages educators to combine the instruction with the assessment to create a mediation process that the test-takers' boosts the zone of proximal development (ZPD) which can be defined as the difference between learners' actual and potential levels of achievement.

Moreover, dynamic assessment presents more information compared to other assessment types. Haywood & Lidz (2007) claim that the implementation of DA procedures is necessary since it yields an elaborate depiction of both current and future potential performance, which cannot be attainable from alternative resources. Also, Poehner (2008) states that "DA broadens the view of learners' knowledge and abilities and that this consequently enables more valid and appropriate interpretations and uses of assessment results" (p.6). On the grounds of the facilities offered by DA, Haywood & Lidz (2007) assert that many experts (Feuerstein, Haywood, Rand, Hoffman, & Jensen, 1982/1986; Haywood, 1997; Lidz, 1991) in the field have been in favor of employing DA procedures especially under the following circumstances:

1. scores on standardized, normative tests are low, and especially when they do not accord with information from other sources
2. learning appears to be restrained by apparent mental retardation, learning disability, emotional disturbance, personality disorder, or motivational deficit
3. there are language problems, such as impoverished vocabulary, difference between the maternal language and the language of the school (workplace), or delays in language development
4. there are marked cultural differences between those being examined and the majority or dominant culture, as, for example, in recent immigrants
5. classification is not the only or central issue, but the need to inform programming is important (p.2)

It can be argued that the insufficiency of non-dynamic assessment gives a path to an increasing demand in the utilization of DA in different contexts. For instance, in the field of language teaching, the most popular and internationally recognized assessment tool is high-stakes tests which can be exemplified as placement, achievement, aptitude, diagnostic, or language proficiency tests, and they are carried out almost entirely in a non-dynamic format. Many schools, colleges, universities, and employers mandate applicants to have scores at a certain level as an evidence of their language proficiency. In these kinds of exams, the scores of test takers are mostly calculated on a single performance in which any attempt to enhance their performance is forbidden and named as cheating. Therefore, it is not possible to facilitate the learning process through any kind of mediation. Haywood & Lidz (2007) express that non-dynamic assessment is prone to generate lower scores and “pessimistic predictions” about the future learning potential of learners, on the other hand, DA aims to detect impediments complicating the learning process, seek for remedies to eliminate those impediments and examine the impact of the disposal of impediments on the efficacy of learning. Furthermore, Poehner (2008, p.6) lays emphasis on the importance of DA

procedures by referring that they supply both scores and “insights into the depth of an individual’s abilities, the causes of poor performance, and specific ways of supporting development”. Moreover, Khaghaninejad (2015) underscores the point of view in DA:

... the nature and extent of assistance that are provided depend on the individual differences manifested within the assessment context. This, of course, represents a significant departure from conventional testing procedures, which usually preclude any forms of intervention other than strictly delineated inputs geared to assist administration and maintain rapport. Unlike conventional tests that are concerned primarily with ultimate performance (product), dynamic approaches tend to be equally interested in gauging the individual’s use of cognitive and metacognitive strategies, their responsiveness to examiner assistance and support, and their capacity to transfer learning operating within the intersubjective realm of tester and testee, to subsequent unassisted situations. (p.46)

Furthermore, Lantolf & Poehner (2010) state that the notion behind Vygotsky’s stance reflected in DA is to present teachers with a new conception in an effort to modify current proceedings in such a way that promotes the cognitive development of students to have “more agentive” roles in their own learning process. In that way, learners would be able to move beyond their current independent performance by means of the mediation process specific to their needs. Besides, Vygotsky predetermined neither certain methods nor techniques in teaching and assessment to be followed. Therefore, it is safe to say that dynamic assessment provides teachers with a flexible state in which the development of individuals and their future learning potential can be encouraged in unique ways. As for the future of dynamic assessment (DA), Sternberg & Grigorenko (2002) assert that dynamic assessment is anticipated to lead the way to a “new generation of tests” and it “differs not only in minor ways from what we now have, but rather, in fundamental ways” (p.9).

Along with its merits, DA is criticized for various reasons and it also possesses some limitations which are disclosed by Haywood & Lidz (2007). and entitled as being significant to discuss for appropriate future practices of DA for different aims. Firstly, DA endeavors to alter learners’ performance in some way. Therefore, it is not a preferable alternative for the purpose of classification, and it does not provide data which can be addressed in

normative tables for exposition. Secondly, data exposition highly relies on the handiness and knowledge of examiners. Lastly, deductions made based on learners' performance are weak in the matter of reliability, which means that different raters might evaluate learners' performance dissimilarly depending on their own knowledge and experience.

2.3.1. Models of Dynamic Assessment

The prevailing models of dynamic assessment are designated by Lantolf and Poehner (2004) as interventionist and interactionist dynamic assessment approaches. The division between two categories is based on the manner in which mediator executes mediation process. In the quantitative plane, interventionist DA follows a psychometric approach with standardized mediation procedures while interactionist DA pursues a clinical approach based on learners' emergent individual needs in the qualitative plane.

2.3.2. Interventionist Dynamic Assessment

Interventionist DA offers mediation on predetermined potential challenges via clearly defined ready-made mediation tools such as questions, hints and prompts. Poehner & Infante (2016) describe that interventionist DA regards mediation "as a kind of treatment administered to learners in a standardized manner to evaluate their responsiveness" (p.280). The presentation of the mediation steps is arranged in a way following from the most implicit to the most explicit pattern, and the mediation tools are presented upon giving an incorrect answer.

According to Poehner (2008), through the agency of interventionist DA, it is possible to examine the performance of learners by means of constructs like generalizability, validity, and reliability in a quantitative way. Moreover, the standardized hierarchical order of prompts and properties of psychometric analysis strengthen interventionist DA's objectivity, and it eliminates hesitations about the legitimacy of it. On the grounds of this hallmark,

interventionist DA qualifies as being applicable in large scale standardized tests which can be exemplified as language proficiency, aptitude, behavior, personality tests, etc. Also, Poehner & Lantolf (2010) reckon that interventionist DA is more advantageous compared to interactionist DA in matter of efficacy by virtue of simultaneous administration in large participant groups, gathering quantitative results based on standardized mediation processes via carrying out psychometric analysis.

On the other hand, following a standard procedure and mediation process impedes the latitude in generating various responses according to learners' individual needs because mediators are compelled to respond in alliance with preset standards even if students' needs different from predetermined ones become apparent (Poehner, 2008). In any case, mediator is required to follow mediation steps strictly until learners answer correctly or final mediation step is revealed, and correct answer is demonstrated (Lantolf & Poehner, 2010). The same disadvantage is explained by Poehner & Lantolf (2010) as being "lack of fine-grained mediation attuned to the specific needs of individuals as these emerge during the course of the procedure" (p.318).

2.3.3. Interactionist Dynamic Assessment

Interactionist DA unifies instruction and assessment by establishing a mediation process which is free of preset limitations and endpoints, and mediator is encouraged to employ any possible mediational prompts with the aim of assisting learners in going beyond their present individual performance (Poehner & Lantolf, 2010). In contrast with interventionist DA, it promotes forming a dialogical interaction between mediator and learner, which is uniquely responsive to individuals' ZPD and mediation is "negotiated and adjusted" in agreement with individuals' responsivity (Poehner & Infante, 2016). It is fundamental that mediators are able to detect when and in which way to intervene because predetermined prompts do

not exist and mediation tools are fabricated with the help of the cooperation between mediators and learners.

As being the pioneer of interactionist DA, Feuerstein, along with his colleagues (Rand & Rynders, 1988), proposed Structural Cognitive Modifiability Theory (SCM) in which human cognitive abilities are addressed as being “open” rather than “closed” systems (Poehner, 2008). In other words, cognitive abilities of human beings are dynamic and constantly developing by nourishing from the existence of necessary means of mediation. This dynamic process underpins the importance of “modifiability” referring to the perpetual changing pattern of cognitive functions of learners. From this perspective, the criticism arises over the assumption, which is held by numerous educational authorities, that current performance of learners is considered as the predictor of their future performance (As cited in Poehner, 2008, Feuerstein et al., 1988).

In the nature of interactionist DA, it describes the development of individuals based on the dialogical interaction in which mediators intervene whenever learners are in need of help and offers a qualitative account of the learning process. Consequently, this model of DA is more suitable and applicable for classroom contexts compared to large-scale participant groups (Lantolf & Poehner, 2004).

2.3.4. Mediation Formats in Dynamic Assessment

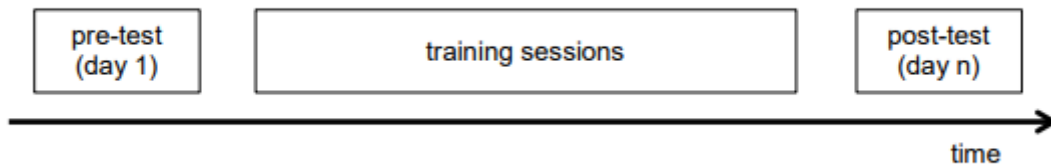
The mediation procedures in DA are categorized as *sandwich* and *cake* formats by Sternberg and Grigorenko (2002). To start with the sandwich format, the procedure follows *test-train-test* sequence in which the treatment process is placed between the administration of pretest and posttest. According to Poehner’s (2008) definement, the function of pretest is to establish a baseline measure and posttest is to evaluate the effectiveness of the treatment. The results of the posttest are compared with the pretest with the aim of illustrating to which extend the mediation process promotes the development of learners. Sandwich format enables

mediators to execute extensive interventions through different treatment sessions at intervals while some concerns with regard to its time-consuming strain may arise (Dörfler, Golke, & Artelt, 2009).

As for *cake* format, the procedure follows *train-within-test* order in which the treatment is offered during the assessment as a single session, and individuals are provided with mediation immediately after making a mistake via sorted means of mediation such as hints, prompts, feedback, etc. According to the study by Dörfler et al. (2009), mediation process in *cake* format is “rather limited in time” in connection with its single session style and its level of complexity ought to be lower compared to sandwich format while it still sticks to being “specific to the task demands” in the test. Furthermore, implementation of *cake* format in interventionist and interactionist models of DA is explained by Poehner (2008). He asserts that mediation can be presented as gradual standardized sets from implicit to explicit in the former model. After that, the frequency and categories of hints which are employed to give an answer are analyzed by mediators. In the latter model, due to the absence of a standardized mediation process, the development of learners in the course of time needs to be evaluated in terms of both the quality and quantity of mediation.

Figure 2 exhibits an overview of the *test-train-test (sandwich)* and the *train-within-test(cake)* formats below:

Test-Train-Test Design



Train-Within-Test Design

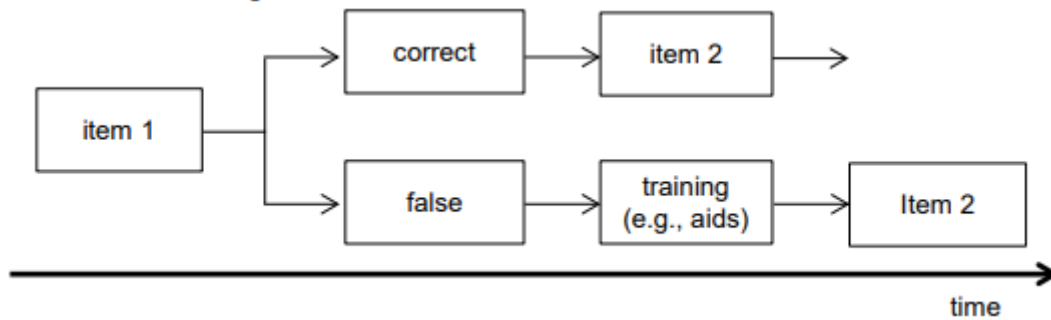


Figure 2. Traditional formats of dynamic assessments (Dörfler, T., Golke, S., y Artelt, C. (2009). Dynamic assessment and its potential for the assessment of reading competence. *Studies in Educational Evaluation*, 35(2), 77-82.)

2.4. Dynamic (DA) vs. Non-Dynamic Assessment (NDA)

With the aim of having a deep understanding of dynamic and non-dynamic assessment procedures, it would be wise to discuss some differences between them. To start with the differences, the comparison between the nature of dynamic assessment (DA) and non-dynamic assessment (NDA) sets off three categories of discrepancy which are proposed by Grigorenko & Sternberg (1998). The first category represents the relationship between the examiner and the test taker. In non-dynamic assessment, the examiner takes a neutral stance as a consequence of the absence of any kind of intervention, which guarantees a standardized assessment process. Similarly, Teo (2012) defines the role of examiner in non-dynamic assessment as "...to look for what is fixed, permanent, and unchanging in the learner" (p.10). On the other hand, in dynamic assessment, the examiner has a reverse situation in which direct involvement in the assessment process is prevalent by means of the mediation process. With the help of the mediation process, the examiner is able to find out the individual needs

and provide feedback specifically based on test takers' individual performance. Moreover, the examiner in DA tries to create new paths for test takers to move beyond their current performance by paying effort to understand how they learn and how they can be assisted in terms of cognitive development, and for this purpose, cooperation between the examiner and the test taker is essential (Haywood & Lidz, 2007). In dynamic assessment, the outcomes of intervention are also taken into consideration, and the mediator tries to teach test takers how to improve their performance in each item or in the entire test (Sternberg & Grigorenko, 2002). Correspondingly, the role of mediator in DA is stated by Teo (2012) as:

... is to bring about change in the learner's cognition through providing constructive mediation in the learners' learning process. Therefore, DA is constructed to create an opportunity for interaction between the learners and the mediator(s) so that the mediator(s) can evaluate the learners' learning process as well as the quality of the mediation. (p.10)

Secondly, NDA and DA procedures differ with regards to the role of feedback. As Grigorenko & Sternberg (1998) claim, in non-dynamic assessment, the examiner arrays a series of questions but the test taker is not provided with any feedback respecting "quality of performance". Conversely, in DA, feedback is a very crucial concept in the whole process due to the employment of mediation steps, which means the test taker is given feedback immediately after each mistake and this proceeding goes on "in successive iterations" until the test taker gives the correct answer or quits. Namely, in contrast with non-dynamic assessment, the examiner both provides "performance contingent feedback" and mediation pursuant to the test takers' mistakes to correct them or aid their cognitive development (Tabatabaei & Bakhtiarvand, 2014).

Lastly, non-dynamic assessment puts emphasis on product rather than on process. It is concerned with the product of learning presented by means of tests and mainly addresses the product of the learning process without considering test-takers' "possible capacity to learn as a consequence of the interactions with the teacher" although "interaction and some kind of assistance from the more component one is required for learner's development"

(Adamhasan, 2019, p.48). However, to the contrary, dynamic assessment concentrates on process such as rate and path of growth as well as the product (Khaghaninejad, 2015). Similarly, as stated by Grigorenko & Sternberg (1998), “DA is based on the link between testing and intervention and examines the processes of learning as well as its products” (p.75). Additionally, Poehner (2008) argues that non-dynamic assessment (NDA) presumes the forthcoming achievement of test-takers based on their existing level, on the other hand, dynamic assessment (DA) identifies it as “always being emergent between mediator and learners” (p.76).

Besides the abovementioned three categories, there are some other issues in which dynamic and non-dynamic assessment diverge. Even though they may have relevance to the former three categories in a way, it would be illuminating and enriching to discuss them in detail. Firstly, mediation process is the key point and mediator has a vital and indispensable role in dynamic assessment practices. Lidz and Gindis (2003, p. 99) highlight the mediation process by defining it as “...understanding individual differences and their implications for instruction that embeds intervention within assessment procedure”. The function of the mediator and the mediation process is explained by Teo (2012) as learners are able to go beyond their current performance in which they cannot succeed on a task independently and reach a level in which they can achieve the same task by themselves. In other words, learners are in need of the help provided by the mediation process in the course of assessment and learning occurs in that way. By this way, the assessment process provides information not only about present performance of learners but also “the capacity to master, apply and reapply” what is taught during the dynamic assessment (Grigorenko & Sternberg, 1998). As for non-dynamic assessment, the current performance of learners based on the assessment procedures is perceived as the “true representation” of their cognitive development level (Luria, 1961).

Moreover, dynamic assessment is a preferable tool in foreshadowing the future potential learning of test takers in comparison with non-dynamic assessment (Tzuriel, 2003). He also asserts that the implementation of dynamic assessment is more advantageous specifically in teaching how to learn and this process can be apprehended smoothly and efficaciously (As cited in Pishghadam & Barabadi, 2012). Also, Khaghaninejad (2015) states that the binary highlights on level and progression of performance qualify dynamic assessment as a better indicator of future potential learning. In addition, besides aiding test takers in terms of how to deal with the items in tests, dynamic assessment facilitates the full understanding of assessment procedures. In that way, test takers move beyond mastering a certain task and they can transfer their knowledge to different upcoming situations, which is named transcendence (Feuerstein et al., 1979). Furthermore, Feuerstein et al. (2010) account for the same issue and they criticize non-dynamic assessment due to its disposition towards presuming that the learning occurs in a static way and being lack of providing facilities for learners to modify their performance to overcome following tasks. They underscore that it is not wise to accept learners have innate stable abilities which would be settled for the rest of their lives, and they advise that learners should be provided with situations in which they can modify their capacities which is called *fluid intelligence*, rather than *crystallized intelligence* which prevents learners from transferring their knowledge to different upcoming situations.

All in all, dynamic assessment refers to an active process of teaching, cooperation and problem solving with the purpose of enhancing learners' cognitive development and transferring their abilities to cope with new situations; on the other hand, non-dynamic assessment poses a set of questions and keeps an account of learners' answers without any effort to mediate, advise or better their performance (Khaghaninejad, 2015).

2.5. Computerized Dynamic Assessment (C-DA)

Computerized dynamic assessment (C-DA) is a relatively new approach which has been becoming prevalent increasingly, and it is a breakthrough in foreign language assessment thanks to its unique structure integrating instruction and assessment in a digital platform (Teo, 2012). To start with, computerized dynamic assessment (C-DA) provides flexibility and accessibility for the practitioners. For example, currently, each field of study and life has been negatively affected by the outbreak of COVID-19 pandemic. Under these conditions, it is not available to set a physical classroom environment, observe learners' individual needs in person and have face-to-face sessions with them. In that case, computerized dynamic assessment (C-DA) can replace teachers and peers, and it can be the source of mediation in the learning environment. In the same manner, Teo (2012) explains the belief behind the design of her study as the social proceeding required for the betterment of learners' performance can be substituted with the implementation of C-DA practices if human mediators are nonexistent.

Moreover, researchers and teachers can employ C-DA for different purposes with a lot of benefits and eliminate some shortcomings of dynamic assessment. According to Ahmadi & Barabadi (2014), the prevailing concerns about DA which can be resolved thanks to C-DA practices are listed as being highly time consuming, requiring a lot of expertise on the part of the practitioners, and lacking inter-rater reliability. Haney and Evans (1999) conducted a study with school psychologists on the shortcomings of DA, and the results of the study indicated that one-half of the participants had acquaintance with DA processes and one-half of them had taken part in DA practices, which was rationalized by time constraints and the inadequacy of expertise. As for inter-rater reliability, in dynamic assessment, the measurement process would show alterations because the way to determine inadequacies in individuals' performance depends on practitioners. Haywood & Tzuriel (2002) state that examiners in DA have to maintain a nominative attitude in deciding on which deficiencies

necessitate mediation to what extent (As cited in Ahmadi & Barabadi, 2014). The advantages of C-DA eliminating the shortcomings of dynamic assessment are specified by Poehner (2008, p.177) as below:

1. It can be simultaneously administered to large numbers of learners.
2. Individuals may be re-assessed as frequently as needed.
3. Reports of learners' performances are automatically generated.

Besides, Pishghadam & Barabadi (2012) bring forward another advantage of C-DA which is the facility to incorporate mediation into assessment process and in that way, practitioners are not compelled to conduct a separate session for mediation process. On the other hand, in comparison with DA, C-DA also has a drawback which is the absence of addressing learners' individual needs. As Poehner (2008, p.177) argues, the mediation process in C-DA is not capable of corresponding the specific needs of individuals precisely since "one cannot know how learners would respond if other forms of mediation were offered". For this handicap, Ahmadi & Barabadi (2014) generate a solution in their study by making sure that the difficulty level of the task is arranged in alliance with the language proficiency level of test takers because offering mediation through C-DA may not be sensitive enough to learners' zone of proximal development (ZPD), so delivering mediation may be pointless for some learners if the task is so easy or it may be incomprehensible for some others and there will be no improvement in the end. Moreover, presenting mediation gradually from implicit to explicit is an alternative to make sure that test takers can access to the mediation fitting the best to their particular needs (Teo, 2012).

As for the studies on C-DA practices, Pishghadam & Barabadi (2012) conducted a study on constructing and validating C-DA of reading comprehension in L2 learners' performance. They came up with a software called Computerized Dynamic Reading Test (CDRT) which was competent to offer prefabricated hints to test takers and calculate both a dynamic score, based on the hints used during the test, and a non-dynamic score, based on the first response,

for each test taker. 104 participants in total took the CDRT and results revealed that C-DA was effective in promoting participants' reading comprehension competence and providing indicators about future potential learning of them.

Similarly, Teo (2012) carried out a study on promoting inferential reading skills by means of C-DA, and the researcher employed a user-friendly software to prepare a C-DA program integrating mediation process and assessment with the aim of promoting the development of participants' inferential reading skills. 68 Taiwanese EFL learners participated in the study. The study followed a sandwich format in which the mediation intervention was placed between the static pretest and posttest. Mediation process included 4 steps and the participants were provided with mediation progressing gradually from explicit to implicit when they gave an incorrect answer. Mediation process ended when the correct answer was given and the participants could move to the next question. Also, the participants wrote reflections about the employment of reading strategies and evidence for developing reading competence on their portfolios during the mediation process. The results of the study revealed that C-DA was an effective instrument to predicate future potential learning in reading in English, the unification of assessment and instruction had a great impact on participants' performance, and they grew into reflective readers.

Moreover, Tzuriel and Shamir's (2002) study is an outstanding one among the studies conducted on C-DA. In this study, mediation offered by a C-DA package and a human being is compared. The participants of the study were 60 kindergarten children, and researchers divided the participants into two equivalent groups which were computer assisted (CA) and examiner only (EO). According to the results of the study, all participants showed progress thanks to the practice; however, the results of the participants in computer assisted (CA) group surpassed the examiner only (EO) group. In this case, it can be concluded that the existence of a human mediator is not inevitable for achievement, and CA procedures are capable of enforcing development through mediation.

Upon the whole, the potency of C-DA is based upon the rapport between “the goals of teaching, learners’ characteristics, the software design, and decisions made by educators” (Khaghaninejad, 2015, p.56).

2.6. Dynamic Assessment of Reading

Reading comprehension has a complex structure necessitating the operation of different processes at the same time, and learners are required to carry on text-level, sentence-level and word-level process to be able to succeed. A prosperous level in reading comprehension is attainable through a set of skills and strategies. According to Roit (2016), “Reading is a highly strategic process during which readers are constantly constructing meaning using a variety of strategies, such as activating background knowledge, monitoring and clarifying, making predictions, drawing inferences, asking questions and summarizing” (p.2). This highly strategic process is one of the issues that learners mostly find puzzling to master and need to discover sorted ways to handle the difficulties. In this regard, Garner (1987) claims that self-monitoring and autonomous learning in reading comprehension entail the development of strategies and offers a list of suggestions as a solution:

1. Educators have to allocate sufficient amount of time to reading and learning processes.
2. Educators have to do task analyses of strategies to be taught. Strategic problem-solving tasks needs to be explored and strategies must be divided into global parts.
3. Educators have to display various cases in which it is possible to do practice with the newly introduced strategies and how to transfer to the cases needs to be explained explicitly. (As cited in Kozulin & Garb, 2002, p.114).

In the same vein, reading is a metacognitive process which requires learners to be strategic and engaged readers, which is described by Anderson (2014) as that learners “use cognitive capacity to focus on the meaning of what they read and develop their comprehension by

using what they have read” (p.171). According to Khonamri & Sana’ati (2016), reading comprehension takes place in three interdependent steps. Firstly, learners start with reading the lines to understand the gist of the text conveyed by the author, next they try to perceive the message delivered implicitly by reading between the lines, and lastly they move beyond what is written in the lines.

In such skill, if the achievement of the learners is assessed via non-dynamic assessment (NDA), and the main focus of the assessment process is on the product rather than the process, educators can only have information about the past experience of learners in reading skills. However, if dynamic assessment (DA) procedures are employed, the educators are able to assist the learners in different steps of mental processing in reading skills by promoting their zone of proximal development (ZPD) and have an opinion about their future potential learning. In this study, computerized dynamic assessment (C-DA) is designed in a way that the prompts served as hints aim to facilitate cognitive strategies to develop reading comprehension of the participants.

Kozulin & Garb (2002) state that the importance attached to dynamic assessment of reading led the change in the theory of reading, and practitioners and researchers started to focus on notional features of reading rather than “crystallized” reading competence. They also underline that succeeding learners observe their own process of reading, develop strategies and project on their endeavor in progress. Namely, they pay effort to be able to ‘reason’ the choices or inferences which are made based on the reading texts.

Moreover, dynamic assessment of reading comprises of a set of graduated prompts emerging upon an incorrect response, and they aim at directing test takers to the correct answer. Most of the studies conducted on dynamic assessment of reading generally follow test-train-test pattern in which the training of reading strategies takes place in the mediation process (Campione & Brown, 1987). The main purpose of test-train-test pattern is to cause a progress

in meta-cognitive knowledge while the train-within-test pattern tends to recognize the learner responsiveness to mediation process (Dörfler et al., 2009).

According to Dörfler, Golke, & Artelt (2017), the dynamic assessment practices of reading following the train-within-test pattern is not prevalent even though it can be more effective compared to the test-train-test pattern and they put forward two considerations as the rationale behind this circumstance. Firstly, speculating about the future learning potential which is peculiar to reading, rather than an overall measurement of it, make the practitioners feel hesitant. Secondly, reading comprehension is a metacognitive process necessitating complex cognitive competence which is reckoned inappropriate in short period mediations in connection with the idea that there could be many different causes of failure in a certain reading item.

About the high complexity of cognitive process in reading, they state that test takers are required to read passages and give task-specific or knowledge-specific answers to the items by making inferences. In that case, the practitioners are in need of including “a concept of relevant inferential processes and interventions for the construction of tasks and feedbacks” in a train-within-test pattern in dynamic assessment of reading (Ibid, p.491). On the other hand, they allege that the main aim of train-within-test pattern is to be able to achieve estimating reading ability and future learning potential by addressing processes particular to the reading skill. For this purpose, examiners put forth feedback, hints or prompts and inspect the responsiveness of the test takers to the intervention. In that way, examiners are able to establish a diagnostic perspective about test takers’ current performance and future potential learning in reading, which is appraised based on how test takers take the advantage of mediation process.

The types of feedback in dynamic assessment of reading are categorized by Dörfler et al. (2017) as verification and elaboration. The former one represents the mediation provided according to the selection of correct or incorrect answers. The sentences “Your answer is

wrong. / Your answer is right.” are the examples of verification type. As for the latter, it provides detailed feedback by serving proper hints associated with the text, items, test takers’ answers or mistakes. The elaborative feedback is considered more rewarding rather than the verification type with regard to catering further explanations and contributing more to the cognitive process of reading (Shute, 2008). The results of the study by Brown, Campione and Day (1981) illustrate that inclusion of mediation steps in which test takers are required to rationalize their responses about texts enhances reading comprehension (As cited in Kozulin & Garb, 2002). As for feedback train-within-test pattern, Dörfler et al. (2017) state that the only applicable way of presenting mediation is inserting short and specific hints or prompts, and the mediation process needs to involve elaborated feedback particular to the procedure of the task and correctness of learner responses. Similarly, they assert that “when conceptualizing a dynamic test of reading competence that focuses on inferences concerning processes on shallow as well as deep levels of comprehension, elaborated feedback might give that kind of error-specific explanations” (p.492). In that way, test takers can understand the reason why their answers are wrong and reflect on the process they have followed to draw a conclusion.

As for the studies conducted on dynamic assessment of reading, Bednar and Kletzien’s (1990) study on reading behaviors of at-risk high-schoolers is one of the pioneer studies in DA of reading. The participants of the study were 19 high school students having problems in reading and also the teachers of the test takers took part in the study to inspect their interest and capability to make use of the knowledge on dynamic assessment to do betterments in educational programs. The research procedure followed a preliminary reading competence test, analysis of reading process and strategy implementation, conducting a mediated learning lesson subsuming specific strategies and a posttest revealing test takers’ competence to profit from the recently demonstrated strategies. According to the results of the study, the employment of dynamic assessment was beneficial for the participants having difficulty in reading in the sense of illuminating the commonly used strategies, students’ strong and weak

points, and their ability to adapt to the recent strategies. Furthermore, the teachers were successful in determining which strategies to adopt and manage their teaching practices with specific learners.

Cioffi and Carney (1983) assert that non-dynamic assessment is capable of measuring learners' existing reading skills cognition, on the other hand, it lacks of predicting their future potential learning and illustrating under which circumstances the learners can advance their reading skills. In the case study by them, a 3rd grader with reading difficulties was mediated via introducing vocabulary items in advance, triggering background knowledge, offering reading guidelines and exhibiting the pattern in reading passages. As a result, the participant displayed a sufficient performance in third grade reading level and the future learning potential was compatible with the peers (As cited in Kozulin & Garb, 2002).

Moreover, Palinscar carried out a noteworthy study combining two instructional studies on comprehension fostering and comprehension monitoring in reciprocal teaching of reading (Palinscar & Brown, 1984). 37 students from seventh grade participated in the study. The participants were placed in the control and experimental groups subsuming 2 subcategories. The participants in the experimental group took mediation and subcategories followed reciprocal teaching (Group 1) and locating information (Group 2). In the control group, the first subcategory (Group 3) named test only included in the assessment procedure without a mediation process while the second subcategory (Group 4) only had pretest and posttest. The reading skills, summarization, forming questions, clarifying contradictories and making predictions were inspected in the abovementioned practices. The practitioner modelled target behaviors to follow in reading skills and left the dominant model role gradually as the participants master the reading skills in the way illustrated by the model. The results of the study revealed that all reading skills were developed, the reading comprehension scores of learners increased, and the teachers were willing to integrate the procedures followed in the study into their future teaching practices.

Furthermore, several studies have been conducted on reading by means of the use of C-DA. To start with, Yang & Qian (2017) aspired to ascertain reading comprehension difficulties through the implementation of C-DA process including multiple choice items and a questionnaire to inquire the considerations of participants. The mediation steps and grading criteria in the study were arranged in compliance with the results of the piloting study. According to the results of the study, it was evident that the subjects causing difficulties in reading comprehension were the presence unknown words, pinpointing lines correspondent to the information in items and making inferences. Additionally, C-DA surpassed non-dynamic assessment from the point of proposing a deep understanding of reading comprehension for future implementations and robust diagnostic qualifications. Also, the results of the study on C-DA of reading by Teo (2012) verify that dynamic assessment generates a more powerful and instrumental viewpoint on reading abilities in comparison with non-dynamic assessment and it offers an outstanding basis on which teacher can contemplate and design further mediation process for the benefit of learners. Also, thanks to the C-DA design, learners become “strategic” and “reflective” readers (Perkins, 1992) who are able to use certain strategies, observe their performance and look for remedies rather than just giving answers to items because C-DA is competent in equipping test takers with functional reading strategies. Besides, Pishghadam, Barabadi & Kamrood (2011) state that the results of their study indicate the execution of C-DA encourages the enhancement of reading comprehension and enlightens researchers and teachers about the future learning potential of learners.

To sum up, the studies in the field and the statements of the scholars underscore the significance of involvement of dynamic assessment in reading processes to promote learners’ ability to project on and modify their performance, comprehend and discover the essence of reading texts independently, design how to achieve their goals, and observe the progression (Navarro & Lara, 2017).

CHAPTER III

METHODOLOGY

3.1. Introduction

This study aims to explain the impact of computerized dynamic assessment (C-DA) on students' achievement in reading comprehension. The research has been conducted throughout the 2020/2021 academic school year in a foundation university in Ankara. In this chapter, the information about research design, context, participants, data collection instruments, piloting study, procedure of the main study, ethical considerations and data analysis is presented.

3.2. Research Design

The research is a case study employing both quantitative and qualitative research methods to display the impact of computerized dynamic assessment (C-DA) on learners' achievement in reading comprehension. According to Verschuren (2003), "Although case studies are typically discussed under the label of qualitative research, actual case studies often include quantitative data collection instruments" (cited in Dörnyei, 2007, p.152). With the implementation of the current case study, the researcher intends to establish a comprehensive understanding of the unique characters in the scrutinized case. To pursue this mission, explanatory sequential mixed methods design in which quantitative and qualitative steps are

carried out in tandem is adopted. The rationality behind the notion is explained as “The overall intent of this design is to have the qualitative data help explain in more detail the initial quantitative results” (Creswell, 2014, p.224). Within the scope of the present study, the impact of C-DA on students’ achievement in reading comprehension is rendered by the analysis of pretests and posttests comprising the quantitative phase, and the qualitative phase endeavors to interpret quantitative results in an elaborate way with further details. The qualitative phase is grounded on the quantitative phase with the aim of developing a deeper understanding of inferences drawn from quantitative data and illustrate if an analogy lies between the results of these phases to disclose the impact of C-DA exhaustively. On this matter, Creswell (2014) advises that the participants chosen for the qualitative plane should be grouped in different categories based the quantitative plane and the qualitative part of the study should be conducted with these participants who represent each of the categories. In the present study, the participants were divided in to achievement categories as high (H), mid (M) and low (L) groups pursuant to their scores in the pretest and the interviews were conducted with 3 participants from each category.

The DA procedure in the study has been conducted in interventionist model. The hints were prepared based on anticipated challenges beforehand and these standardized hints were presented as a part of mediation process. On the basis of the number of correct answers and attempts used, the scores of the participants were calculated and this part constitutes the quantitative plane of the study. By means of this aspect, it was feasible and manageable to conduct a study with 130 participants and it is also advised by Poehner & Infante (2016) to adopt interventionist model in large scale groups. Moreover, the mediation format employed in the study was the cake format in which the mediation was provided during the assessment “in response to students’ emerging needs” (Pishghadam & Barabadi, 2012). When the participants clicked on an incorrect answer, they were immediately provided with a standardized hint and had the chance to answer the question again.

3.3. Context

The study is executed at the School of Foreign Languages in a foundation university in Turkey throughout the 2020/2021 academic school year. The School of Foreign Languages follows three different educational programs which are branched as preparatory English program, vocational English program for the departments in which English is the medium of instruction, and general English program for the departments in which Turkish is the medium of instruction. The context of the study subsumes the general English program and six classes from seven departments titled as medicine/dentistry (joint class), pharmacy, psychology, law, management information systems and international trade and finance are the subject group of this research. In the departments following the general English program, the medium of instruction is Turkish in departmental courses while the students are encouraged to communicate in English in the general English course. Each class has 4 hours of English per week for 15 weeks and the lessons are conducted on an online platform named Microsoft Teams. The teaching load of the general English course is carried by one instructor. Moreover, the coursebook utilized in lessons is New Language Leader (NLL) Elementary from Pearson Publications. As for the grading policy, the students have weekly online assignments on MyEnglishLab by Pearson, a midterm, and a final exam.

3.4. Participants

Convenient sampling method is employed in the phase of determining the participants of the study to be able to follow and manage the steps in the research process by eliminating the concerns caused by time and expenses. The participants of the main study are freshmen students from 5 general English classes and 6 different departments which are medicine/dentistry, pharmacy, law, psychology and international trade and finance. In addition, the students from management information systems program have participated in the piloting study.

In total, 212 students had reading tests; however, 9 students were eliminated because of the concerns caused by time such as completing the whole test in less than a minute, and 29 students were excluded from the study as they did not take either the pretest or the posttest. Moreover, in accordance with the results of the homogeneity test, which will be discussed in detail in data analysis part, 44 students were dropped out and the data analysis was carried out with the rest of participants.

As for the demographic profile of the participants, there are 130 students, including 89 females and 41 males. 12 of them are foreign students from Iran and Azerbaijan and they know Turkish very well. The age range of participants fluctuates between 18 and 29. At the beginning of the term, the students took an exemption exam necessitating 60 pass mark and they were placed in general English course accordingly. Based on the results of the exemption exam and student information forms, the curriculum of the general English course was designed parallel to the A2 level. According to the Common European Framework of Reference (CEFR), A2 level proficiency is described as:

...Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need. (Council of Europe, 2001, p.24)

In the study, the students were categorized according to their departments in the experiment and control groups, which made it possible to ensure that students from a similar educational background, high school type, hours of English courses completed in high school, type of graduated department in high school, and the content of the subjects assessed in the university entrance exam were placed in each group evenly. In that way, the researcher created a balance between the experiment and the control group by eliminating the concerns caused by the involvement of six different departments. On the other hand, making a judgement on language proficiency of the students based on the results of the exemption

exam and student information forms was not satisfying with regards to secure the homogeneity of the participants in this study because a considerable number of students could not take the exemption exam and student information forms were not transparent enough to reveal much about English proficiency level of the participants. To cope with this problem, as practiced in Pishghadam & Barabadi's (2012) study, the participants whose pretest scores were one standard deviation (sd) below or above the mean score were included in the study and the rest of them were excluded. In that case, the number of the participants decreased from 174 to 130. The number of the participants are categorized in consonance with their departments and shown as follows:

Table 1
The Number and Departments of the Students in the Experiment and the Control Group

Experiment Group	<i>N</i>	Control Group	<i>N</i>
Medicine-Dentistry	71	Pharmacy	59
Psychology		Law International Trade and Finance	

3.5. Data Collection Instruments

3.5.1. Reading Tests

In the quantitative part of the study, a learning software program *iSpring Quiz Maker 9* is employed for the implementation of the pretest and posttest. The researcher has notified iSpring Solutions Inc. that she has been conducting a research by utilizing the trial version of iSpring Quiz Maker 9. The software program is designed for educational purposes, especially for preparing exams, quizzes and surveys. It has a user-friendly interface enabling teachers to group questions by the same topic and insert visual / auditory materials and

animations easily. Teachers can limit time and the number of attempts for each test item, customize navigation settings, edit texts and labels, and import questions from Excel sheets.

Based on results or choices, the branching feature in iSpring Quiz Maker 9 makes it possible to direct learners according to their answers to specific parts such as next question, end/beginning of the quiz or random pool subsuming additional questions independent from the main question list, which serves as a tool helping teachers illustrate differences, make clarifications on controversial issues or underscore crucial points in a topic, and assisting learners to improve their learning and scores. By contrast with many quiz makers in which it is only possible to add feedback by question, iSpring Quiz Maker 9 also provides the opportunity to add feedback by choice. The choices can be labelled as correct, incorrect and partially correct other than the questions in true/false, numeric, multiple choice and short answer types. It includes 14 types of questions which are multiple response, hotspot, sequence, short answer, numeric, true/false, select from list, drag the words, Likert scale, essay, drag and drop, multiple choice, fill in the blanks and matching.

By clicking on “Preview” section, a slide, a group of questions or a quiz as a whole can be previewed to check how it is going to be displayed when learners face it. Additionally, this feature presents the different appearances on tablets, computers and smart phones to make sure that it has a user-friendly layout for all students employing different devices. Tests prepared on iSpring Quiz Maker 9 can be published through several channels which are personal computers, iSpring Cloud, iSpring Space, iSpring Learn and LMS. As for reporting results, the software program serves a detailed report exhibiting questions, scores, completion time, user answers, correct answers, the number of the attempts used to answer each question for each test taker separately. Reports are delivered via email to test creators upon the completion of tests and also test takers can be informed about their scoring with detailed individual reports optionally.

In the current study, due to the fact that the participants are familiar with answering multiple choice reading questions in exams, the questions in pretest and posttest are formed in the same format to make sure that the participants do not encounter a totally new question type for the first time in the pretest and posttest. The tests prepared with the software program iSpring Quiz Maker 9 are accessed through computers, tablets and mobile phones, and compatible with different current operating systems. Nevertheless, some of the students faced problems in running the software program resulting from unpredictable occurrence of discrepancies and these participants have been provided with a substitute online testing platform, Google Forms in which the responses are analyzed and summarized in charts according to the frequency. Also, the responses can be transferred as a spreadsheet in Excel storing details on timestamp, scores and the given answers for each question. In the study, the participants completing the pretest on Google Forms are required to take the posttest on the same platform with the aim of ensuring that the reliability of data collection process is not threatened. Moreover, the platform is only applicable for the non-dynamic tests, and thus 8 students from the experiment group were moved to the control group to hinder the loss of participants.

The reading questions in the pretest and the posttest were selected from the book “KET for Schools Trainer” (Saxby, 2011) by Cambridge University Press. The book offers six full practice tests divided into three parts as reading and writing, listening and speaking. The reading questions in the book are formed in various styles such as matching, multiple choice, true/false, short answer and cloze test. The rationale behind choosing this book is that the proficiency level of participants, as it was mentioned before, was designated as A2 level and according to the website of Cambridge Assessment English (2021), CEFR level of KET exam is equivalent to A2. Also, the content of the book was parallel to the syllabus of general English course. In alliance with the multiple choice question types employed in the coursebook of general English lesson and school exams, 6 short reading texts have been chosen to include in the pretest (Reading Test 1) and the posttest (Reading Test 2). Each test

is composed of 2 reading texts in which the choices are “Wrong”, “Right” and “Doesn’t Say” and 1 reading text including sentence completion and wh- questions offering 3 choices. Inasmuch as the short texts in the pretest and posttest were adopted from KET practice tests by Cambridge University Press, it is esteemed that the validity and reliability of the texts do not pose a threat in respect to the fact that they were developed and, in Teo’s (2012) words, “tested in advance by a team of professional language test-designers” (p.13).

As for the dynamic posttest, the researcher prepared the hints for each incorrect answer to be employed as the standardized mediation. In most of the studies conducted on computerized dynamic assessment in interventionist model, the levels of hints proceed from implicit to explicit gradually, and the correct answer is revealed in the last and the most explicit hint. For instance, if questions have five multiple choices, four levels of hints in total can be presented gradually as long as students keep on giving incorrect answers until the declaration of the correct answer. In a study by Kamrood, Davoudi, Ghaniabadi, & Amirian (2019), level 1 and 4 were basically same in each question, and level 1 indicated that the answer was incorrect and test takers needed to answer the question again while level 4 disclosed the correct answer by explaining why. The mediation levels 2 and 3 were explained by Kamrood et al. (2019) as being “subject to change from one item to another respecting the nature of the item” (p.12). In the present study, the questions included three multiple choices, which is the common practice in A2 level of proficiency and in that case, it was possible to include 2 levels of hints for the incorrect answers, and the levels of these hints can be described the best via the definition by Kamrood et al. (2019) for level 2 and 3 in their study which were explained above. Due to the number of the choices, including the most implicit and explicit levels of hints would not serve any benefit to the mediation process because the participants would not have the chance to ponder on hints peculiar to the nature of each item. Further to that point, the exclusion of the most implicit and explicit levels brought about another issue to clarify. As it is stated above, the most explicit hint shows the correct answer, which means that eventually participants do not answer any questions

incorrectly. Even if they may choose some incorrect answers, questions are answered correctly in the end by means of hints from different levels. In this study, the participants were offered 3 attempts for each question and, in the third attempt, if they could not find the correct answer in the light of 2 hints presented for each incorrect answer, they answered the questions incorrectly and skipped to the next question. The hints placed in incorrect answers are categorized and exemplified in four groups in terms of the way they serve a purpose:

1. Directing participants to a specific paragraph to look for information needed to give correct answers and asking guiding questions to find details remaining unnoticed

Q7: Check the 2nd paragraph, find the comparison between the USA and Japan.

Q12: Check the details about her favourite day in the 2nd paragraph. They went on a really long walk in the mountains but is there any information about snowing in the mountains?

Q12: Check the 2nd paragraph. What happened on her favourite day? Where do you find information about snowing?

2. Directing participants to a specific sentence, which was often involved in “Doesn’t say” choices if students failed to detect an existing piece of information

Q2: Check the 1st sentence in the 1st paragraph.

Q4: Check the 6th sentence in the 1st paragraph.

Q11: Check the 2nd and 3rd sentence in the 1st paragraph.

Q13: Check the 2nd sentence in the 2nd paragraph.

Q16: Check the 1st sentence of the last paragraph.

3. Asking guiding questions on a specific sentence, phrase or situation

Q6: He says “I’m not doing this for money”, then is earning money important to Tom?

Q.4: If Tom left school last year, is he a student at school now?

Q14: Check the 3rd sentence in the 2nd paragraph. Does Tessa say they had a rock climbing lesson before or after their picnic lunch?

Q17: Tessa says “we were still laughing at midnight” even the boys made “bear” noises to make them afraid. Was it because the boys weren’t good at making bear noises? Do you see any comments about the boys?

Q19: Was the problem about understanding the teacher or texts?

Q20: It was hard for Robbie to understand texts, but do you see any information about “he hated reading”?

Q20: He learnt about business but did he go to a business college? Check the 5th sentence in the 1st paragraph.

Q24: He made a business plan on the computer, but does it mean he sells jam online?

4. Explaining the meaning of a word

Q16: Outdoors means outside. Tessa says they decided to sleep outdoors because they wanted to look at the stars. Doesn’t it mean that they wanted to look up at the sky?

On the other hand, when the participants find the correct answer, the mediation process finishes correspondingly. However, in this study, the participants choosing the correct answer were presented with a hint which served not as an aid to look back on the text but as an indorsement of the correct answer, and there were two motives behind it. Firstly, the piloting study revealed that the absence of hints in one of the choices may cause the tendency to answer the questions by making generalization upon emergence of hints without reading them. Secondly, the participants could get more benefit with the help of further explanation, which is expressed by Poehner & Infante (2016) below:

That said, this particular computerized approach to DA offers learners the option to view an explanation of relevant principles even after they have correctly answered a test item. In this way, even students who reached the correct answer through guessing, a test-taking strategy, or as the result of partial comprehension of the text still have the opportunity to learn an appropriate process for answering the question based on the text's meaning. (p.287)

By virtue of the abovementioned motives, the correct choices also displayed some hints which are presented and exemplified in two categories as follows.

1. Clarifying the meaning of a sentence or word

Q2: If he started "when he was nine", it means that it was before his tenth birthday.

Q3: "That day" refers to the day when he won his first competition.

Q4: W: Tom says "I left school last year ..." and it means he doesn't go to school anymore.

Q11: When she says "I went with two teachers and all my classmates" and "I missed my family at first ...", it is clear that she wasn't with her family.

Q22: "She told him her secret way of making jam." She refers to Robbie's grandmother.

Q23: Check this part: "... eat so he took it to other people in his street". Other people in his street means his neighbors.

Q17: Tessa tells "we were still laughing at midnight because we were having so much fun" but there is no information about the boys were good or bad at making bear noises.

2. Paraphrasing correct answers in relation with the short texts

Q6: If he isn't doing this for money, then earning money isn't important to Tom.

Q9: If skate parks are usually inside big buildings in large cities in Japan, then it is difficult to find skate parks outside the big cities in Japan.

Q14: Tessa says we had a rock climbing lesson just before our picnic lunch, not after.

Q15: Three is the number of students trying to catch fish, not the number of fish.

Q16: Tessa says they decided to sleep outdoors because they wanted to look at the stars.

Q19: Spelling words correctly was a problem for Robbie in English lessons.

Q20: His parents decided he should be taught differently at home.

Q21: He spent more time practicing on his violin which is an instrument.

As it was stated before, the researcher prepared a set of standardized hints to be employed as a part the mediation process, which could be controversial concerning the validity and reliability of the data collection tool. To this respect, the hints both written for both correct and incorrect choices were peer reviewed by two colleagues. Both of them have experience in different fields of English Language Teaching (ELT). One of the colleagues works as an executive editor in a publishing house releasing supplementary books and materials in English, and her duties involve item writing and checking the structure of choices and readability of questionnaire items. The other colleague has been working as an instructor in preparatory school at a state university for four years and pursuing an M.A. degree in ELT. As a result of the peer reviewing process, the researcher made the necessary alterations on the content and wording of hints.

3.5.2. Semi-Structured Interviews

In the qualitative part of the study, 3 participants from each achievement level in the experiment group participated in interviews voluntarily. In total, there were 9 students from high, mid and low achievement groups. They were interviewed about their opinions on the computerized dynamic assessment (C-DA) and the differences between the implementation of the pretest and posttest.

The interviews were conducted in Turkish with the aim of encouraging students to feel more confident and express themselves without any hesitation. The participants were informed that the aim of the interviewing was to learn their opinions about C-DA procedure; the researcher would record the interviews to be able to analyze the data later on; the dataset would be utilized only for scientific purposes within the context of present study, and the personal information of the participants would be kept confidential. Moreover, the researcher notified that it was possible for the participants to examine the interview questions beforehand if they wished and to ask the researcher to clarify the ambiguous points. Other than one participant, all participants have demanded to see the interview questions in advance.

Furthermore, the semi-structured interviews including approximately 6 open-ended questions were prepared by the researcher (APPENDIX A). With the aim of ensuring the validity and reliability, expert consensual validation of the data collection tool was employed and 2 experts in the field were consulted on the open-ended questions, probes and the wording of the introduction passage at the beginning of the interviewing process. The experts currently work at the foundation university in which this study has been carried out. One of the experts gives departmental general English and academic English courses, and he is the lecturer of a department from the control group. He has 9 years of teaching experience at university level including occupation in curriculum development and testing units. Additionally, he is currently pursuing an M.A. degree in Teaching Turkish as a Foreign Language. The other expert is the vice chairman of School of Foreign Languages and he has been teaching for 13 years at university level. He has completed an M.A. degree in English Language Education and he has been pursuing a Ph.D. degree in the same program. In the light of the aforementioned information, it is eloquent that the experts are familiar with the characteristics of the research context and participants and engaged in academic endeavors. The researcher made necessary alterations based on the experts' evaluation comments and put the interviews in final form.

3.6. Piloting Study

Conducting a piloting study is highly recommended by virtue of securing the efficiency of data collection instruments and the procedure of the main study. Dörnyei (2007, p.75) underscores the significance of piloting through this simile: “Just like theatre performances, a research study also needs a dress rehearsal to ensure the high quality (in terms of reliability and validity) of the outcomes in the specific context.” Moreover, he remarks that execution of a piloting study is of vital importance in quantitative studies respecting psychometric features of data collection instruments and the abandonment of the piloting study is labelled as being a noteworthy “jeopardy” for the psychometric property of the research. In the light of abovementioned endorsement, the researcher conducted a piloting study with the aim of testing the items in the non-dynamic pretest and the dynamic posttest, the questions in the semi-structured interviews and whether the design of the study serves a useful purpose in answering and explaining the research questions.

The piloting study was carried out with 23 participants, including 8 females and 15 males, from the management information systems program a week before the beginning of the main study. In the pretest, there were 28 participants; however, 2 of them requested their results to be excluded from the research data and 3 of them did not take the posttest. The piloting study hereby was completed with the participation of 23 students.

The piloting study was conducted in two successive weeks during the class hours. In the first week, the participants were informed about the aim and procedure of the study, privacy of personal data, voluntary participation, the right to quit at any time and the contact address of the researcher along with the other details in Informed Consent Form. Next, the researcher showed how to download, open and start the non-dynamic pretest, and sample questions are illustrated to depict how the software program is navigated between the questions and the reading passages, and through the following pages. The participants answered 24 reading comprehension questions from 3 short texts within 40 minutes. In the second week, the

researcher explained how dynamic format worked by showing pictures of each step. She explained that the hints would emerge when they chose some of the choices, but she did not unfold whether those would be correct or incorrect choices although they were placed in incorrect answers. She told that the participants were expected to revise their answers if they saw some hints and to make necessary changes if there were any. Nonetheless, it was told that the emergence of the hints did not indicate anything about the correct and incorrect answers, so if they still thought the same choice was correct after reading the hints, they could choose the same choice again, and they would have 3 attempts for each question.

In alliance with the non-dynamic pretest, the same number of the questions and short texts were involved in the dynamic posttest and the test duration was unmodified. Thereafter, for the qualitative phase of the piloting study, the students were chosen on a voluntary basis because the researcher presumed that the participation of the volunteers would be more productive and serve a deeper understanding of the piloting process. With the same purpose, the interviews were conducted in the native language of the participants, which is Turkish. Eventually, 2 volunteers were interviewed to find out necessary modifications and make final decisions on partly ambiguous points which were the time duration and enabling students navigate through the questions list. All participants had been informed that there would be an interviewing part following the pretest and posttest. Additionally, the interviewees were informed about the aim of the interviews, type of questions, audio recording and privacy of personal data. The participants were provided with the interview questions on demand in advance of the interviewing. The interviews were conducted on Microsoft Teams platform and the following modifications have been made based on the piloting study.

Firstly, in the non-dynamic pretest, there were several students who had problems in starting the test via the software program although it was adaptable to different current operating systems. The researcher had prepared a substitute online test on Google Forms platform in

case of unanticipated problems, so these students could participate in the study thanks to the back-up plan. However, it would not be possible to overcome this problem with ease by providing another online platform for the dynamic posttest. Therefore, the researcher prepared a set of instructions to make sure that students' computers had necessary upgrades to be able to run the software program and a demo test to check whether it worked or not after updating. The instructions and the demo test were sent to the participants of the piloting study before the dynamic posttest. Also, they were sent to the participants of the main study beforehand to make sure that the online platforms used in the pretest and posttest were identical.

Secondly, this was one of the main considerations that the dynamic posttest and the software program were totally new concepts for the students and the researcher aimed to uncover the points which could be disorienting or raise difficulties during the pretest and posttest. In this respect, the interviewees stated that they had not encountered any challenges and they did not dispense any advice on the things which could have been developed in the pretest. Nevertheless, an interviewee affirmed that the emergence of the hints was distracting for her because she paid an effort to find the pattern in which the hints were presented. When she was sure about the correct choice and saw a hint by clicking on it, she concluded that the hints were placed in correct options while the reverse happened in the next question. As a result, she was puzzled and lost her focus on using the content served in hints to solve the reading comprehension questions. To be able to resolve this drawback, the researcher added hints in correct choices as well and she aspired to eradicate the state causing the tendency to answer the questions by means of the generalization upon emergence of hints without reading them.

In addition, one interviewee advised to shorten the time duration; hence the researcher checked the test reports exhibiting the time spent for each participant. The majority of the students had finished the tests towards to the end of time limit so she did not make any

alternations in the time duration of the pretest and posttest. As for including navigation through the question list, it was stated that there was no need to revise the previous questions thanks to the hints, so the researcher did not make any modifications on it.

3.7. Procedure of the Main Study

At the very beginning, the researcher had sessions with 2 instructors who would conduct the reading tests in 2 classes from the control group and they were briefed about the procedure of the study. The presentation file which would be illustrated in each class to inform the participants about all details was explained in depth and ambiguous parts were clarified by answering the instructors' questions.

At the first stage of the main study, the pretest, named Reading Test 1 (APPENDIX B), was conducted in the non-dynamic format both in the experiment and control group. The researcher informed the participants that they would have two sets of reading tests as a part of a study which would be conducted based on the results of these reading tests by her. Later on, the title and aim of the study, the content of the reading texts, the time limitation of the tests and the procedure of the whole study including Reading Test 1, Reading Test 2 (APPENDIX C and D) and the interviewing part following the reading tests were introduced. Next, the researcher explained the statements in Informed Consent Form (APPENDIX E) in detail both in English and Turkish to make sure that students were clear about the whole process and what they gave consent to, and put emphasis on the fact that they were expected to participate in the study only on a voluntary basis, and they had the right to quit at any time even after they completed the reading tests. Also, she ensured that personal information of the participants and the privacy of the data would be secured by the researcher and they would be used only for scientific purposes. Moreover, she shared her contact address for further questions and stated that the results of the study would be shared with the participants on request after the study was completed. After that, the researcher gave information about

the software program in which both Reading Test 1 and Reading Test 2 would be conducted and showed the steps to download, open and start the tests. The students were told that, on the first page, they were required to enter details about the personal information including name, surname and department. On the second page, they would see the Informed Consent Form which was explained in detail at the beginning of the lesson. At the following page, they would see a statement indicating that the participants had been informed about the research, the freedom of withdrawing at any time and their participation was voluntary. When they clicked on “Yes” below this statement, the test started. Additionally, sample questions and screenshots from the demo test were illustrated to describe how the software program worked. The necessary information about how to navigate between the questions and the reading passages, and go to the following pages was presented. It was explained that the participants would read 3 short reading texts, 2 texts including “Wrong”, “Right” and “Doesn’t Say” choices and 1 text including sentence completion and wh- questions with 3 different choices, and answer 8 comprehension questions for each text in 40 minutes. The participants took Reading Test 1 during the lesson hours and the students who were absent in the lesson were allowed to take the test in a couple of days.

After 3 weeks, the participants in the experiment group took Reading Test 2 in dynamic format while the ones in the control group took it in non-dynamic format at the second stage of the study. In both of the groups, the aim, the content of the reading texts, the duration, details about the consent form and the procedure were highlighted again before the tests. In the experimental group, the researcher introduced the mediation process by presenting some examples in the software program. The students were not familiar with the dynamic assessment procedures, so the researcher showed how the hints would emerge and what needed to be done for the next step. She stated that the participants would see some hints when they clicked on a choice regardless of the correctness of their choices, and they needed to read the hints and reexamine their given answers by checking the short texts again, and then they would have the chance to choose another choice if they were of the opinion that it

was necessary to make some alterations. If they ended up with the idea that there was no need for a change, then they could choose the same option and they would have 3 attempts in total for each question.

On account of the problems with the software program in the piloting study, the researcher showed certain steps to follow to make sure that students' computers had necessary upgrades to run the program and sent a demo test to check it before the main study, but still there were some students who did not upgrade their computers or try to run the demo file, so they were directed to the substitute online tests in non-dynamic format on Google Forms platform to be able to restrain from participant attrition. However, there was not a substitute online test in dynamic format and the participants who still had problems even though the researcher took precautions to overcome anticipated problems took the test in non-dynamic format. Hence they were shifted to the control group.

At the last stage of the study, the participants in the experiment group were divided into 3 achievement levels based on the results of the pretest and 3 students from each level were interviewed with the aim of elaborating the results from the quantitative phase of the study and draw an extensive conclusion considering the discussion of research questions. The researcher sent a message to the participants and stated that she was willing to conduct an interview, which had been mentioned before the implementation of Reading Test 1 and Reading Test 2, with them. She declared the aim of the interviewing, type of the questions and expected duration of the interviews. She also added that the interviews would be recorded and the privacy of data including personal information and answers for the questions was secured by the researcher. 9 voluntary students attended the interviews and the ones who requested were provided with the interview questions beforehand. The interviews were conducted on Microsoft Teams program. At the beginning of the interview, the researcher reminded the aim of study, procedures of Reading Test 1 and Reading Test 2 and asked whether the participants had any questions about the interviewing process.

3.8. Ethical Considerations

As Creswell explains (2014), considering anticipated ethical issues is quite important and they need to be reflected during the whole research process in all research designs. In compliance with this statement, the researcher paid regard to the following ethical considerations.

Both in the piloting and main study, the students were informed about the aim and procedure of the study, and the details in the Informed Consent Form have been explained both in English and Turkish to be able to eliminate possible confusions and misunderstandings. The researcher laid emphasis on voluntary participation and the right to quit at any time even after the completion of the study, and shared the contact address for further questions or requests during the study. Due to the COVID-19 pandemic, the research was conducted in a learning environment following distance education in an online format, so the students gave consent to participation via clicking on the “Yes” box under the statement of consent (APPENDIX F). To be able to protect the confidentiality of the participants, the results were presented by attributing numbers.

According to Dörnyei (2007), guaranteeing that participants of a study do not get harm is not satisfactory, so researchers are in need of establishing a research design in which participants can *benefit* from research in some way. With this respect, the researcher prepared a feedback lesson on dynamic posttest in which 10 questions that most of the participants answered incorrectly were explained and some strategies, such as asking yourself questions, reading questions first, making notes, guessing words from context, answering main idea and specific point questions, for reading comprehension questions were demonstrated.

Also, the researcher informed the School of Foreign Languages in which the study has been carried out throughout the 2020/2021 academic school year and started the data collection process after the approval of the institution (APPENDIX G).

3.9. Data Analysis

In the quantitative part of the study, the data gathered from the results of the pre-test and post-test were calculated by applying non-parametric tests in SPSS 24.0 to illustrate whether there is any difference in learners' achievement after having the posttest based on computerized dynamic assessment (C-DA) of reading skills. The dynamic and non-dynamic scores of the participants were calculated out of 96 and each question was worth 4 points. The non-dynamic score was calculated based on the number of correct answers in the pretest and the control group's posttest. As for the dynamic score calculated in the experiment group's posttest, it followed a different procedure based on the number of the attempts used to answer each question. The test reports sent by the software program included the information about both the correctness of the answers and how many attempts were used for answering them (APPENDIX H). Based on these reports, the number of the attempts used by each participant was subtracted from the total point (Kamrood et al., 2019). The first attempt was ignored and the additional attempts used to see the hints were included in the calculation process. Namely, if a student only used one attempt and answered the question correctly, then he/she got 4 points for the item. However, if the student used two attempts, then she/he got 3 points for the item. After the first attempt, each attempt caused participants to lose one point from the total score. In that case, a student answering all the items correctly would get 96 points in the non-dynamic format while the score of the participant using 8 attempts after the first attempt would be 88 even though she/he answered all the items correctly.

Also, the calculation of the findings and formulas has been double-checked by an expert in the field of statistics to ensure that the results are presented in a way which is free of statistical errors. As for the qualitative data, content analysis was employed to explore the codes and themes in the data by using the software program MAXQDA. There were no pre-existing codes and they have been shaped according to the raw data.

All in all, the methodological components of the present study have been presented in Chapter III. The research design, the research context, the profile of the participants, the selection and preparation of data collection instruments, the procedures followed in the piloting study and the main study have been explained in detail. Also, the actions taken to eliminate ethical concerns are mentioned. Lastly, data analysis process is described. The results of the data analysis part are demonstrated in the following chapter.



CHAPTER IV

RESULTS AND DISCUSSION

4.1. Introduction

The present study aims to find out the impact of computerized dynamic assessment (C-DA) on freshmen EFL learners' achievement in reading comprehension and it inquires whether the unification of instruction and assessment makes contribution to learners' achievement by promoting their ZPD.

In this chapter, the quantitative results of the pretest and posttest are analyzed within and across the experiment and control group by means of Shapiro-Wilk Normality Test, Mann Whitney U Test, Wilcoxon Signed Ranks Test in SPSS 24.0. Moreover, the findings are displayed and discussed in alliance with the first research question.

In the following part, the qualitative data gathered from the semi-structured interviews is analyzed through the qualitative data analysis program MAXQDA and the results are presented and discussed with the aim of clarifying the implications based on the quantitative data with further details from the participants' point of view and answering the second research question.

4.2. The Analysis of Quantitative Data

The first part of the results illustrates the statistics based on the comparison of the experiment and control group in the pretest and posttest. Also, the pretest and posttest scores are compared in each group itself separately.

As it has been explained in Chapter III, the analysis of quantitative data started with insuring the homogeneity of the participants with respect to the proficiency level. The participant groups were not homogeneous although an exemption exam was carried out, and student information forms were used to collect information about students' English proficiency level to be able form homogeneous groups in alliance with their level because many students did not take the exemption exam, and the student information forms did not provide a clear understanding of language proficiency. For these reasons, based on the pretest scores, the researcher labelled the sections one standard deviation (sd) below or above the mean score as the extreme zones and the participants having a score in these sections were excluded from the study (Pishghadam & Barabadi, 2012).

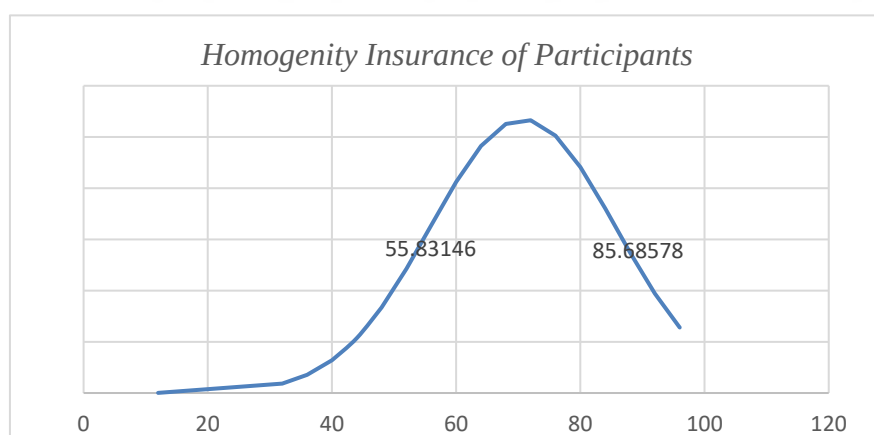


Figure 3. Homogeneity insurance of participants in terms of English proficiency level

As a result of the homogeneity check, 44 students with scores lower than 55.83 or higher than 85.68 were eliminated and the findings were analyzed based on the scores of 130 students in the homogeneous section.

Moreover, as Dörnyei (2007) states, one of the important issues to consider with the aim of deciding on which statistical techniques to employ in data analysis process is to check whether the data is “normally distributed” or not. According to Oztuna, Elhan & Tuccar (2006), the studies conducted with small number of participants are not strong enough to reject the null hypothesis assuming that the distribution is normal; however, the ones with large number of participants may not pass the testing for normality. Thus, the researcher used the Shapiro-Wilk Normality Test with 95% confidence interval to examine whether the dataset values were scattered symmetrically; in other words, whether the dataset values displayed a standard bell-shaped curve.

Table 2
The Results of Shapiro-Wilk Normality Test

Variables	<i>N</i>	<i>p</i>
DA pre-test score	71	.000
DA post-test score	71	.000
NDA pre-test score	59	.000
NDA post-test score	59	.000

According to the results of Shapiro-Wilk Normality Test on the variables listed in the table above, the p value for each variable illustrates that the distribution of the datasets is not normal ($p < .05$). For that reason, the statistical analysis in the following steps employs non-parametric tests stated below:

- The comparison of experiment and control group in pretest scores:
Mann Whitney U Test
- The comparison of experiment and control group in posttest scores:
Mann Whitney U Test
- The comparison of pretest and posttest scores in the experiment group:
Wilcoxon Test

- The comparison of pretest and posttest scores in the control group:

Wilcoxon Test

As stated by Bordens & Abbott (2018), the Mann-Whitney U test is one of the most powerful nonparametric tests, and it is employed to calculate whether there is a significant difference between two independent groups if the “dependent variable is scaled on at least an ordinal scale” (p. 460). In addition, they express that the Wilcoxon Signed Ranks Test is a suitable nonparametric alternative in studies carrying out “a single-factor experiment using a within-subjects or matched-pairs design” (p.461).

Furthermore, Dörnyei (2007) remarks that the Mann-Whitney U test is a favorable equivalent of the independent samples t-tests while the Wilcoxon Signed Ranks Test is a counterpart to the paired samples t-tests.

Moreover, as cited by Pishghadam & Barabadi (2012), confirming the reliability in DA practices is subtle because practitioners try to create a deliberate alteration learners’ performance (Haywood & Lidz, 2007); therefore, it is advisable to make use of assessment tools which are already reliable in non-dynamic format. For that reason, the reading tests were adopted from Cambridge KET practices due to the reliability concerns. Next, the Kaiser-Meyer-Olkin (KMO) test was employed with the aim of displaying to what degree each variable in the test can be predicted by means of other variables correctly. The result showed that KMO value of the reading tests is 0.621 and the values higher than 0.5 are accepted as being appropriate (Field, 2000).

4.2.1. The Comparison of Experiment and Control Group in Pretest Scores

The researcher utilized Mann Whitney U Test in order to find out whether the pretest scores of the experiment and control group show a difference. The findings of the test have an importance in terms of validating the homogeneity insurance of participants’ English proficiency level.

Table 3

The Results of Mann Whitney U Test in the Comparison of Experiment and Control Group in Pretest Scores

Groups	<i>N</i>	<i>U</i>	<i>z</i>	<i>p</i>
Control	59	1985.000	-0.518	.605*
Experiment	71			

* $p > .05$

As a result of Mann Whitney U Test, the *p* value is lower than 0.5 and it indicates that there is not a significant difference in the pretest scores of the participants in the experiment and control group ($U = 1985$, $z = -0.518$, $p = .605 > 0.05$).

4.2.2. The Comparison of Experiment and Control Group in Posttest Scores

As for the posttest scores, Mann Whitney U Test was utilized in order to find out whether there is a difference between the study groups' performance in the posttest. The comparison of posttest scores is of paramount importance because the findings of this comparison account for the main focus of the study and answer the first research question.

Table 4

The Results of Mann Whitney U Test in the Comparison of Experiment and Control Group in Posttest Scores

Groups	<i>N</i>	<i>U</i>	<i>z</i>	<i>p</i>
Control	59	937.500	-5.420	.000*
Experimental	71			

* $p > .05$

As a result of Mann Whitney U Test, there is a statistically significant difference in the posttest scores of the participants in the experiment and control group ($U = 937.5$, $z = -5.420$, $p = .000 < 0.05$).

4.2.3. The Comparison of Pretest and Posttest Scores in the Control Group

The scores of the pretest and posttest is compared within the control group itself to check the presence of other factors which could have an impact of the results during the data collection period.

Table 5

The Results of Wilcoxon Signed Ranks Test on the Pretest and Posttest Scores of the Control Group

Scores	Ranks	n	Mean	Median	Sum of Ranks	z	p
Pretest/ Posttest	Negative	8	72.75	72	527.50		
	Positive	34	74.37	80	850.50		
	Ties	7					
	Total	59					
						-1.476	.140*

* $p > .05$

Based on the analysis of pretest and posttest scores of the participants in the control group, it is revealed that there is not a significant difference in the pretest and posttest scores. The statistics show that the pretest score and the posttest score of the participants are very close to each other. In that case, Wilcoxon Signed Ranks Test illustrated that there is not a significant difference ($z = -1.476$, $p > .05$). The number of the students with positive ranks representing the students got higher scores in the posttest is 34 while the number of the students with negative ranks representing the students got lower scores in the posttest is 18. Also, 7 students got the same score in the pretest and posttest. Although the numbers of the students with positive ranks is more than the ones with negative ranks, the p value demonstrates the significance of the relationship between the pretest and posttest. As the table presents, unanticipated factors which could have an impact on the results do not exist.

4.2.4. The Comparison of Pretest and Posttest Scores in the Experiment Group

With the aim of disclosing the impact of the computerized dynamic assessment on the achievement of experiment group participants, the pretest and posttest scores are compared.

Table 6

The Results of Wilcoxon Signed Ranks Test on the Pretest and Posttest Scores of the Experiment Group

Scores	Ranks	n	Mean	Median	Sum of Ranks	z	p
Pretest/	Negative	3	73.46	72	61.00		
Posttest	Positive	68	86.87	89	2495.00		
	Ties	0					
	Total	71				-6.976	.000*

* $p > .05$

Based on the analysis of pretest and posttest scores of the participants in the experiment group, it is revealed that there is a significant difference in the pretest and posttest scores. The statistics show that the participants' the pretest score is lower than the posttest score. In that case, Wilcoxon Signed Ranks Test illustrated that there is a significant difference ($z = -6.976$, $p < .05$). 68 participants got higher scores and 3 students got lower scores in the posttest. There is not any student who got the same points in the pretest and posttest. The number of the students increasing their scores in the posttest is a lot more and also the p value illustrates that the difference is significant.

Moreover, the performance of participants in the experiment group is analyzed by creating high, mid and low achievement groups based on the pretest scores with the aim of illustrating the impact of C-DA across the achievement groups with regard to making benefit of dynamic assessment. The achievement groups were determined based on the mean score (73.46) and the value of standard deviation (8.64). Consequently, the benchmark for the high group was

82.1 and above, the participants with scores lower than 64.82 were included in the low group and the ones with scores between 64.82 and 82.1 were placed in the mid group.

As the following tables illustrate, in the posttest, the number of the participants in high group increased from 16 to 56 and in the mid group, the number shifted from 35 to 15. As for the low group, the number fell from 20 to 0.

Table 7

High- Mid-Low Achievement Groups in the Pretest

Pre-test Score	<i>n</i>	%
Low	20	28.2
Mid	35	49.3
High	16	22.5
Total	71	100

Table 8

High- Mid-Low Achievement Groups in the Posttest

Posttest Score	<i>n</i>	%
Mid	15	21.1
High	56	78.9
Total	71	100

4.2.5. Learning Potential Score (LPS)

One of the fundamental merits of dynamic assessment practices is that it does not only provide information about the enhanced performance of learners based on their ZPD in testing, but also it enables practitioners to ascertain the indicators of future potential learning of learners. Concerning this matter, The Learning Potential Score (LPS) was put forward by Kozulin & Garb (2002) to be able to differentiate learners with high and low learning potentials and their formula is illustrated in the following Figure 4:

$$LPS = \frac{(S_{post} - S_{pre})}{S_{max}} + \frac{S_{post}}{S_{max}} = \frac{2S_{post} - S_{pre}}{S_{max}}$$

Figure 4. The learning potential score formula (Kozulin, A., & E. Garb. (2002). Dynamic assessment of EFL text comprehension of at-risk students. *School Psychology International*, 23(1), 112-127.)

Based on this formula, Learning Potential Score of the participants in experiment group was analyzed and the findings are illustrated in Table 9 below:

Table 9
Descriptive Statistics of the Scores

	Non-dynamic Score (SPre)	Dynamic Score (SPost)	LPS
<i>N</i>	71	71	71
Mean	73.46	86.87	1.04
Std. Deviation	8.64	7.45	0.14
Minimum	56	66	0.56
Maximum	84	96	1.33

The LPS score of the participants fluctuates between 0.56 and 1.33 and the mean of LPS is 1.04. In the current prominent studies conducted on dynamic assessment (Pishghadam & Barabadi, 2012; Poehner & Lantolf, 2013; Yang & Qian, 2017; Kamrood et al., 2019; Ebadi & Saeedian; 2019), the classification of LPS levels depends on the benchmarks put forward by Kozulin & Garb (2002). In accordance with practices in these studies, the participants can be categorized in groups as a high LPS group with $LPS > 1.0$, a mid LPS group with $1.0 > LPS > 0.71$ and a low LPS group with $LPS < 0.71$, and the total distribution of participants' LPS scores is presented in Figure 5:

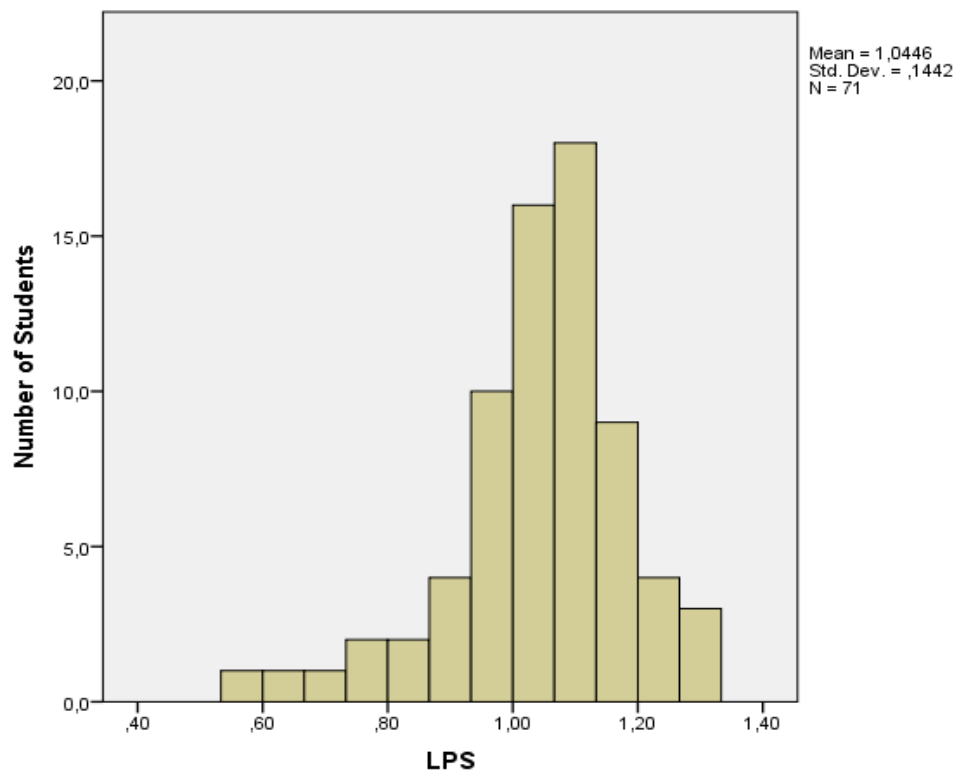


Figure 5. The total distribution of the participants' LPS scores

As stated by the inventors of LPS score (Ibid), the participants with equal pretest scores may have different LPS scores, which illustrates that they have differences in terms of zone of proximal development (ZPD). In the present study, many participants performing equally in the non-dynamic reading test have various LPS scores and the situation is exemplified in Figure 6, which presents different LPS scores of five participants who scored 72 in the pretest.

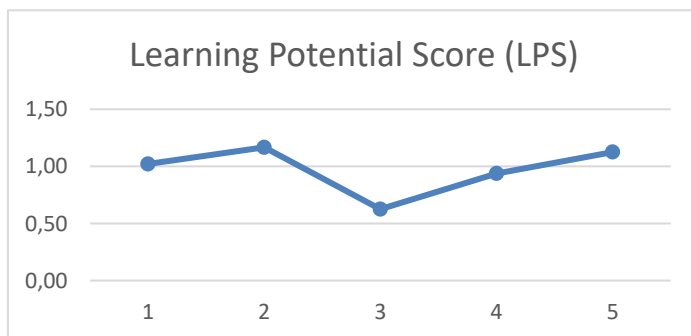


Figure 6. The LPS scores of five participants with the same pretest score

In the light of Figure 6, the participants categorized in the same achievement group relying on the non-dynamic pretest results by assuming they were equal in terms of reading competence are actually different from each other in LPS scores with regards to their emerging capacities in ZPD. To make it clearer, LPS scores of Participant 2 and Participant 3 in the Figure 6 are 1.17 and 0.63, respectively while they performed equally and both scored 72 in the non-dynamic pretest. This divergence indicates that Participant 2 was able to answer the reading questions by employing less attempts to see the hints, and it can be referred that this student's reading capacities are closer to complete maturation; on the other hand, Participant 3 was in need of utilizing more attempts to see more hints to be able to answer the reading questions. Hence, it is revealed that the participant is required to be provided with further support.

4.2.6. Discussion of the First Research Question

In this part, the quantitative results based on the pretest and posttest will be discussed to with the aim of answering the following research question:

RQ1: Does the implementation of computerized dynamic assessment cause a difference in students' achievement in reading comprehension?

To start with, the findings on the comparison of the pretest scores in the experiment and control group reveal that the participants in both groups displayed a similar performance in the pretest. As it was mentioned before, the researcher had some concerns about the homogeneity of the participants in terms of the proficiency level and employed homogeneity check which resulted in exclusion 44 participants. As a result, it can be concluded that thanks to the homogeneity check, assigning participants from different departments to the experiment and control group did not pose a threat to assuring a corresponding language proficiency level and also, the validity and the reliability of the study. As Figure 7 illustrates, at the first step of the study, the participants' performance in reading comprehension was

almost even in the non-dynamic pretest and this situation establishes a basis on which the effect of C-DA can be determined in a clearer way.

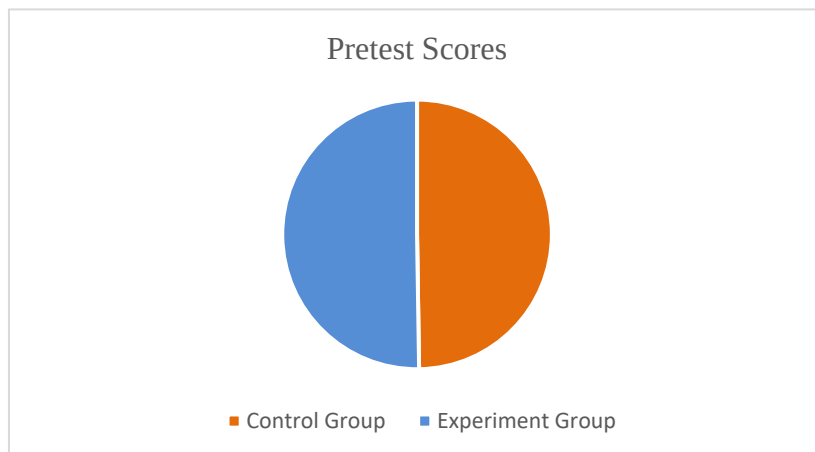


Figure 7. The comparison of experiment and control group in pretest scores

Next, the results of the comparison of the posttest scores in the experiment and control group illustrated that there is a significant difference between the performance of the groups. Considering the comparison of groups in pretest scores displaying no significant difference, the alternation in the comparison of the posttest performances indicates the impact of dynamic assessment on learners' achievement in reading comprehension.

In the experiment and control group, there were many students getting the same score in the pretest but their performance was divergent in the posttest. For example, a student from the experiment group (Student 72) and another student from the control group (Student 12) scored 64 in the pretest. However, in the posttest, Student 72 increased his performance by 48.43% and scored 95 while Student 12 scored 72 with the increment of 12.5%. Thus, it is safe to deduce that the dynamic assessment assisted participants by addressing their needs in the reading process and they performed better in reading comprehension test conducted in C-DA format.

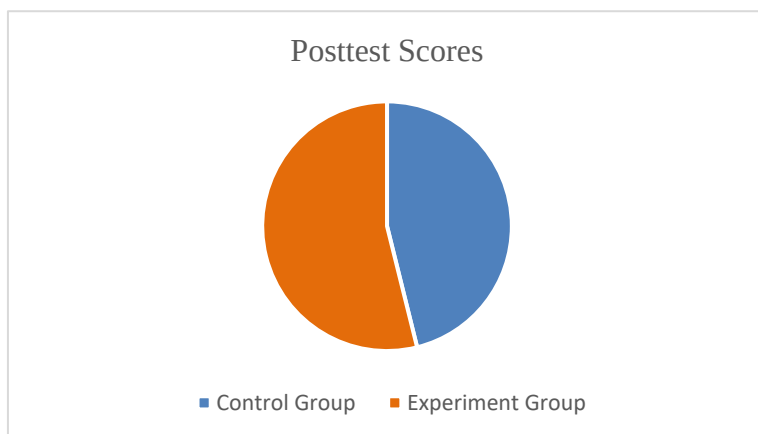


Figure 8. The comparison of experiment and control group in posttest scores

The difference exhibited in Figure 8 is similar to the results obtained in Teo's (2012) study. In line with it, it can be concluded that C-DA has a positive effect on learners' achievement in reading comprehension, and the unification of instruction and assessment created an environment in which the participants were able to reflect on their performance with the help of hints. In C-DA format, the participants had the chance to make necessary changes if there were any while they could only skip to the next question in NDA format.

Furthermore, it is substantial to pay regard to the comparison of the pretest and posttest scores in the control group since potential effect of other possible factors needs be checked to be able to explain the impact of C-DA without any bias. In the light of the results, it has been found out that the pretest and posttest scores of the participants in the control group do not show a significant difference. Therefore, it can be concluded that, unanticipated factors which could have an impact on the results do not exist and pose a thread for the implications drawn based on the results. As for the comparison of the pretest and posttest scores in the experiment group, it can be concluded that computerized dynamic assessment has aided the achievement of the EFL learners in reading comprehension.

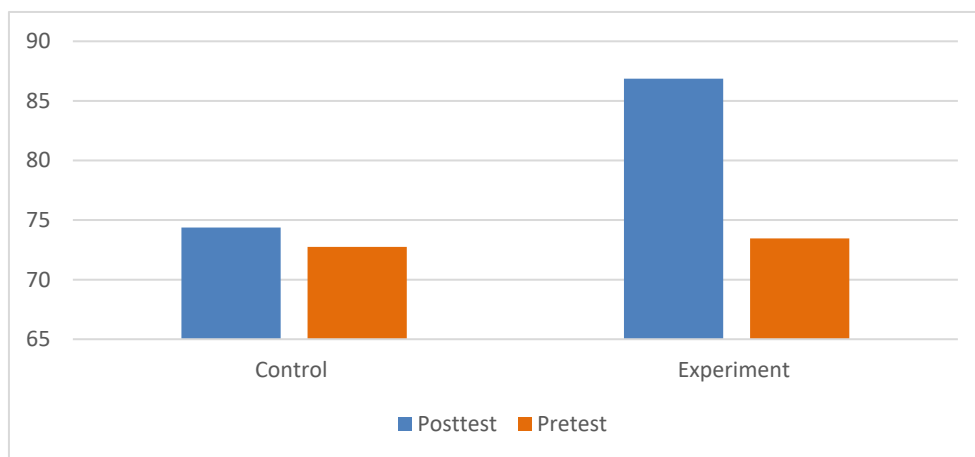


Figure 9. The overall scores of the control and experiment groups

As Figure 9 illustrates, the implementation C-DA in the posttest made a significant difference in participants' performance both within the experiment group itself and in comparison with the performance displayed by the control group. The results of this study bear resemblance to numerous studies conducted on DA and C-DA practices. As being one of the most prominent studies on DA, Kozulin and Garb's (2002) study with EFL learners at risk revealed that the participants were able to improve their performance in the posttest formed in DA format compared to the pretest in NDA format. In the same vein, they allege that the hints were useful to boost participants' performance, and the gap between the pretest and posttest indicates the difference between the actual development and zone of proximal development (ZPD) which can be brought into open thanks to DA. Moreover, in Toe's (2012) study, it has been observed that the participants showed progress to a considerable extend in the posttest by means of the implementation of C-DA practice. In addition, the study included a qualitative phase in which participants also confirmed that C-DA lent assistance with regard to advancing metacognitive reading strategies. Next, Poehner and Lantolf (2010) concluded based on their DA study on L2 Spanish context that the potential motive behind learner development in individual performance lies in offering mediation regardless of being explicit or implicit. Also, the results of the study by Tzuriel and Shamir (2002) which followed a unique design on C-DA revealed that combining teacher mediation

with C-DA mediation is the most efficient way to create a boosting effect on learners' development. In addition, Poehner and Lantolf (2013) concluded that the difference between participants' actual and mediated scores illustrates that C-DA plays a major role in encouraging learner development. Similarly, Yang & Qian (2017) explained that "The analysis of the data generated by the C-DA program indicated that C-DA far exceeded the traditional static assessment for its stronger diagnostic capacities and the deeper insights it provided for subsequent teaching" (p.1).

Moreover, the participants in the experiment group were categorized in high, mid and low achievement groups in accordance with their scores in the pretest with the aim of exhibiting the learners' shift in these categories by means of the C-DA practice. Figure 10 illustrates the difference between participants' achievement group in the pretest and posttest as follows:

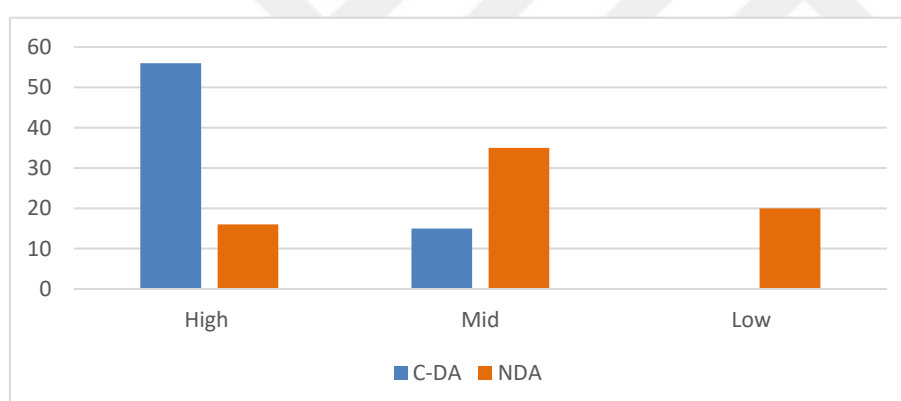


Figure 10. Achievement groups of the participants in pretest and posttest

In the light of these statistics, it can be concluded that C-DA made it possible for learners to perform at a higher achievement level by addressing their ZPD, which would be concealed in case of employing NDA format. As stated by Teo (2012), using C-DA as a means of a more capable peer in mediation "allowed for the internalization of information, which in turn helped promote learners' potential development and assess the learners' reading levels in the process of learning" (p.16). Moreover, according to Pishghadam & Barabadi (2012), the shift between the achievement groups indicates the effect size of mediation which means to what

extend the participants benefitted from the mediation process. Based on the number of the students moving to a higher achievement group, it can be implied that the participants considerably benefitted from the mediation process.

Furthermore, the results from Learning Potential Score (LPS) formula exhibit significant findings for the conclusions which can be drawn based on the impact of C-DA. The participants performing at the same level of actual development in non-dynamic tests may not be equal to each other in terms of their ZPD. As Poehner & Infante (2016) states, to be able to “capture the full range of an individual’s abilities, it must be organized to target not only independent performance but responsiveness to mediation as well” (p.278). For this purpose, LPS score illustrates how learners are different from each other in terms of ZPD and how differently they should be assisted for future learning based on their learning potential levels.

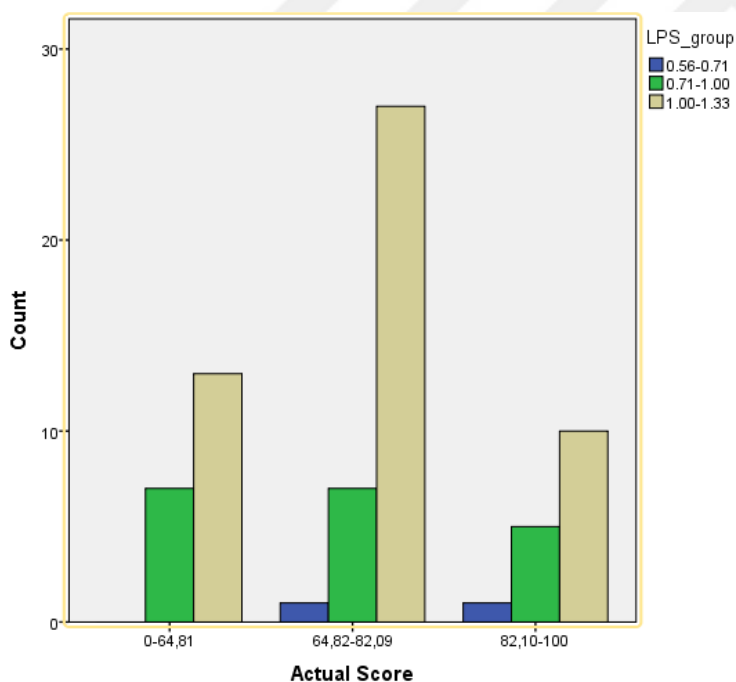


Figure 11. LPS scores of the participants in different achievement groups

As the Figure 11 indicates, dependent from their achievement groups, participants display different learning potential scores. The participants in the low group based on their pretest

scores have higher learning potential scores compared to the ones in the high achievement group while the mid group shows the largest variety in terms of LPS scores. NDA fails to illustrate this distinction which is significant for educators to designate different plans for learners who are in need of particular levels of assistance. As cited in Kamrood et al. (2019), Kozulin and Garb (2002) explains that the participants in mid group with low LPS score are required to be supported with a plan including informative focus while the participants in mid group with high LPS score should be engaged in more challenging tasks, and also Poehner et. al. (2015) underscores the same matter by stating “despite their similar independent performance on the test, we can expect these learners to require very different levels of instructional support” (p.349).

These results clearly lend credence to DA for providing further details, which cannot be accessed via NDA, about the students’ needs in the learning process and assisting teachers in designing effective future teaching practices based on these needs. Moreover, C-DA creates a significant effect on participants’ achievement in reading comprehension competence in comparison with NDA.

4.3. The Analysis of Qualitative Data

The qualitative phase of the study is followed by the qualitative phase and in the second part of the results, the findings of the semi-structured interviews carried out with 9 students are presented with the purpose of explaining the results in the qualitative phase in a detailed manner to serve a deeper insight on the impact of C-DA in reading comprehension and checking whether the indications based on results of the quantitative phase are supported by the opinions of participants.

The qualitative data gathered from 9 participants through semi-structured interviews was analyzed through content analysis by using the software program MAXQDA Analytics Pro 2020 which is, according to Dörnyei (2007), one of the most frequently employed software

programs in the literature. Also, he explains the assets of computer-aided qualitative data analysis as being able to handle large data in a short time, having high storage capacity, simple index options, elaborate second-level coding, current analytic tools, higher legitimacy and accuracy, and recording audit trails easily.

At the beginning of the content analysis process, the researcher transcribed the interview recordings (APPENDIX I) and participants were named from P1 to P9 according to the achievement benchmarks designated in the quantitative data analysis section with the aim of displaying an accurate representation of the participants. In the next step, the transcripts were read multiple times to eliminate the parts irrelevant to the scope of the study. In that way, the research ended up with partial transcription of the interviews meant to be coded in the following step. The researcher analyzed the transcripts by employing open coding and prefabricated codes did not exist. In initial coding process, the researcher read the transcripts many times and highlighted the words and sentences directly linked to the second research question by using different colors. This process was repeated until the researcher reached the saturation point and could not add new codes. Next, second-level coding process started and researcher tried to find out common points and patterns of codes in the transcripts. The ones related to each other were classified under the same headings called themes, and themes were unified under umbrella terms named categories according to the shared aspects. Moreover, the researcher collaborated with a peer who has 5 years teaching experience and an M.A. degree in ELT for external coding check, and made necessary alterations in wording and the codes themselves. In following parts, categories, themes and codes are illustrated and discussed in detail by providing sample excerpts from the interviews.

4.3.1. The Findings of Semi-Structured Interviews

In the semi-structured interviews, the researcher asked approximately six questions to 9 voluntary participants with the aim of finding out whether the findings of the quantitative

data analysis part were consistent with participants' reflections based on dynamic and non-dynamic practices. MAXQDA is a qualitative data analysis software program which is commonly used in academic studies. The program offers different tools to analyze data gathered via interviews, focus group interviews, surveys, images, audios, videos, tables and texts. During the coding process, the program provides a user-friendly layout in which the screen can be divided into different sections in which researchers are able to see the content, code system, document system and memos. It is easy to create new codes, place the existing ones, use emojis functioning as codes, generate Vivo codes and assign a color for each theme or code. As for the results, the statistics based on categories, themes and codes are presented in graphs, tables and reports.

The findings of the content analysis presented the categories and themes illustrated in the following table:

Table 10

Categories/Themes from the Content Analysis of the Semi-Structured Interviews

1. Benefits of C-DA	Frequency of Codes <i>f</i>
Reading performance	27
Better reading comprehension	13
Better performance in C-DA	10
Eliminating inattention	4
C-DA itself	17
More helpful	6
Intelligible	6
Easier	5
Other	6
Feeling better	2
Positive attitude	2
Reflecting on individual performance	2
2. Hints	
Properties	24
Helpful	17
Leading	5
Clear	2
Strategies in using hints	24
Rereading	9
Noticing details	6
Finding mistakes	4
Checking the given answers	4
Using hints to decide on a choice	1
3. Drawbacks of C-DA	
C-DA format	6
Adapting to a new format	3
Overthinking	2
Reading without paying attention	1
4. Further suggestions	
Layout	3
The place of the hints	2
Underlining target parts	1
Other	6
Further practices of C-DA	4
Easier hints	1
Following the same test design	1

4.3.1.1. Benefits of C-DA

The first one the four categories formed in content analysis is *benefits of C-DA*. In this category, the codes revealed the participants' positive opinions about the C-DA practice in the posttest. The statements of participants are grouped under three themes which are *reading performance*, *C-DA itself* and *other*. After presenting an overall review, each theme is explained by demonstrating sample excerpts from participants' statements in the interviews. The total distribution of codes included in these themes are shown in Figure 12:

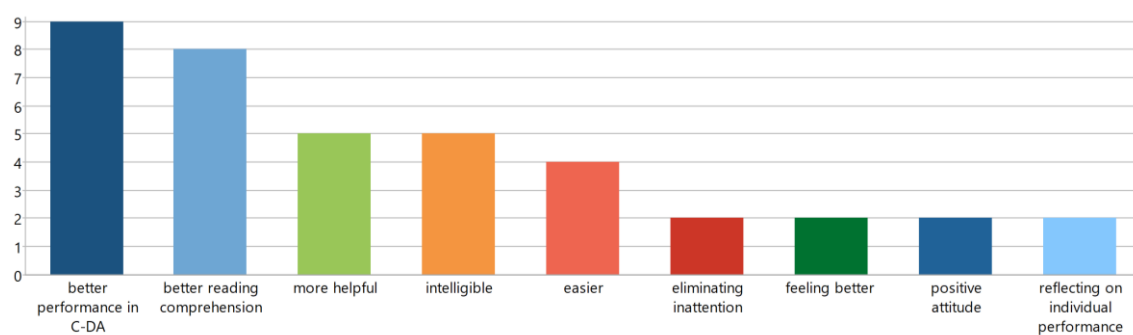


Figure 12. The total distribution of codes under the category of benefits of C-DA

As Figure 12 illustrates, all of the participants are of the opinion that they displayed a better total performance in the dynamic posttest compared to the non-dynamic pretest ($n=9$). Eight participants clearly stated that their performance was better in the dynamic posttest in terms of reading comprehension ($n=8$). Also, two participants specified that their reading performance was free of mistakes caused by inattention ($n=2$). Five of the participants expressed that the dynamic assessment format is intelligible ($n=5$) and more helpful ($n=5$), and four of them stated it was easier in comparison with the non-dynamic format ($n=4$). Furthermore, two participants asserted that dynamic assessment process made them feel better emotionally and have a positive attitude towards learning English ($n=2$), and they were able to reflect on their own performance ($n=2$). The distribution of codes on the basis of each participant and frequency of codes under three themes which are reading performance, C-DA itself and other are displayed in Table 11:

Table 11

The Distribution and Frequency of Codes under the Themes in Benefits of C-DA Category on the Basis of Each Participant

Participants	Reading performance			C-DA itself			Others			Total
	Better reading comprehension	Better performance in C-DA	Eliminating inattention	More helpful	Intelligible	Easier	Feeling better	Positive attitude	Reflecting on individual performance	
P1	1	1			1	1	1	1		6
P2	1	1		1		1				4
P3	3	1	2							6
P4	1	1		1	2				1	6
P5	4	1								5
P6	1	1	2	2	1			1		8
P7	0	1		1		2			1	5
P8	1	2			1	1				5
P9	1	1		1	1		1			5
Total	13	10	4	6	6	5	2	2	2	

The first theme in benefits of C-DA category is *reading performance* comprising *better reading comprehension*, *better performance in C-DA* and *eliminating inattention*. As for *better reading comprehension*, eight students pointed to it ($f=13$) in answering the second interview question which is about the contribution of hints to reading comprehension and the first interview question which is about the main differences between C-DA and NDA. Some sample excerpts are presented below:

Especially when there are lots of unknown vocabulary items, I could comprehend the text better by means of the hints. [P5]

Hints were not copied from the text so we needed to make inference and I can say that could comprehend better. [P9]

Actually, it contributed a lot and I did not expect that much contribution. When I could not understand the text, I was able to comprehend better by inferring meaning from the hints. [P5]

Out of 100, the contribution was around 75-80 %. [P1]

I can say 80 %. [P8]

Moreover, all participants referred to *better performance in C-DA* ($f=10$) in answering the third interview question which is about whether the participants think their performance was better in the pretest or the posttest. The sample excerpts are presented as follows:

I think I did better in the second, the one showing tip boxes because we had 3 attempts to answer when we could not answer correctly. That is why I think I did better in the second one. [P7]

The second one because I had the chance to look back missing details. [P8]

Certainly, I was more successful in the second one. [P3]

The second one, for real. [P4]

Of course, the second one. [P6]

Next, two participants mentioned *eliminating inattention* ($f=4$) and the sample excerpts are as follows:

As I stated before, I am an inattentive person. Even in Turkish texts, I fail to notice lots of things and I am more inattentive in learning another language. Sometimes, I

cannot even realize which part of the text is mentioned. In such circumstances, I benefitted from the hints. [P3]

I read the text and understand it but because of some points I do not pay attention or unable to notice, I give incorrect answers. However, this does not happen in the second method because it gives you hints. [P6]

The next theme in benefits of C-DA category is *C-DA itself* including the codes directly about C-DA format which are being *intelligible, easier and more helpful*. To start with, 5 participants stated that C-DA is more helpful ($f=6$). The examples are illustrated as:

The second method was different from the first one in providing hints, so I can define it as more helpful, friendlier method. [P6]

Well, actually it was really well-prepared. The chance to have 3 attempts was very good so it is super helpful anyway. [P7]

The first method may be supported in some situations but generally, the second one was more helpful. [P2]

The second one helped me more when I hesitate to choose between options. [P4]

Furthermore, five participants remarked that C-DA is *intelligible* ($f=6$) and they did not face confusing situations in C-DA format. The excerpts are as follows:

No, I think it was quite clear. [P4]

There was nothing confusing, I mean it was quite helpful. [P9]

No, I think it was quite lucid and I already had known what to do because you had informed us beforehand so there was nothing to be confused. [P1]

I am thinking, no teacher nothing was confusing. [P6]

Next, four participants indicated that C-DA is *easier* ($f=5$) compared to NDA. The sample excerpts are shown below:

Thanks to the second method, we can easily find correct answers. [P9]

Sometimes I could not decide on which idea to choose but it was easier to answer the questions with hints. [P7]

Actually, the second method was easier for me. When there is a hint, I asked some questions like “Does it also mean this?”. It made the things easier. [P2]

With regards to the easiness, I paid much more effort in the first test. Dealing with the choices was a lot more difficult for me. [P1]

The last theme belonging to benefits of C-DA category is named *other* because the codes involved in this theme represent dissimilar topics so the researcher preferred to put them under the word ‘other’. These codes are *feeling better*, *developing a positive attitude* and *reflecting on individual performance*. The results revealed that 2 participants declared that the C-DA practice was beneficial in terms of *feeling better*. The excerpts are illustrated below:

I would choose the second method because I was better, I felt better. [P1]

So I felt comfortable psychologically. I continued to answer the questions in a relaxed mode. [P9]

Subsequently, two participants answering the sixth question which was asked to find out additional comments stated that C-DA practices help learners to develop a *positive attitude* towards learning English. The excerpts are as follows:

With the implementation of it, we can overcome our prejudices against English, at least for reading passages. [P1]

It is a friendlier method so it can create positive changes in learners’ attitude. [P6]

Additionally, there are two participants putting forward that the C-DA practice was advantageous with regards to *reflecting on individual performance* in answering the third and sixth question. Their statements are shown below:

The second method was very good; people could test themselves. I mean I understood in which points I should be more careful so it was so useful for me. [P7]

I found out that in the first method, I had carried out a thinking process similar to the second one on my own without even realizing it. [P4]

4.3.1.2. Hints

The second category is *hints* and it exhibits the participants' opinions directly pointing out the *properties* of hints and *strategies* employed by participants in using hints. According to the content analysis of the interviews, the most dominant codes in each theme showed that all participants think that hints were helpful and the most common strategy they used was rereading the test after seeing the hints appeared on the screen. The total distribution of the codes under hints category is as follows:

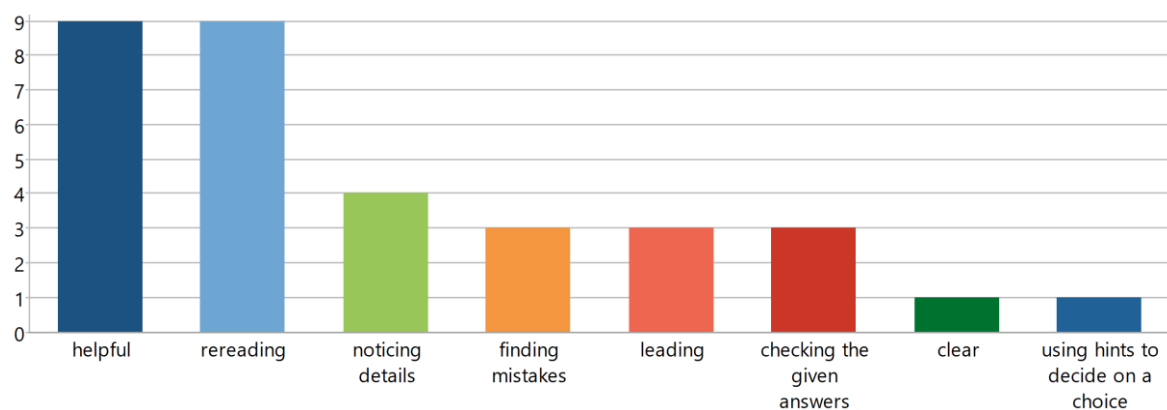


Figure 13. The total distribution of codes under the category of hints

The figure illustrates that all of the participants agreed on helpfulness of hints in the posttest ($n=9$). Also, some of the participants stated that hints were leading ($n=3$) so they could find the correct answer by following them, and the hints were clear to be understood easily ($n=1$).

As for the second theme, the participants made reference to five different strategies they employed to answer the questions correctly after reading the hints. The most commonly used strategy was rereading the text based on prompting comments in the hints ($n=9$). Besides, the participants tried to notice further details ($n=4$), find their mistakes ($n=3$), check whether the given answers were correct or incorrect ($n=3$) and decide on a choice after reading hints if there was not a possibly correct answer at the first trial ($n=1$). The distribution of codes on the basis of each participant and frequency of codes under two themes which are properties and strategies in using hints are displayed in Table 12:

Table 12

The Distribution and Frequency of Codes under the Themes in Hints Category on the Basis of Each Participant

Participants	Properties			Strategies in using hints					Total
	Helpful	Leading	Clear	Rereading	Noticing details	Finding mistakes	Checking the given answers	Using hints to decide on a choice	
P1	2			1		1			4
P2	3			1	1				5
P3	2	2	2	1				1	8
P4	2	2		1		2			7
P5	2			1		1	1		5
P6	1	1		1	1				4
P7	2			1					3
P8	1			1	3		2		7
P9	2			1	1		1		5
Total	17	5	2	9	6	4	4	1	

The first theme in *hints* category is *properties* including three codes which are *helpful*, *leading* and *clear*. Each participant unfolded that hints were *helpful* several times ($f=17$) and this code has the highest frequency both in hints category and all categories formed in the content analysis of the semi-structured interviews. The sample excerpts from participant responses are presented below:

When I was uncertain, I read the hints and focused on those parts. Hints were helpful enough after all. [P1]

I read the text along with the hints. In that way, I can say that hints helped me. [P2]

I mean, I read the text again. Especially, I made use of hints a lot. [P3]

As opposed to the first test, there were hints and they were more helpful while doing the test to be honest. [P5]

I think hints necessitated making inferences so they were so good and helped us. [P9]

The second one was very good. I benefited from it a lot, I was fruitful for me. [P4]

Next, three participants mentioned that hints were *leading* and they were successful in finding the answers by following their lead ($f=5$). The excerpts are illustrated as follows:

To be honest, sometimes I did not understand which part of the text was referred to. In such cases, hints diverted me to the parts of the text exactly relevant to the questions. Hence, it contributed a lot to me. [P3]

I mean the hints totally guided my brain. [P4]

The second method gives you hints. It is like there are some steps in the correct road and you can head against to correct answer by following hints step by step. [P6]

Another property of hints designated by a participant was being *clear* ($f=2$) and it was stated that hints did not pose any threats in terms of clarity:

The paragraphs and hints were quite clear so I did not have any trouble. [P3]

When I clicked on a choice, a short instruction appeared instead of skipping to the next question. I mean, how can I say, the instruction was clear at the same time. [P3]

The latter theme in hints category is *strategies in using hints* embracing five codes which can be listed as *rereading, noticing details, finding mistakes, checking the given answers and using hints to decide on a choice*. The most frequent strategy is *rereading* ($f=9$) and it was employed by all of the participants after the hints popped up in the screen. Some sample excerpts are as follows:

Immediately, I went back to the text and read it again by bearing the warning in mind. [P4]

Based on the hints, I read the text again. I used the hints in this way. [P2]

According to the information provided in the hints, I returned to the text and found the correct answer. [P6]

Firstly, I read the hints which were like be careful about this sentence or this word is here and be careful about it. I read the paragraph again and by comparing it with the questions, I gave answers. [P7]

After I read the hints, I needed to go back to the text and read it again. I mean if I had read it twice, I read for the third time. [P9]

Moreover, three participants used hints with the aim of *noticing details* which they needed to be able to solve the questions ($f=6$) while rereading the texts by taking into consideration the hints. The sample quotations are presented:

As I told you, if there is a detail I did not realize, I had the chance to go back to the text and catch the details which I had missed when I read the text before. [P8]

Thanks to hints, I realized like, ohh it means that, and I understood in a detailed way. [P2]

I believe that hints helped me understand the texts by supporting me to pay attention to the unnoticed parts. In overall understanding, I do not think there is a difference; but I believe that they contributed in remembering the details. [P6]

Even if I was sure that I gave the correct answer, I check again to see if I had missed any details and there were some overlooked mistakes. [P8]

Three of the participants stated that they utilized the strategy of *finding mistakes* ($f=4$) and they think that it was helpful in correcting their mistakes. The sample excerpts are presented below:

I reread the texts based on hints and I said like, oh yes I was mistaken here. [P4]

In the second test, I was able to realize my mistakes thanks to the hints and I focused on these sentences more. [P1]

As I stated before, it helped us to understand the text better and correct the parts which we misunderstood. [P5]

In the second one, when it is presented in a concrete way, you can say, yes I should have thought in that way. [P4]

The next strategy is *checking the given answers* based on hints and it was mentioned by three participants ($f=4$). They supported the idea that they had the chance to change the given answer by checking them with the help of the hints. The sample quotations are illustrated as follows:

I looked at the text and checked my given answers. If it was same with what the hints showed, then I was sure about my answers. [P5]

In the second method, it gave us hints regardless of the correctness of the answers and we could check our answers by looking at these hints. [P8]

It gave me the chance to correct my answer if there is something missing. [P9]

The last strategy employed by a participant is *using hints to decide on a choice* ($f=1$). The participant used that strategy particularly when she was uncertain to decide on a choice. In that case, she clicked on a choice and tried to give the correct answer depending on the hints. The statement is presented below:

When I did not have any idea to choose an option, I clicked on any of the choices and tried to build an understanding based on the hints. [P3]

4.3.1.3. Drawbacks of C-DA

The third category is *drawbacks of C-DA* which accounts for the negative reflections of C-DA practice on participants. All drawbacks were about the format of C-DA; therefore, category named drawbacks of C-DA comprises only one theme. According to the results, the total distribution of the codes indicating that participants encountered a difficulty in the posttest is displayed in Figure 14:



Figure 14. The total distribution of codes under the category of drawbacks of C-DA

Figure 14 exhibits that three participants stated that adapting a new format ($n=3$) was challenging for them. As it was explained before, none of the participants were familiar with dynamic assessment format. The researcher explain how it proceeds before the posttest by making a presentation, however, in practice, the participants experienced a test in dynamic assessment format for the first time in this study. Additionally, one of the participants asserted that C-DA tended to pave the way for overthinking on questions ($n=1$) so it was

time-consuming, and another one stated that C-DA caused participants to read without paying much attention ($n=1$). The distribution of codes on the basis of each participant and frequency of codes under C-DA format theme are displayed below:

Table 13

The Distribution and Frequency of Codes under the Theme in Drawbacks of C-DA Category on the Basis of Each Participant

Participants	C-DA format			Total
	Adapting to a new format	Overthinking	Reading without paying attention	
P1				0
P2		2		2
P3	1			1
P4				0
P5	1			1
P6	1			1
P7				0
P8				0
P9			1	1
Total	3	2	1	

The *C-DA format* theme included the codes named *adapting to a new format*, *overthinking* and *reading without paying attention*. For the first code, three students stated that they had some problems caused by adapting to a new format in an effort to eliminate the unfamiliarity to the C-DA format ($f=3$), which are exemplified below:

Even though I was sure about the answer, I started to become suspicious after I saw the hints. Actually, it was not too confusing but I guess I could not understand the system at first. Something happened in the first question and I could not skip to the next question. I mean I was not sure about what happened. [P3]

Sometimes I was confused when I chose the correct answer and read the hints, but it was not a big deal. [P5]

I think I sometimes felt like the answer of the question was directly unclosed in the hints. It would be better to provide clues rather than the answer of the questions. [P5]

Another drawback mentioned by a participant was that C-DA format posed an *overthinking* problem ($f=2$). The participant thinks that she ended up with thinking too much when she was required to contemplate on the comments presented via the hints because she had already thought about the answer of the question to be able to choose an option. The statement is presented as follows:

The second one made me think more and took a lot of time. [P2]

As I stated before, I overthought and the questions like “Could this be true?” or “Could this one also be true?” were confusing for me. [P2]

The last code under C-DA format theme is *reading without paying attention*. One of the participants apprised that knowing the fact that hints would be provided after clicking on a choice provoked the tendency to read the questions inattentively ($f=1$).

The thing was that I may have read the questions carelessly because I knew that the hints would appear. [P9]

4.3.1.4. Further Suggestions

The last one of four categories is *further suggestions*. This category represents the ideas proposed by the participants for further practices of C-DA. The *layout* theme is based on the issues which can be developed about the design of tests in C-DA format. The second theme is *other* including advices on sorted topics for future practices of C-DA. The total distribution of codes included in the themes are illustrated in Figure 15:

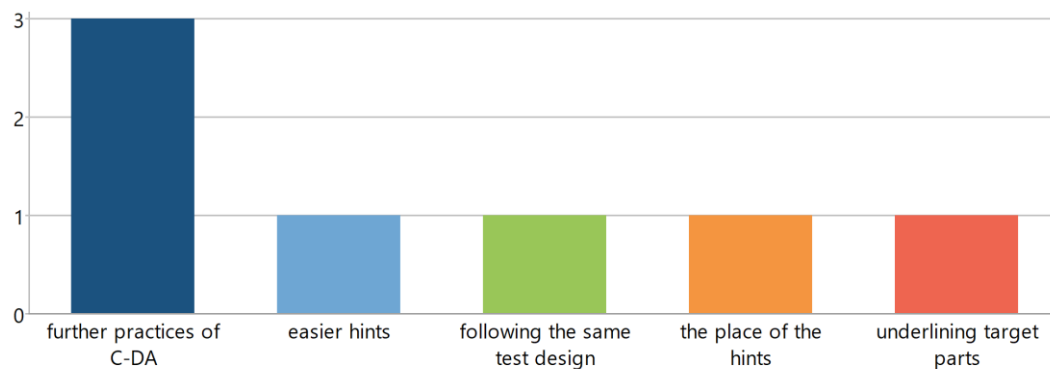


Figure 15. The total distribution of codes under the category of further suggestions

As can be seen in Figure 15, three of the participants are of the opinion that the C-DA practices should be more prevalent ($n=3$). Another participant suggested that the hints could have been easier ($n=1$). Moreover, one of participants stated that everything about the posttest should stay the same because making changes on it may cause puzzling situations for students ($n=1$). As for the suggestions about the layout, it would be better to change the place where hints appear in the C-DA format ($n=1$). Instead of appearing at the bottom of the page, they should be placed next to each choice. Lastly, one participant advised that the target parts in the hints should be underlined ($n=1$). In that way, it would be easier for learners to find these parts without losing time. The distribution of codes on the basis of each participant and frequency of codes under the themes in further suggestions category are displayed below:

Table 14

The Distribution and Frequency of Codes in the Themes under Further Suggestions Category on the Basis of Participants

Participants	Layout		Other			Total
	The place of the hints	Underlining target parts	Further practices of C-DA	Easier hints	Following the same test design	
P1			2			2
P2				1		1
P3	2					3
P4			1			1
P5						1
P6			1			1
P7		1				1
P8						0
P9						0
Total	2	1	4	1	1	0

To begin with, the first theme in *further suggestions* category is *layout* which includes the codes named *the place of the hints* and *underlining target parts*. One participant stated some suggestions about *the place of hints* ($f=2$) as it follows:

Actually, I guess they can appear next to the place we choose options rather than the bottom of the page. [P3]

At first, I thought there could be a problem, like when we see them at the bottom of the page, we tend to ignore it like it is one of the pop-up advertisements. For that

reason, it will be better if they are next to or below the questions because we can associate the meaning of the hints with the questions. [P3]

Next, one of the participants suggested that it would be a good idea that the target paragraphs or sentences addressed by the hints should be underlined or highlighted with a certain color ($f=1$). The statement is presented below:

I think it would be better if we underline or highlight the parts mentioned in the hints with red instead of referring to them by stating the number of paragraphs or lines. [P7]

The latter theme in *further suggestions* category is *other* containing the codes which are *further practices of C-DA, easier hints and following the same test design*. In this part, participants' suggestions on various issues for C-DA practices are displayed. Firstly, three students suggested that the C-DA practices should become more widespread in the settings such as schools and universities ($f=4$). The sample excerpts from participant responses are shown below:

It was so good teacher; I mean I hope it becomes the permanent format of tests in the English course. [P1]

I wish there were exams like the second test. [P4]

I think it is a method which should be preferred in general. I hope that this kind of methods become more prevalent in all levels for all students. [P6]

Additionally, a participant stated that it would be better if the hints were easier to understand ($f=1$). The statement is as follows:

The hints could be easier but I am not sure whether it would be too easy to solve the questions in that case. I think the hints should not be disorienting. [P2]

Lastly, one of the participants put forward that there was no need make changes on C-DA test design; otherwise, it could be confusing from the students' point of view. The statement is illustrated below:

I think making changes on it may be confusing for the students. I think it is good enough in that way with hints. [P5]

4.3.2. Discussion of the Second Research Question

As it was explained in the discussion of the first research question, the implementation of dynamic assessment created a difference in learners' achievement in reading comprehension. The study was designed in a way to validate the findings of the quantitative data analysis by including a qualitative phase unfolding participants' perspective on the dynamic assessment practice. The results obtained through content analysis of the semi-structured interviews were presented formerly and these findings will be discussed to be able to answer the following research question:

RQ2: If there is a difference, how do the students explain the difference between dynamic and non-dynamic practices from their perspective as learners?

With the aim of revealing the reflections of the differences between dynamic and non-dynamic practices, the researcher conducted semi-structured interviews and asked approximately 6 questions to each participant (see APPENDIX A). In the first question, the participants were asked to define the differences between the Reading Test 1 and Reading Test 2 in their own words. The aim of the researcher was to check whether the tests proceeded in the intended way or not because the participants had not participated in any kinds of dynamic assessment before. Before each reading test, the layout and the proceeding of the tests were explained by showing examples; however, the present conditions in which lessons were conducted online could rise trouble for effective communication between the students and the teacher. For example, the teacher was not able to observe whether the

students were on computer and following the instructions or chatting with someone else or hanging around the house because the cameras were off all the time. Moreover, the students also had many technical problems with the computers and internet connection. For all these reasons, firstly, the researcher made sure that the participants did not have any misconceptions about the tests; otherwise, the findings would not serve to the purpose of the study. Based on the answers given to the first interview question, it was concluded that the participants followed the tests and used the hints in the way and for the purpose they were designed.

As for the first category in the results, it can be concluded that carrying out a reading test through C-DA made contribution to the reading comprehension and participants were of the opinion that they had performed better in the C-DA practice. Similar to the results of Yang & Qian's study (2017), the participants remarked that C-DA was assistant in terms of fostering reading comprehension competence.

Moreover, students were able to overcome the difficulties caused by inattention during the test thanks to C-DA because they had the change to notice the missing parts under the guidance of hints and they were allowed to use three attempts in each question.

Furthermore, the results show that learners think C-DA is more helpful than NDA. As the main principle of DA practices is offering a mediation process, it can be deduced that the endeavor to boost learners reading comprehension via providing assistance caused learners to think that C-DA is more helpful and friendlier. Namely, C-DA is easier for learners to decide on a choice, find correct answers by checking reading texts with the help of hints. Based on the conclusions drawn on the results, it is safe to claim that properties of hints pointed by the participants and strategies adopted with the aim of utilizing hints are the major motives behind the enhanced performance in reading comprehension. Presenting leading hints in a clear way contributed to learners' performance. In that way, the C-DA practice encouraged participants to feel better and more comfortable during the test and more

importantly, vanishing prejudices against English and making a positive change in learners' attitude in language learning are praiseworthy reflections of C-DA on the participants. Besides, as stated in the interviews, C-DA promoted learners to reflect on their own performance, learn from their mistakes and realize the thinking patterns they had followed in former experiences in NDA format. This circumstance denotes that the participants had agentive roles in their own learning experience similar to the children in Fogel's example (1993).

As for making use of hints, learners applied the strategies of rereading the texts, trying to find the unnoticed details, check the given answers to find the mistakes or make sure that they are correct and paying effort to find the correct answers based on the expressions in hints if participants do not have any ideas to choose one of the choices. The last strategy is an outstanding one since it illustrates that C-DA caters different possible ways to foster learners' development even when they are not inclined to select one of the options. In such a situation, learners are not able to be assisted by any means if the assessment procedure is designed in NDA format. Teo (2012) states that C-DA does not only functions as an assessment method "tool but also an effective tool to teach the learners useful reading strategies through the test" (p.15). Her statement can be extended further with the last strategy displaying how learners can use C-DA effectively to find strategies on their own. The discussion of the findings so far demonstrates that the results obtained from the comparison of pretest and posttest scores in the experiment group are in alliance with participant's judgments on C-DA practice which clarify the potential underlying causes of the growth in the posttest scores in detail.

By the same token, even though C-DA is not a common practice in the setting of the study, it did not pose much difficulty creating confusion for the participants. On the other hand, the possible downsides of C-DA such as struggling in adapting to a new assessment format in the first few questions, overthinking on choices and reading without paying attention by

virtue of taking the hints for granted needs to be taken into account by practitioners. In this way, C-DA can be employed as a prospective assessment method promoting the development of learners. Also, as stated by Poehner and Infante (2016) the utilization DA practices for formal testing purposes would provide "... a powerful framework for L2 education concerned with learner development" (p.288).

In short, the results of the quantitative data analysis exhibit that the implementation C-DA has created a positive difference in learners' achievement in reading comprehension. Moreover, the findings of the qualitative data analysis affirm the implications based on the quantitative part of study and assert that the progress in learners' performance in reading comprehension is agreed by the participants of the study, too.

CHAPTER V

CONCLUSION

5.1. Introduction

In this chapter, the summary of the study is presented with respect to the findings discussed in the previous chapter. Next, the implications of the study for the literature are demonstrated by providing explanations. Subsequently, the limitations of the study and suggestions for further research are exhibited.

5.2. Summary of the Study

The main aim of this study was to find out whether the implementation C-DA procedures make a difference in freshmen EFL learners' achievement in reading comprehension. In other words, the researcher aspired to illustrate the effect of promising properties of DA practices on learners in the present setting of the study. Poehner et. al. (2015) describes the Vygotskian stance engaged in diagnosing competences as serving various mediation forms deliberately if learners have difficulties in achieving the tasks (Vygotsky, 1978). In the same vein, the study included the posttest applied in C-DA format with the aim of forming a mediation process and foster learners' zone of proximal development (ZPD). Namely, the study endeavored to address the emerging needs and maturing abilities of learners and

observe the effect of this effort on their performance in reading comprehension. ZPD is defined as necessitating a social interaction between a learner and a more capable partner, and this mediation process is prosecuted until the learner reaches the target level in which he/ she is able to perform independently as successfully as he/she could with the assistance of the more capable partner (Chaiklin, 2003). In this study, the hints provided in each choice functioned as the more capable partner providing mediation based on the given answers with the intention of building an online assessment setting in line with the main contention of DA.

As for the procedure, the researcher conducted a piloting study with 24 participants in two successive weeks and 2 voluntary participants were interviewed to draw further implications on the piloting study. Based on the results, the researcher did necessary alternations and started to carry out the main study. The number of the participants in the main study was 130 in total, which is divided as 71 in the experiment and 59 in the control group. Both of the groups were informed about the consent form, the aim and procedure of the study before each reading test. The participants in each group took the pretest in NDA format. 3 weeks later, the posttest was in NDA format in the control group while it was designed in C-DA format and provided mediation in the experiment group.

The researcher conducted the pretest and posttest in 3 classes while 2 colleagues carried out the same process in 2 classes. During the whole research process, the researcher abstained from any further explanations, practices and instructions with the aim of preventing researcher bias. Also, employing a computerized data collection tool and the absence of researcher's physical presence during the tests removed the same concern.

Based on the results of Reading Test 1, the participants were put into high-mid-low achievement groups and researcher made semi-structured interviews with 3 participants from each level. The results of the quantitative phase of the study revealed that there was not a significant difference between the reading performance of the participants in the control and the experiment group in the pretest while the participants in the experiment group

showed a significant progress in the posttest compared to both the performance of control group and their initial performance in the pretest. As a result, it can be concluded that the implementation of C-DA procedure created a boosting effect on learners' achievement in reading comprehension (see Figure 9). Also, LPS scores of participants revealed the significant knowledge of different learning potential of individuals who were classified in the same achievement groups based on the results of the pretest.

Moreover, as the participants addressed in semi-structured interviews, C-DA practice had positive reflections on learners and the most frequently mentioned differences between C-DA and NDA were that C-DA helped participants to be able to enhance reading comprehension and display a better overall performance. In addition, hints provided for building a mediation process were helpful and intelligible, and the strategies commonly employed by participants for the purpose of benefitting from the hints were rereading the texts, trying to notice details and finding mistakes. Moreover, the implementation of C-DA triggered participants to develop positive attitude towards learning English thanks to its friendly properties.

All in all, the results of the study ascertain that computerized dynamic assessment (C-DA) practice is favorable and promising with regards to promoting learners' achievement in reading comprehension and the learners think that the mediation process in C-DA format is helpful in the matter of performing better in reading comprehension tests.

In the light of the results of the study, it is safe to conclude that C-DA procedure is a breakthrough in terms of the unification of instruction and assessment by offering a mediation process in a human-like manner (Teo, 2012), providing diagnostic results about learner development and indicating future potential learning of individuals. As Poehner and Infante (2016) suggest, it provides more relevant and apparent understanding of learners' development and educators can make use of it to observe systematic improvement of learners. Also, C-DA provides freedom for educators to create unique designs particular to

their classroom settings and learners' needs. In the same vein, Lantolf and Poehner (2010) state that:

This is noteworthy not only because it illustrates the interrelation of theory and practice but also because it underscores that DA is not a pre-specified technique or method of assessing that must be followed in a prescribed manner, but in fact is a way of reconceptualizing the relationship between teaching, assessment and development, and therefore its realization must take account of the immediate instructional context. (p.27).

5.3. Implications of the Study

The results of the study manifest crucial implications and suggestions for further studies in DA literature. First of all, the study validates the efficacy of the C-DA format in fostering students' reading comprehension competence. In line with the notions proposed by Sociocultural Theory (SCT), the dialectical relationship between teaching and assessment encourages the development of learners. Moreover, the mediation process has a vital role in spotting the circumstances where learners are in need of assistance and fostering their development by offering different forms of mediation. In alliance with the explanation of Poehner and Infante (2016) on SCT, the results of the current study imply that mediation process is "the primary driver of human psychological abilities" (p.276).

Furthermore, Learning Potential Score (LPS) functions as predictor of potential learning of students in future. For the first time, Kozulin & Garb (2002) came up with a formula to calculate LPS score. Since then, only a few studies, especially on reading abilities, including the LPS scores of learners have been conducted. Hence, the study presents a notable example for calculating learners' Learning Potential Score (LPS) and drawing conclusions based on the disparity in classifying learners in achievement groups based on NDA practices. Also, the study constitutes an example for carrying out a study on explanatory sequential mixed methods design which helps researchers to establish the qualitative plane of the study on the quantitative plane and check the correspondence of the quantitative findings with the qualitative results.

5.4. Limitations of the Study

The biggest limitation posing the worst effect on this study was the outbreak of COVID-19 pandemic. First of all, having face-to-face sessions was not possible and the lessons were given in an online platform called Microsoft Teams. Moreover, the students were not compelled to turn their cameras on during the lessons, which was a decision made by university administration to insure the protection of personal data, so the researcher was not able to observe the environment in which the participants took the reading tests and check whether there were any issues threatening the validity and reliability of the research and specifically, whether the people behind the screens were really the participants of this study or not stayed dubious.

Secondly, according to the requirements of the general English course, attendance was not mandatory. This situation brought about more than one threat for the study. To start with, some of the participants in the pre-test was not accessible in the post-test because they were absent in the lesson when the test was conducted, or even the following several weeks. Therefore, the researcher could not prevent the loss of many participants. Moreover, because of the irregular attendance of the participants, it was almost impossible to inform all of them at the same time. Many students were unfamiliar with the announcements made during the lesson. Even though the researcher sent them direct messages to be able to make sure that the procedure of the study was not interrupted for any reason, many students did not see these messages because they did not sign in Microsoft Teams when they did not attend the lessons or check their messages.

5.5. Suggestions for Further Research

The study was conducted in a foundation university with the freshmen students from six departments and the proficiency level of the participants was A2 according to CEFR benchmarks. The results and conclusions of the study are limited to this case; therefore,

examining the effect of C-DA practices in further settings with participants from all levels of language proficiency would provide a broader understanding of DA.

In addition, most of the studies conducted on DA inquire the possible ways to employ DA as a mean of an alternative formative assessment tool. However, DA exhibits an elaborative mentality on the learning and assessment processes; therefore, it should not be confined to a certain form as assessment. For instance, it would be advisable for researchers to conduct studies on classroom-based DA in order to scrutinize unique characteristics of different learning environments. Also, as Poehner and Infante (2016) suggest, relying on their study on group DA (G-DA), it can be instrumental to combine G-DA with formal assessment procedures. Moreover, it can be suggested for further studies to conduct research in a way that it adopts a prolonged engagement. In that way, researchers would be able to collect more detailed and accurate data to draw conclusions based on it, and make substantial contributions to the literature.

Lastly, resulting from the rapid technological developments and the pursuit of finding possible ways to meet emergent needs on assessment on a global scale, which was the case during COVID-19 pandemic, further studies should be conducted on computerized dynamic assessment (C-DA). In this way, experts can come up with necessary betterment plans and overcome existing inadequacies for prevalent practices.

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APPENDICES



Appendix 1. A Sample of Semi-Structured Interviews

GİRİŞ

Merhaba, öncelikle bu görüşmeye katılmayı kabul ettiğin için teşekkür ederim. Daha önce belirttiğim üzere bilgisayar destekli dinamik ölçmenin öğrencilerin okuduğunu anlama becerilerine etkisi üzerine bir çalışma yapıyorum. Bu görüşmede amacım dinamik ve dinamik olmayan iki farklı yöntemle okuma testleri çözen öğrencilerin bu testlerle ilgili ne düşündüklerini ortaya çıkartmaktır. Geçen haftalarda derslerimizde farklı yöntemlerle hazırlanmış iki okuma testi çözdük. Sorularımı sorarken ilk çözdüğümüz, ipuçlarının olmadığı, okulda yaptığımız sınavlardan alışkın olduğunuz dinamik olmayan test yöntemine 1. yöntem, 2. çözdüğümüz, şıkları işaretlediğinizde ipuçları gördüğünüz dinamik olan yöntem 2. yöntem diyeceğim. Görüşme öncesinde ses kaydı alacağımdan bahsetmiştim, şu an görüşmemizin kayıt altına alındığını tekrar hatırlatmak istedim. Bu kayıt yalnızca bilimsel amaçla kullanılacaktır ve gizliliği tarafımda korunacaktır. Başlamadan önce bu söylediklerimle ilgili belirtmek istediğin bir düşünce ya da sormak istediğin bir soru var mı?

ÖRNEK YARI YAPILANIRILMIŞ GÖRÜŞME SORULARI

1. Farklı yöntemlerle hazırlanmış 2 okuma testi çözdün. Bu iki yöntem arasındaki farkları kendi cümlelerinle nasıl açıklarsın?
2. İkinci yöntemde ipuçları okuma parçasını anlamana ne kadar katkı sağladı?
İkinci yöntemde ipuçlarından nasıl faydalandın?
3. Hangisinde genel olarak daha iyi bir performans sergilediğini düşünüyorsun?
Neden?
4. İkinci yöntemde kafanı karıştıran herhangi bir durum oldu mu?
Olduysa bunlar nelerdir?
5. İkinci yöntemi geliştirmek için sence neler yapılabilir?
6. Ekleme istediğin herhangi bir şey var mı?
- 7.

INTRODUCTION

Hello, firstly I want to thank you for accepting to participate in this interview. As I explained before, I have been conducting a research on the impact of computerized dynamic assessment on learners' reading comprehension. In this interview, my aim is to illustrate the ideas of the learners who took two reading tests prepared in dynamic and non-dynamic method. In the previous weeks, two different reading tests were conducted. While asking the questions, I am going to entitle the first reading test which was non-dynamic, similar to the exams we do in our school and lacking of hints as the 1st method, and the second reading test which provided hints upon clicking on a choice is going to be called the 2nd method. Before this interview, I have informed you about the voice recording and I want to remind you that I am recording the interview right now. This recording is going to be used only for scientific purposes and the privacy of the recording is ensured by me. Before we start, are there any considerations you would like to express or any questions you would like to ask?

THE SAMPLE SEMI-STRUCTURED INTERVIEW QUESTIONS

1. You took two reading tests prepared by different methods. How do you explain the differences between these two methods in your own words?
2. In the 2nd method, to what extent did the hints make contribution to your reading comprehension?

In the 2nd method, how did you make use of hints?

3. In which one do you think you have displayed a better performance? Why?
4. In the 2nd method, was there anything confusing?

If yes, what were they?

5. What can be done to improve the 2nd method?

6. Is there anything you would like to add?



Appendix 2. Non-Dynamic Pretest

READING TEST 1

- Read the article about a famous Chinese woman who plays music. Are sentences 1-8 "Right" or "Wrong"? If there is not enough information to answer, choose "Doesn't say".

CHINESE MUSIC IN AN ENGLISH VILLAGE

Yang Jing usually plays her music in big halls in places like New York and Paris. Yang plays an old Chinese musical instrument called a pipa. She has been famous in China since 1986. Now she is 34 years old and the best pipa player in the World. She usually gets \$3000 each time she plays.



A businessman called Peter Bloxham saw Yang playing in China when he was on a business trip. Peter comes from Cheswardine, a village in England. After the show, he talked to Yang. He told her that his village needed to repair their old village hall, so Yang agreed to play there. "You can use all the ticket money for your hall," she said. "You needn't pay me anything."

Last week, Yang arrived in Cheswardine for her show. She said: "I usually stay in big hotels where everything is fast and busy, so it is lovely to stay in a small place where everyone has time to talk to me and be so nice. I don't suppose there are many people in this place who have seen or heard a pipa before. I hope they will like my music."

1. Yang Jing has played in New York.
a. Right b. Wrong c. Doesn't say
2. Yang became famous when she was 34.
a. Right b. Wrong c. Doesn't say
3. Yang often plays with other people.
a. Right b. Wrong c. Doesn't say
4. Peter Bloxham went to China to see Yang play.
a. Right b. Wrong c. Doesn't say
5. Yang will not earn any money in Cheswardine.

a. Right b. Wrong c. Doesn't say

6. Yang is staying in Cheswardine with Peter and his family.

a. Right b. Wrong c. Doesn't say

7. Yang thinks Peter's village is a friendly place.

a. Right b. Wrong c. Doesn't say

8. Everyone in Cheswardine knows Yang's music.

a. Right b. Wrong c. Doesn't say

-Read the article about a girl who found something strange. Are sentences 9-16 "Right" or "Wrong"? If there is not enough information to answer, choose "Doesn't say".

SOMETHING STRANGE FALLS FROM THE SKY

Mikayla Shears was riding her horse across the fields at the farm where she and her parents live in Australia last November, when she saw something very strange on the ground. "At first I was afraid to touch it!" she said. "I thought something may jump out of it!" It was a 22 kilo ball made of lots of different metal parts.

Mikayla called her dad and he came in a truck and drove it back to the farmhouse. People don't drive hundreds of miles across the desert area to leave a metal ball in the middle of a field. "It dropped from above!" he said. "I was sure of that!"

Mikayla's father emailed a photo of the ball to the Planet Museum. He was told that the ball was possibly part of a rocket. Two days earlier a rocket was used to fly an American satellite into space to study the sun. Most of it fell into the sea after the satellite was safely in space, but maybe this part didn't.

"I know a lot about cows and sheep," Mikayla said, "but I don't know anything about rockets. I want to find out more about them now. Perhaps I'll be an astronaut one day!"

9. Mikayla lives on a farm in Australia.

a. Right b. Wrong c. Doesn't say

10. Mikayla saw something that looked very unusual in the field.

a. Right b. Wrong c. Doesn't say

11. When Mikayla touched the ball, another piece of it dropped off.

a. Right b. Wrong c. Doesn't say

12. Mikayla drove back to collect the metal ball in her father's truck.

- a. Right b. Wrong c. Doesn't say

13. Mikayla's dad was certain that the ball fell from the sky.

- a. Right b. Wrong c. Doesn't say

14. An American from the Planet Museum emailed Mikayla.

- a. Right b. Wrong c. Doesn't say

15. We know that the metal ball came from another planet in space.

- a. Right b. Wrong c. Doesn't say

16. Mikayla is thinking about being an astronaut in the future!

- a. Right b. Wrong c. Doesn't say

-Read the article about Ashley Trent, a teenage actor, and then answer the questions 17-24

ASHLEY TRENT

Ashley Trent, one of our most popular young actors, is now filming *College Rap*. He began having acting lessons six years ago and was in his first play at ten years old.

At fourteen, he immediately became well known, not for acting in the theatre, but on TV. "That was fun!" he says. "I was in a fast-food advert with a cartoon clown, but filming *College Rap* is much harder work. I have to play baseball and sing in the film, which is fine, but I need to have dancing lessons too. When we finish filming each day, I don't go out with my friends. I usually sit in the bath for an hour because my legs and arms hurt! But I'm enjoying myself because the three adult actors who are the teachers in *College Rap* are really good. They've filmed all over the world. They've taught me to remember my lines more quickly too. I needed half a day to learn five pages before, but now I only need a quarter of an hour."

Being well known is great but Ashley isn't interested in buying lots of expensive things or going out. "But I'm asked to do really interesting work now and that's wonderful," he says. "I don't get excited when I watch myself in films. I know I'm getting better, but I still need to improve!"

Well, Ashley, we think you're brilliant!

17. How old was Ashley when he first acted in a play?

- a. six
- b. ten
- c. eight

18. When Ashley was 14, he acted in a _____.

- a. TV advertisement
- b. cartoon film
- c. theatre play

19. In his latest film, Ashley has to learn to _____.

- a. play baseball
- b. dance
- c. sing

20. What does Ashley often do after filming?

- a. He exercises.
- b. He has a long bath.
- c. He meets his friends.

21. Ashley's having fun at the moment because he _____.

- a. is not at school
- b. is working with great actors
- c. is travelling a lot

22. To remember five pages of lines, Ashley now needs _____.

- a. 15 minutes
- b. one hour
- c. half a day

23. What does Ashley like about being famous?

- a. spending money
- b. being invited to wonderful parties
- c. getting interesting work

24. What does Ashley think when he sees himself in a film?

- a. He looks ill!
- b. He's not good enough yet!
- c. This is exciting!



Appendix 3. Non-Dynamic Posttest

READING TEST 2

-Read the article about Tom Barry, an international skateboarder. Are sentences 1-8 "Right" or "Wrong"? If there is not enough information, choose "Doesn't say".

Tom Barry – international skateboarder!

Tom Barry is 17, and started skateboarding when he was nine. He grew up in New York where he practised hard and won his first competition when he was 14. He was lucky. A writer from *SKATE IT!* magazine watched him that day, then wrote an article about him. "They even made a video of me!" Tom said. "I left school last year and now the magazine is paying me to practise and skateboard in international competitions. But I'm not doing this for money. I'm doing this because it's so much fun!"

Tom has just returned from Japan. Skateboarding is the third most popular sport for boys aged 12-16 in the USA, but in Japan it is less well-known.

"I took my skateboard out onto the city street and the traffic stopped as people watched me!" Tom said. "A problem for skateboarders in Japan is that there aren't many places where they can practise outside. Skate parks are usually inside big buildings in large cities, so street skating is difficult there. But things are changing. I loved the trip and hope to go back to Japan to skate there again very soon."

1. Tom began skateboarding before his tenth birthday.
a. Right b. Wrong c. Doesn't say
2. A magazine journalist saw Tom on the day he won his first competition.
a. Right b. Wrong c. Doesn't say
3. Tom is in his last year of school.
a. Right b. Wrong c. Doesn't say
4. Tom is lucky because he often wins international competitions.
a. Right b. Wrong c. Doesn't say
5. Earning lots of money is important to Tom.
a. Right b. Wrong c. Doesn't say

6. Skateboarding is becoming more popular in Japan than in the States.

- a. Right b. Wrong c. Doesn't say

7. Some drivers stopped to watch Tom when he skateboarded on the street in Japan.

- a. Right b. Wrong c. Doesn't say

8. Tom said it is difficult to find skate parks outside the big cities in Japan.

- a. Right b. Wrong c. Doesn't say

-Read the magazine article about Tessa Watts' school trip to Canada. Are sentences 9-16 "Right" or "Wrong"? If there is not enough information, choose "Doesn't say".

My trip to Canada by Tessa Watts

I had a great time on my adventure trip to Canada. I went with two teachers and all my classmates. I missed my family at first but by the end of the holiday, I didn't want to go home!

On my favourite day, we went on a really long walk in the mountains. We had to carry all our things in bags on our backs which was hard work but we never got bored because we all chatted the whole time. We had a rock climbing lesson just before our picnic lunch and later that afternoon we arrived at a lake where we camped for the night. Three of the others tried to fish, without success! I helped build the fire instead. The teachers and two of the older students made supper, then we sat in our blankets around the fire and sang songs and made wishes in the dark.

We decided not to sleep inside the tents, but outdoors because we wanted to look at the stars. Some of the boys made "bear" noises trying to make us afraid, but we were still laughing at midnight because we were having so much fun. I will never forget that day.

9. Tessa travelled to Canada on her trip.

- a. Right b. Wrong c. Doesn't say

10. Tessa felt happy on the first day because she was with her family.

- a. Right b. Wrong c. Doesn't say

11. It snowed on Tessa's favourite day in the mountains.

- a. Right b. Wrong c. Doesn't say

12. Tessa talked a lot with other people on the walk.

- a. Right b. Wrong c. Doesn't say

13. After their picnic lunch, the group had a lesson in rock climbing.

- a. Right b. Wrong c. Doesn't say

14. Some of the other students caught three fish in the lake.

- a. Right b. Wrong c. Doesn't say

15. The group slept outside so they could look up at the sky.

- a. Right b. Wrong c. Doesn't say

16. The boys were very good at making bear noises!

- a. Right b. Wrong c. Doesn't say

-Read the article about a boy who became a businessman at 14 and then answer the questions 17-24.

Robbie's first business!

Robbie enjoyed art most at school. He liked maths and music too, but because it was hard for Robbie to spell words correctly or to understand texts, he didn't enjoy being at school. In English, he had lots of problems. So, when Robbie was 12, his parents decided he should leave school and be taught differently at home. There, he learnt about business and working on computers, and spent more time happily studying art, exercising and practising on his violin.

Robbie's grandmother started teaching him to cook too, which, like his mother and aunt, he really enjoyed doing. One day, she told him her secret way of making jam. Robbie made too much for the family to eat so he took it to other people in his street. He made more and more jam. It tasted so good that his parents' friends started buying it from him. Robbie added all his costs together then decided on a price. Then he made a business plan on the computer with help from his dad. His jam is now sold at a weekly market. It tastes wonderful and it's healthy because Robbie uses grape juice instead of sugar to make it.

"I'm still only 14 but I'm really a businessman!" Robbie laughs. "Last week I earned £93 because 87 different customers bought 52 kilos of my jam, and a supermarket wants to sell it too. My career is in jam-making, I think!"

17. Robbie's favourite subject at school was

- a. maths
b. art
c. music

18. Robbie had problems in his English lessons because

a. he couldn't understand the teacher.

b. he hated reading.

c. he couldn't spell very well.

19. After he was 12, Robbie was taught

a. at a different school.

b. in his home.

c. at a business college.

20. After he left school, Robbie had more time to play

a. computer games.

b. different sports.

c. an instrument.

21. Who told Robbie the secret way to make jam?

a. his aunt

b. his grandmother

c. his mother

22. Who did Robbie give the extra jam to?

a. his neighbours

b. his parents

c. his school friends

23. Where can people now buy Robbie's jam?

a. online

b. at a market

c. from his father's business

24. How much jam did Robbie sell last week?

a. 52 kg

b. 87kg

c. 93 kg

Appendix 4. Dynamic Posttest with the Hints

READING TEST 2

-Read the article about Tom Barry, an international skateboarder. Are sentences 1-8 "Right" or "Wrong"? If there is not enough information, choose "Doesn't say".

Tom Barry – international skateboarder!

Tom Barry is 17, and started skateboarding when he was nine. He grew up in New York where he practised hard and won his first competition when he was 14. He was lucky. A writer from *SKATE IT!* magazine watched him that day, then wrote an article about him. "They even made a video of me!" Tom said. "I left school last year and now the magazine is paying me to practise and skateboard in international competitions. But I'm not doing this for money. I'm doing this because it's so much fun!"

Tom has just returned from Japan. Skateboarding is the third most popular sport for boys aged 12-16 in the USA, but in Japan it is less well-known.

"I took my skateboard out onto the city street and the traffic stopped as people watched me!" Tom said. "A problem for skateboarders in Japan is that there aren't many places where they can practise outside. Skate parks are usually inside big buildings in large cities, so street skating is difficult there. But things are changing. I loved the trip and hope to go back to Japan to skate there again very soon."

1. Tom began skateboarding before his tenth birthday.

a. Right

M: If he started "when he was nine", it means that it was before his tenth birthday.

b. Wrong

M: If he started "when he was nine", doesn't it mean that it was before his tenth birthday?

c. Doesn't say

M: Check the 1st sentence in the 1st paragraph.

2. A magazine journalist saw Tom on the day he won his first competition.

a. Right

M: "That day" refers to the day when he won his first competition.

b. Wrong

M: Be careful about the meaning of “that day” in the first paragraph. What does it mean?

c. Doesn’t say

M: Look at the 4th sentence in the 1st paragraph.

3. Tom is in his last year of school.

a. Right

M: If Tom left school last year, is he a student at school now?

b. Wrong

M: Tom says “I left school last year ...” and it means he doesn’t go to school anymore.

c. Doesn’t say

M: Check the 6th sentence in the 1st paragraph.

4. Tom is lucky because he often wins international competitions.

a. Right

M: In the 1st paragraph, you see that the magazine is paying Tom to skateboard in international competitions. Does mean that he often wins international competitions, or not?

b. Wrong

M: In the 1st paragraph, you see that he was lucky because a writer from *SKATE IT!* magazine watched him when he won his first competition. Does it mean that he often wins international competitions, or not?

c. Doesn’t say

M: He joins international competitions but there is no information about the result.

5. Earning lots of money is important to Tom.

a. Right

M: He says “I’m not doing this for money”, then is earning money important to Tom?

b. Wrong

M: If he isn’t doing this for money, then earning money isn’t important to Tom.

c. Doesn't say

M: Look at the last line in the 1st paragraph.

6. Skateboarding is becoming more popular in Japan than in the States.

a. Right

M: According to the 2nd paragraph, skateboarding in Japan is less well-known. Then, is it more popular in Japan or in the USA?

b. Wrong

M: If skateboarding in Japan is less well-known, then it isn't becoming more popular in Japan.

c. Doesn't say

M: Check the 2nd paragraph, find the comparison between the USA and Japan.

7. Some drivers stopped to watch Tom when he skateboarded on the street in Japan.

a. Right

M: If the traffic stopped as people watched Tom, it means that some drivers stopped to watch Tom.

b. Wrong

M: Tom says "the traffic stopped as people watched me". Then doesn't it mean that some drivers stopped?

c. Doesn't say

M: Check the 1st sentence of the last paragraph.

8. Tom said it is difficult to find skate parks outside the big cities in Japan.

a. Right

M: If skate parks are usually inside big buildings in large cities in Japan, then it is difficult to find skate parks outside the big cities in Japan.

b. Wrong

M: "Skate parks are usually inside big buildings in large cities in Japan." Then, is it difficult to find skate parks outside the big cities in Japan?

c. Doesn't say

M: Check the 3rd sentence in the last paragraph.

-Read the magazine article about Tessa Watts' school trip to Canada. Are sentences 9-16 "Right" or "Wrong"? If there is not enough information, choose "Doesn't say".

My trip to Canada by Tessa Watts

I had a great time on my adventure trip to Canada. I went with two teachers and all my classmates. I missed my family at first but by the end of the holiday, I didn't want to go home!

On my favourite day, we went on a really long walk in the mountains. We had to carry all our things in bags on our backs which was hard work but we never got bored because we all chatted the whole time. We had a rock climbing lesson just before our picnic lunch and later that afternoon we arrived at a lake where we camped for the night. Three of the others tried to fish, without success! I helped build the fire instead. The teachers and two of the older students made supper, then we sat in our blankets around the fire and sang songs and made wishes in the dark.

We decided not to sleep inside the tents, but outdoors because we wanted to look at the stars. Some of the boys made "bear" noises trying to make us afraid, but we were still laughing at midnight because we were having so much fun. I will never forget that day.

9. Tessa travelled to Canada on her trip.

a. Right

M: If she had a great time on her adventure trip to Canada, it means that she travelled to Canada.

b. Wrong

M: Look at the first sentence. If she had a great time on her adventure trip to Canada, where did she go?

c. Doesn't say

M: Check the 1st sentence of the first paragraph.

10. Tessa felt happy on the first day because she was with her family.

a. Right

M: Check the 2nd sentence in the 1st paragraph. Was she with her family?

b. Wrong

M: When she says “I went with two teachers and all my classmates “and “I missed my family at first ...”, it is clear that she wasn’t with her family.

c. Doesn’t say

M: Check the 2nd and 3rd sentence in the 1st paragraph.

11. It snowed on Tessa’s favourite day in the mountains.

a. Right

M: Check the 2nd paragraph. What happened on her favourite day? Where do you find information about snowing?

b. Wrong

M: Check the details about her favourite day in the 2nd paragraph. They went on a really long walk in the mountains but is there any information about snowing in the mountains?

c. Doesn’t say

M: They went on a really long walk in the mountains but there is no information about snowing.

12. Tessa talked a lot with other people on the walk.

a. Right

M: Tessa says we never got bored because we all chatted the whole time. It means that she talked a lot with other people on the walk.

b. Wrong

M: Tessa says we never got bored because we all chatted the whole time. Does it mean that she talked a lot with other people on the walk, or not?

c. Doesn’t say

M: Check the 2nd sentence in the 2nd paragraph.

13. After their picnic lunch, the group had a lesson in rock climbing.

a. Right

M: Check the 3rd sentence in the 2nd paragraph. Does Tessa say they had a rock climbing lesson before or after their picnic lunch?

b. Wrong

M: Tessa says we had a rock climbing lesson just before our picnic lunch, not after.

c. Doesn't say

M: Check the 3rd sentence in the 2nd paragraph.

14. Some of the other students caught three fish in the lake.

a. Right

M: Be careful about number three. Is this the number of fish or the number of students trying to catch fish?

b. Wrong

M: Three is the number of students trying to catch fish, not the number of fish.

c. Doesn't say

M: Check the 4th sentence in the 2nd paragraph.

15. The group slept outside so they could look up at the sky.

a. Right

M: Tessa says they decided to sleep outdoors because they wanted to look at the stars.

b. Wrong

M: Outdoors means outside. Tessa says they decided to sleep outdoors because they wanted to look at the stars. Doesn't it mean that they wanted to look up at the sky?

c. Doesn't say

M: Check the 1st sentence of the last paragraph.

16. The boys were very good at making bear noises!

a. Right

M: Tessa says some of the boys made "bear" noises trying to make us afraid, but does she tell they were good at it or not?

b. Wrong

M: Tessa says “we were still laughing at midnight” even the boys made “bear” noises to make them afraid. Was it because the boys weren’t good at making bear noises? Do you see any comments about the boys?

c. Doesn’t say

M: Tessa tells “we were still laughing at midnight because we were having so much fun” but there is no information about the boys were good or bad at making bear noises.

-Read the article about a boy who became a businessman at 14 and then answer the questions 17-24.

Robbie’s first business!

Robbie enjoyed art most at school. He liked maths and music too, but because it was hard for Robbie to spell words correctly or to understand texts, he didn’t enjoy being at school. In English, he had lots of problems. So, when Robbie was 12, his parents decided he should leave school and be taught differently at home. There, he learnt about business and working on computers, and spent more time happily studying art, exercising and practising on his violin.

Robbie’s grandmother started teaching him to cook too, which, like his mother and aunt, he really enjoyed doing. One day, she told him her secret way of making jam. Robbie made too much for the family to eat so he took it to other people in his street. He made more and more jam. It tasted so good that his parents’ friends started buying it from him. Robbie added all his costs together then decided on a price. Then he made a business plan on the computer with help from his dad. His jam is now sold at a weekly market. It tastes wonderful and it’s healthy because Robbie uses grape juice instead of sugar to make it.

“I’m still only 14 but I’m really a businessman!” Robbie laughs. “Last week I earned £93 because 87 different customers bought 52 kilos of my jam, and a supermarket wants to sell it too. My career is in jam-making, I think!”

17. Robbie’s favourite subject at school was

a. maths

M: Robbie liked maths too but did he enjoy it most? Check the 1st sentence of the 1st paragraph.

b. art

M: Robbie enjoyed art most at school so it was his favourite subject.

c. music

M: Robbie liked music too but did he enjoy it most? Check the 1st sentence of the 1st paragraph.

18. Robbie had problems in his English lessons because

a. he couldn't understand the teacher.

M: Was the problem about understanding the teacher or texts?

b. he hated reading.

M: It was hard for Robbie to understand texts, but do you see any information about "he hated reading"?

c. he couldn't spell very well.

M: Spelling words correctly was a problem for Robbie in English lessons.

19. After he was 12, Robbie was taught

a. at a different school.

M: Did his parents decide he should be taught differently at home or a different school? Do you see any information about a different school? Check the 5th sentence in the 1st paragraph.

b. in his home.

M: His parents decided he should be taught differently at home.

c. at a business college.

M: He learnt about business but did he go to a business college? Check the 5th sentence in the 1st paragraph.

20. After he left school, Robbie had more time to play

a. computer games.

M: He learnt about working on computers, but does it mean he had more time to play computer games?

b. different sports.

M: He spent more time exercising, but can you find information about different sports? What are they?

c. an instrument.

M: He spent more time practising on his violin which is an instrument.

21. Who told Robbie the secret way to make jam?

a. his aunt

M: Check the beginning of 2nd paragraph. Is his aunt the person teaching how to cook or a person enjoying cooking like Robbie?

b. his grandmother

M: “She told him her secret way of making jam.” She refers to Robbie’s grandmother.

c. his mother

M: The subject of the sentence in “She told him her secret way of making jam.” refers to the subject of 1st sentence of the 2nd paragraph. Who is this?

22. Who did Robbie give the extra jam to?

a. his neighbours

M: Check this part: “... eat so he took it to other people in his street”. Other people in his street means his neighbours.

b. his parents

M: “Robbie made too much for the family to eat” means that he had extra jam after his parents ate. So what did he do with extra jam?

c. his school friends

M: Check the 2nd paragraph. Where do you get information about his school friends?

23. Where can people now buy Robbie’s jam?

a. online

M: He made a business plan on the computer, but does it mean he sells jam online?

b. at a market

M: “His jam is now sold at a weekly market” means that people can buy it at a market.

c. from his father’s business

M: What is his father’s business? Where do you get this information? Check the 9th sentence in the 2nd paragraph.

24. How much jam did Robbie sell last week?

a. 52 kg

M: He says “customers bought 52 kilos of my jam” so he sold 52 kg jam.

b. 87kg

M: Is the number 87 about how much jam he sold or the number of customers? Check the 2nd sentence of the last paragraph.

c. 93 kg

M: Is the number 93 about how much jam he sold or the money he earned? Check the 2nd sentence of the last paragraph.

Appendix 5. Informed Consent Form

Dear Participants,

You are invited to take part in a research carried by Kevser Peker Kırtız and titled “The Impact of Computerized Dynamic Assessment on Students’ Achievement in Reading Comprehension”.

This study aims to investigate whether there is a difference in learners’ achievement in reading skills when computerized dynamic assessment (DA) is employed rather than non-dynamic assessment (NDA) in the general English course. If there is a difference in the scores of the experiment and the control group, the study aims to clarify the possible reasons for this difference from the perspective of learners’ ideas and explanations by carrying out interviews. The results of this study are very crucial for academia since they will deliver current explanations about the paradigm of dynamic assessment on the basis of reading skills.

The participants in the control group will have a pre-test and post-test in a non-dynamic format while the participants in the experiment group will have a non-dynamic pre-test and a dynamic post-test. Each test includes 3 short texts and 24 questions to finish in 30 minutes. 9 voluntary students will be interviewed to declare what they think about the implementation of computerized dynamic assessment.

The study is based on voluntary participation and the participants are free to withdraw at any time. Personal information of the participants will not be used explicitly. The results of the study will be shared with the participants after the study is completed if they want.

Thank you in advance for your participation. If you have any questions about the research, you can access the researcher via the email address (kevser.peker@ankaramedipol.edu.tr).

I have been informed about the research conducted by Kevser Peker Kırtız. I confirm that my participation is voluntary and I am free to withdraw at any time.

☐ **YES**

Appendix 6. The Illustration of Giving Consent Online

Dear Respondent,

You are invited to take part in a research carried by Kevser Peker Kirtiz and titled as “The Impact of Computerized Dynamic Assessment on Students’ Achievement in Reading Comprehension”.

This study aims to investigate whether there is a difference in learners’ achievement in reading skills when computerized dynamic assessment (DA) is employed rather than non-dynamic assessment (NDA) in general English course. If there is a difference in the scores of the experiment and the control group, the study aims to clarify the possible reasons for this difference from the perspective of learners’ ideas and explanations by carrying out interviews. The results of this study are very crucial for academia since they will deliver current explanations about the paradigm of dynamic assessment on the basis of reading skills.

The participants in the control group will have a pre-test and post-test in non-dynamic format while the participants in the experiment group will have a non-dynamic pre-test and a dynamic post-test. Each test includes 3 short texts and 24 questions to finish in 30 minutes. 9 voluntary students will be interviewed to declare what they think about the implementation of computerized dynamic assessment.

CONTINUE >

Question 1 of 25

I have been informed about the research conducted by Kevser Peker Kirtiz. I confirm that my participation is voluntary and I am free to withdraw at any time.

☐ Yes

SUBMIT

Appendix 7. Declaration of Institution Permit



T.C:
GAZİ ÜNİVERSİTESİ

..... ÜNİVERSİTESİ DİL OKULU
KURUM SORUMLUSUNUN BİLGİLENDİRİLDİĞİNE DAİR BELGE

GAZİ ÜNİVERSİTESİ EĞİTİM BİLİMLERİ ENSTİTÜSÜNE

İngiliz Dili Eğitimi tezli yüksek lisans öğrencisi Kevser Peker Kırtız'ın Prof.Dr. Paşa Tevfik Cephe danışmanlığında yürüttüğü “The Impact of Computerized Dynamic Assessment on Students’ Achievement in Reading Comprehension” isimli tez çalışması hakkında bilgilendirildim.

Bilgilerinize arz ederim.

Tarih: 10.12.2020

Kurum:

Unvan:

Ad ve Soyad:

İmza:

Appendix 8. The Sample iSpring Report

Hello!

Here you can review the survey results for "Reading Test 2".

Name -----

Surname -----

Department Medicine/Dentistry

Date/Time: 11 Ocak 2021 18:16

Time Spent: 29 min 24 sec

Question 1 **Survey**

I have been informed about the research conducted by Kevser Peker Kirtiz. I confirm that my participation is voluntary and I am free to withdraw at any time.

User Answer

Yes

Question 2 **Correct**

Points: 10/10 | Attempts: 2/3

Read the article about Tom Barry, an international skateboarder.

Are sentences 2-9 "Right" or "Wrong"?

If there is not enough information, choose "Doesn't say".

2.Tom began skateboarding before his tenth birthday.

User Answer	Correct Answer
 Right	Right

Feedback: If he started “when he was nine”, it means that it was before his tenth birthday.

Question 3 Correct

Points: 10/10 | Attempts: 1/3

Read the article about Tom Barry, an international skateboarder.**Are sentences 2-9 "Right" or "Wrong"?****If there is not enough information, choose "Doesn't say".****3. A magazine journalist saw Tom on the day he won his first competition.**

User Answer	Correct Answer
✓ Right	Right

Feedback: "That day" refers to the day when he won his first competition.**Question 4 Correct**

Points: 10/10 | Attempts: 1/3

Read the article about Tom Barry, an international skateboarder.**Are sentences 2-9 "Right" or "Wrong"?****If there is not enough information, choose "Doesn't say".****4. Tom is in his last year of school.**

User Answer	Correct Answer
✓ Wrong	Wrong

Feedback: Tom says "I left school last year ..." and it means he doesn't go to school anymore.**Question 5 Correct**

Points: 10/10 | Attempts: 1/3

Read the article about Tom Barry, an international skateboarder.**Are sentences 2-9 "Right" or "Wrong"?****If there is not enough information, choose "Doesn't say".****5. Tom is lucky because he often wins international competitions.**

User Answer	Correct Answer
✓ Doesn't say	Doesn't say

Feedback: He joins international competitions but there is no information about the result.**Question 6 Correct**

Points: 10/10 | Attempts: 3/3

Read the article about Tom Barry, an international skateboarder.
Are sentences 2-9 "Right" or "Wrong"?
If there is not enough information, choose "Doesn't say".

6. Earning lots of money is important to Tom.

User Answer	Correct Answer
 Wrong	Wrong

Feedback: If he isn't doing this for money, then earning money isn't important to Tom.

Question 7 **Correct**

Points: 10/10 | Attempts: 1/3

Read the article about Tom Barry, an international skateboarder.
Are sentences 2-9 "Right" or "Wrong"?
If there is not enough information, choose "Doesn't say".

7. Skateboarding is becoming more popular in Japan than in the States.

User Answer	Correct Answer
 Wrong	Wrong

Feedback: If skateboarding in Japan is less well-known, then it isn't becoming more popular in Japan.

Question 8 **Incorrect**

Points: 0/10 | Attempts: 3/3

Read the article about Tom Barry, an international skateboarder.
Are sentences 2-9 "Right" or "Wrong"?
If there is not enough information, choose "Doesn't say".

8. Some drivers stopped to watch Tom when he skateboarded on the street in Japan.

User Answer	Correct Answer
 Doesn't say	Right

Feedback: Check the 1st sentence of the last paragraph.

Question 9 **Correct**

Points: 10/10 | Attempts: 1/3

Read the article about Tom Barry, an international skateboarder.
Are sentences 2-9 "Right" or "Wrong"?

If there is not enough information, choose "Doesn't say".

9. Tom said it is difficult to find skate parks outside the big cities in Japan.

User Answer	Correct Answer
✓ Right	Right

Feedback: If skate parks are usually inside big buildings in large cities in Japan, then it is difficult to find skate parks outside the big cities.

Question 10 Correct

Points: 10/10 | Attempts: 1/3

Read the magazine article about Tessa Watts' school trip to Canada.

Are sentences 10-17 "Right" or "Wrong"?

If there is not enough information, choose "Doesn't say".

10. Tessa travelled to Canada on her trip.

User Answer	Correct Answer
✓ Right	Right

Feedback: If she had a great time on her adventure trip to Canada, it means that she travelled to Canada.

Question 11 Correct

Points: 10/10 | Attempts: 1/3

Read the magazine article about Tessa Watts' school trip to Canada.

Are sentences 10-17 "Right" or "Wrong"?

If there is not enough information, choose "Doesn't say".

11. Tessa felt happy on the first day because she was with her family.

User Answer	Correct Answer
✓ Wrong	Wrong

Feedback: When she says "I went with two teachers and all my classmates" and "I missed my family at first ...", it is clear that she wasn't with her family.

Question 12 Correct

Points: 10/10 | Attempts: 2/3

Read the magazine article about Tessa Watts' school trip to Canada.

Are sentences 10-17 "Right" or "Wrong"?

If there is not enough information, choose "Doesn't say".

12. It snowed on Tessa's favourite day in the mountains.

User Answer	Correct Answer
✔ Doesn't say	Doesn't say

Feedback: They went on a really long walk in the mountains but there is no information about snowing.

Question 13 **Correct**

Points: 10/10 | Attempts: 1/3

Read the magazine article about Tessa Watts' school trip to Canada.

Are sentences 10-17 "Right" or "Wrong"?

If there is not enough information, choose "Doesn't say".

13. Tessa talked a lot with other people on the walk.

User Answer	Correct Answer
✔ Right	Right

Feedback: Tessa says "we never got bored because we all chatted the whole time". It means that she talked a lot with other people on the walk.

Question 14 **Correct**

Points: 10/10 | Attempts: 1/3

Read the magazine article about Tessa Watts' school trip to Canada.

Are sentences 10-17 "Right" or "Wrong"?

If there is not enough information, choose "Doesn't say".

14. After their picnic lunch, the group had a lesson in rock climbing.

User Answer	Correct Answer
✔ Wrong	Wrong

Feedback: Tessa says "we had a rock climbing lesson just before our picnic lunch", not after.

Question 15 **Correct**

Points: 10/10 | Attempts: 1/3

Read the magazine article about Tessa Watts' school trip to Canada.

Are sentences 10-17 "Right" or "Wrong"?

If there is not enough information, choose "Doesn't say".

15. Some of the other students caught three fish in the lake.

User Answer	Correct Answer
✔ Wrong	Wrong

Feedback: Three is the number of students trying to catch fish, not the number of fish.

Question 16 Correct

Points: 10/10 | Attempts: 1/3

Read the magazine article about Tessa Watts' school trip to Canada.

Are sentences 10-17 "Right" or "Wrong"?

If there is not enough information, choose "Doesn't say".

16. The group slept outside so they could look up at the sky.

User Answer	Correct Answer
✔ Right	Right

Feedback: Tessa says they decided to sleep outdoors because they wanted to look at the stars.

Question 17 Correct

Points: 10/10 | Attempts: 2/3

Read the magazine article about Tessa Watts' school trip to Canada.

Are sentences 10-17 "Right" or "Wrong"?

If there is not enough information, choose "Doesn't say".

17. The boys were very good at making bear noises!

User Answer	Correct Answer
✔ Doesn't say	Doesn't say

Feedback: Tessa tells “we were still laughing at midnight because we were having so much fun” but there is no information about the boys were good or bad at making bear noises.

Question 18 Correct

Points: 10/10 | Attempts: 1/3

Read the article about a boy who became a businessman at 14 and then answer the questions 18-25.

18. Robbie's favourite subject at school was

User Answer	Correct Answer
✓ art	art

Feedback: Robbie enjoyed art most at school so it was his favourite subject.

Question 19 Correct

Points: 10/10 | Attempts: 1/3

Read the article about a boy who became a businessman at 14 and then answer the questions 18-25.

19. Robbie had problems in his English lessons because

User Answer	Correct Answer
✓ he couldn't spell very well.	he couldn't spell very well.

Feedback: Spelling words correctly was a problem for Robbie in English lessons.

Question 20 Correct

Points: 10/10 | Attempts: 1/3

Read the article about a boy who became a businessman at 14 and then answer the questions 18-25.

20. After he was 12, Robbie was taught

User Answer	Correct Answer
✓ in his home.	in his home.

Feedback: His parents decided he should be taught differently at home.

Question 21 Correct

Points: 10/10 | Attempts: 1/3

Read the article about a boy who became a businessman at 14 and then answer the questions 18-25.

21. After he left school, Robbie had more time to play

User Answer	Correct Answer
✓ an instrument.	an instrument.

Feedback: He spent more time practising on his violin which is an instrument.

Question 22 Correct

Points: 10/10 | Attempts: 1/3

Read the article about a boy who became a businessman at 14 and then answer the questions 18-25.**22. Who told Robbie the secret way to make jam?**

User Answer	Correct Answer
✔ his grandmother	his grandmother

Feedback: “She told him her secret way of making jam.” She refers to Robbie’s grandmother.**Question 23 Correct**

Points: 10/10 | Attempts: 3/3

Read the article about a boy who became a businessman at 14 and then answer the questions 18-25.**23. Who did Robbie give the extra jam to?**

User Answer	Correct Answer
✔ his neighbours	his neighbours

Feedback: Check this part: “... eat so he took it to other people in his street”. Other people in his street means his neighbours.**Question 24 Correct**

Points: 10/10 | Attempts: 1/3

Read the article about a boy who became a businessman at 14 and then answer the questions 18-25.**24. Where can people now buy Robbie’s jam?**

User Answer	Correct Answer
✔ at a market	at a market

Feedback: “His jam is now sold at a weekly market” means that people can buy it at a market.**Question 25 Correct**

Points: 10/10 | Attempts: 1/3

Read the article about a boy who became a businessman at 14 and then answer the questions 18-25.**25. How much jam did Robbie sell last week?**

User Answer	Correct Answer
✔ 52 kg	52 kg

Feedback: He says “customers bought 52 kilos of my jam” so he sold 52 kg jam.



Appendix 9. The Sample Transcripts from the Analysis of Semi-Structured Interviews

Participant 1 (In Turkish)

P1: Merhaba hocam nasılsınız?

T: İyiyim teşekkür ediyorum sen nasılsın?

P1: İyiyim ben de çok teşekkür ederim.

T: Öncelikle bu görüşmeye katılmayı kabul ettiğin için teşekkür ederim.

P1: Rica ederim hocam ne demek.

T: Çok vaktini almak istemiyorum o yüzden bir an önce başlıyorum soruları sormaya.

P1: Tamam hocam.

T: Testleri yapmadan önce bahsetmiştim ancak kısaca çalışmayla ilgili bir bilgilendirme geçmek istiyorum. Ben bilgisayar destekli dinamik ölçmenin öğrencilerin okuduğunu anlama becerilerine etkisi üzerine bir çalışma yapıyorum. Bu görüşmede amacım dinamik ve dinamik olmayan iki farklı yöntemle okuma testleri çözen öğrencilerin bu testlerle ilgili ne düşündüklerini ortaya çıkartmaktır. Yani sana düşüncelerinle ilgili bazı sorular soracağım. Geçen haftalarda derslerimizde farklı yöntemlerle hazırlanmış iki okuma testi çözdük. Sorularımı sorarken ilk çözdüğümüz, ipuçlarının olmadığı, okulda yaptığımız sınavlardan alışkın olduğunuz dinamik olmayan test yöntemine 1. yöntem, 2. çözdüğümüz, şıkları işaretlediğinizde ipuçları gördüğünüz dinamik olan yönteme 2. yöntem diyeceğim. Görüşme öncesinde ses kaydı alacağımdan bahsetmiştim, şu an görüşmemizin kayıt altına alındığını tekrar hatırlatmak istedim. Bu kayıt yalnızca bilimsel amaçla kullanılacaktır ve gizliliği tarafımda korunacaktır. Başlamadan önce bu söylediklerimle ilgili belirtmek istediğin bir düşünce ya da sormak istediğin bir soru var mı?

P1: Hayır hocam yok.

T: Tamam başlıyorum o zaman. Farklı yöntemlerle hazırlanmış iki tane okuma testi çözdün. Bu iki yöntem arasındaki farkları kendi cümlelerinle bana nasıl açıklarsın?

P1: Kolaylığı açısından cevaplayacak olursam ilk testte daha çok anlamak için çaba sarf ettim şıklara yaklaşımım daha zor oldu kendi açımdan fakat 2. testteki yanlışları bulduğumu

ipuçları ile fark edebildim ve o cümlelere daha çok odaklandım. Doğru şıkkı bulmamda 2. reading testi daha faydalı oldu.

T: Anladım peki bu ipuçları okuma parçasını anlamana ne kadar katkı sağladı diyebiliriz?

P1: Bir sayısal değer olarak mı söyleyebilirim yoksa iyi veya kötü?

T: Olabilir çok diyebilirsin yüzde verebilirsin nasıl istiyorsan.

P1: 100 üzerinden 75-80 kadar etkiledi hocam kolaylık açısından.

T: Güzel peki, bu ipuçlarından nasıl faydalandın, yani tıkladın bir şıkka, ipucu çıktı ne yaptın?

P1: Önce okurken normal bir şekilde okudum, emin olduklarımı direk işaretledim, emin olmadıklarım da o ipucu çıktığında tekrar okudum, o kısımlara odaklandım ipuçları zaten yeterince yardımcı oldu.

T: Geri dönmeni sağladı yani check etmeni sağladı cevabını

P1: Evet.

T: Peki bu iki yöntemden hangisinde genel olarak daha iyi bir performans sergilediğini düşünüyorsun ve sebebi nedir?

P1: Yani net olarak bilmesem de hani sonuçlarımı ama 2. tip kullanılsaydı çok güzel olurdu eğitim öğretimimizde yani 2. tipi seçerdim ben hocam yani orda daha iyiydim, kendimi daha iyi hissettim.

T: Peki 2. yöntemde kafanı karıştıran herhangi bir şey oldu mu?

P1: hayır hocam bence çok netti zaten siz çalışmadan önce de bizi bilgilendirdiğiniz için ben net bir şekilde ne yapacağımı biliyordum yani kafamı herhangi bir şey karıştırmadı.

T: Çok güzel peki öğrenci gözünden soruyorum sana 2. yöntemi geliştirmek için sence biz neler yapabiliriz?

P1: 2. yöntemi geliştirmek için hocam bilmiyorum ki aslında yani ben çok beğendim gerçekten fikri de çok beğendim ben ilk kez böyle bir şey ile karşılaştım. Ekleyebileceğim sanırım bir şey yok yani şu an çok net değil aklımda metinler.

T: Tamamdır peki genel olarak eklemek istediğin herhangi bir şey var mı?

P1: Çok güzeldi uygulama hocam umarım yani dediğim gibi İngilizce dersi için umarım bu yürürlüğe geçen bir şey olur. Hepimiz İngilizceye olan önyargımızı bu vesile ile kırmış oluruz en azından okuma metinleri için.

T: Çok güzel bunu duyduğuma gerçekten çok sevindim.

P1: Rica ederim.

T: Benim sorularım bu kadardı, teşekkürler.

P1: Ben de çok teşekkür ederim hocam.

Participant 1 (In English)

P1: Hi teacher, how are you?

T: I am good, thank you, how are you?

P1: Me too, thank you.

T: Firstly, I want to thank you for accepting to participate in this interview.

P1: You are welcome teacher.

T: I do not want to take up much of your time, so I am starting to ask my questions right away.

P1: OK teacher.

T: I mentioned before we completed the tests but I want to briefly reinform you. I have been conducting a research on the impact of computerized dynamic assessment on learners' reading comprehension. In this interview, my aim is to illustrate the ideas of the learners who took two reading tests prepared in dynamic and non-dynamic method. I mean, I am going to ask questions about your opinions. In the previous weeks, we did two reading tests prepared by different methods. While asking the questions, I am going to entitle the first reading test which was non-dynamic, similar to the exams we do in our school and lacking of hints as the 1st method, and the second reading test which provided hints upon clicking on a choice is going to be called the 2nd method. Before this interview, I have informed you about the voice recording and I want to remind you that the interview is being recorded right

now. This recording is going to be used only for scientific purposes and the privacy of the recording is ensured by me. Before we start, are there any considerations you would like to express or any questions you would like to ask?

P1: No, there are not teacher.

T: OK then, I start. You took two reading tests prepared by different methods. How do you explain the differences between these two methods in your own words?

P1: If I answer with regards to the easiness, I paid much more effort in the first test. Dealing with the choices was a lot more difficult for me, but in the 2nd test, I was able to realize my mistakes thanks to the hints and I focused on these sentences more. The 2nd reading test was more beneficial in finding the correct answer.

T: Well, alright, to what extent can we say that the hints made contribution to your reading comprehension?

P1: Should I assign a numerical value or say good or bad?

T: You can say so or you can express by using percentage.

P1: Out of 100, the contribution was around 75-80 % in terms of being easier.

T: Well good, how did you make use of hints? You clicked on a choice, the hint popped up and what did you do?

P1: Firstly, I read it normally and directly chose the ones I was sure about. When I was uncertain, I read the hints again and focused on those parts. Hints were helpful enough after all.

T: You mean it helped you to go back and check your answer.

P1: Yes.

T: Well, which method do you think you have displayed a better performance? What is the reason behind it?

P1: I mean I do not the results exactly but it would be very nice if the 2nd type was employed in our teaching. I mean, I would choose the second method because I was better, I felt better.

T: Alright, In the 2nd method, was there anything confusing?

P1: No, I think it was quite lucid and I already had known what to do because you had informed us beforehand so there was nothing to be confused.

T: Very good, then from the perspective of a learner, I ask you what can we do to improve the 2nd method?

P1: To improve the 2nd method, I do not know teacher. Actually I liked it a lot, I really liked the idea. It was the first time I have experienced something like this. I guess there is nothing I can add; I do not exactly remember the texts.

T: Well OK, is there anything else you would like to add in general?

P1: It was so good teacher; I mean I hope it becomes the permanent format of tests in the English course. With the implementation of it, we can overcome our prejudices against English, at least for reading passages.

T: Very good. I felt so happy to hear that.

P1: You are welcome.

T: That was all from me. Thank you so much.

P1: Thank you so much teacher.

Participant 6 (In Turkish)

T: Merhaba, nasılsın?

P6: İyiyim hocam siz nasılsınız?

T: Teşekkür ediyorum ben de iyiyim. Öncelikle bu görüşmeye katılmayı kabul ettiğin için çok teşekkür ediyorum sana, vaktini ayırdın.

P6: Rica ederim hocam ne demek, umarım doğru cevaplar verebilirim.

T: Doğru ya da yanlış yok, sadece düşüncelerini soracağım sana.

P6: Tamam.

T: Testleri yapmadan önce açıklamıştım ama çok kısa söylemek istiyorum neden görüşme yaptığımı. Ben bilgisayar destekli dinamik ölçmenin öğrencilerin okuduğunu anlama becerilerine etkisi üzerine bir çalışma yapıyorum. Bu görüşmede amacım dinamik ve

dinamik olmayan iki farklı yöntemle okuma testleri çözen öğrencilerin bu testlerle ilgili ne düşündüklerini ortaya çıkartmaktır. Sana düşüncelerini soracağım, yanlış doğru yok. Sorularımı sorarken ilk çözdüğümüz, ipuçlarının olmadığı, okulda yaptığımız sınavlardan alışkın olduğunuz dinamik olmayan test yöntemine 1. yöntem, 2. çözdüğümüz, şıkları işaretlediğinizde ipuçları gördüğünüz dinamik olan yöntem 2. yöntem diyeceğim. Anlaştık mı?

P6: Tamamdır hocam.

T: Ses kaydı alıyorum daha önce bahsetmiştim. Vereceğin cevapları bu çalışmamda sadece bilimsel amaçlarla kullanacağım ve ses kaydının gizliliği benim tarafımdan korunacaktır. Başlamadan önce bu söylediklerimle ilgili belirtmek istediğin herhangi bir şey var mı?

P6: Yok hocam.

T: Tamamdır o zaman başlıyoruz. Farklı yöntemlerle hazırlanmış 2 okuma testi çözdün. Bu iki yöntem arasındaki farkları kendi cümlelerinle nasıl açıklarsın?

P6: 1. Yöntem alışık olduğumuz klasik okuma ve okuduğunu anlama testi şeklindeydi 2. yöntem biraz daha farklı bize ipuçları sunuyordu, daha yardımcı bir yöntem olarak tanımlayabilirim ben onu, daha dost yöntem.

T: Peki bu 2. yöntemdeki ipuçları okuma parçasını anlamana ne kadar katkı sağladı?

P6: Hocam okuma parçasını anlamama şöyle bir katkı sağladı gözden kaçırdığım ufak tefek noktalar varsa onlara dikkat etmemi sağladı parçayı genel olarak anlamlandırmada bir fark yok bence ayrıntıları hatırlatmada bir katkı sağladı diyorum düşünüyorum.

T: Anladım güzel, peki 2. yöntemde ipuçlarından nasıl faydalandın yani tıkladın bir şıkka, karşına ipucu çıktı, ne yaptın bundan nasıl faydalandın?

P6: Tekrar ipucunda söylenen bilgiye bağlı olarak tekrar parçaya döndüm ve sorunun doğru cevabını buldum.

T: Güzel peki, karşılaştırsak bu 2 yöntemi hangisinde daha iyi bir performans sergilediğini düşünüyorsun?

P6: Tabi ki 2. yöntemde hocam

T: neden?

P6: Çünkü dediğim gibi parçayı okuyorum anlıyorum ama gözden kaçırdığım veya dikkat etmediğim ufak tefek noktalardan dolayı soruyu yanlış yapabiliyorum, ama 2. yöntemde böyle bir şey olmuyor çünkü size ipucu veriyor ve yani böyle doğru yola adımlar konulmuş gibi böyle adım adım ilerleyerek ipuçlarıyla doğruya yönelebiliyorsun. O da tabi ki çok güzel oluyor.

T: Anladım peki, 2. yöntemde kafanı karıştıran herhangi bir durum oldu mu?

P6: Düşünüyorum hocam yok olmadı, 2 defa vardı galiba dönme hakkımız ipucundan sonra dolayısıyla çok nadiren 2. defa ihtiyaç duydum ilkte genelde halletmiş oldum.

T: Anladım çok güzel peki öğrenci gözünden sana sormak istiyorum 2. yöntemi geliştirmek için neler yapabiliriz?

P6: 2. yöntemi geliştirmek için mi?

T: Evet yani üzerine bir ekleme yapılacak olsa senin bir yorumun var mıdır? Şöyle de yapılırsa daha iyi olur gibi.

P6: Evet benim daha iyi olur diyeceğim bir tek şöyle bir nokta vardı sanırım. 1. soruda ben bunu yaşadım. Böyle çok doğrudan sanki testin cevabı veriliyormuş gibiydi ipucunda sorunun cevabı veriliyormuş gibiydi daha böyle sorunun cevabını değil de tam olarak ipucunu söylemesi daha iyi olurdu yani verilen bilginin doğrudan cevaba hani soruyu çok basitleştirmemesi gerekir bence.

T: Anladım daha çok peşinden gideceğimiz bir ipucu olsun diyorsun.

P6: Efendim hocam

T: Yani sizin onu takip edip peşinden gideceğiniz bir ipucu olsun ama bizi direk ne olduğunu söylemesin diyorsun.

P6: Evet doğrudan sorunun cevabını verince de şey hissi oluyor yani o zaman ben niye bu soruyu çözüyorum hissi oluyor.

T: Peki acaba doğru cevabı işaretlediğinde vermiş olabilir mi doğru cevabın aynısı dediğin ipucunu

P6: Yok.

T: Yanlıřta mıydı?

P6: Bilemeyeceđim hocam řimdi yanlıř olmasın tam hatırlamıyorum ama bir soruda net böyle hissettim yani zaten cevap bu diye düşündüm.

T: Anladım peki çok güzel, genel olarak eklemek istediđin herhangi bir řey var mı?

P6: Genel olarak bence tercih edilmesi gereken bir yöntem olduđunu düşünüyorum ben. Keřke böyle yaygınlařsa bu yöntemler bütün kademelerde bize öğrencilere yani dedim ya daha dost bir yöntem diye dolayısıyla kiři öğrencinin tutumunda da deđişiklik yaratabilir olumlu anlamda o yüzden yaygınlařsın isterim ben klasik tarzdan ziyade 2. yöntemin yaygınlařması güzel olabilir.

T: Senin onayını aldı yani, güzel çok teřekkür ederim.

P6: Teřekkürler.

Participant 6 (In English)

T: Hello, how are you?

P6: I am good teacher, how are you?

T: Thank you, I am doing good. Firstly, I want to thank you for accepting to participate in this interview and sparing your time.

P6: You are welcome teacher. I hope I can give correct answers.

T: There is no right or wrong. I will only ask about your opinions.

P6: OK.

T: Before conducting the tests I explained but I want to briefly explain why I do this interview. I have been conducting a research on the impact of computerized dynamic assessment on learners' reading comprehension. In this interview, my aim is to illustrate the ideas of the learners who took two reading tests prepared in dynamic and non-dynamic method. I am going to ask about your ideas; there is no right or wrong. While asking the questions, I am going to entitle the first reading test which was non-dynamic, similar to the

exams we do in our school and lacking of hints as the 1st method, and the second reading test which provided hints upon clicking on a choice is going to be called the 2nd method. Do we have a deal?

P6: OK teacher.

T: As I mentioned before, I am recording the interview. Your answers are going to be used only for scientific purposes and the privacy of the recording is ensured by me. Before we start, are there any considerations you would like to express about the explanations?

P6: No teacher.

T: OK then, we can start. You took two reading tests prepared by different methods. How do you explain the differences between these two methods in your own words?

P6: The 1st method was like usual reading comprehension tests. The second method was different from the first one in providing hints, so I can define it as more helpful, friendlier method.

T: Well, to what extent did the hints in the 2nd method make contribution to your reading comprehension?

P6: Teacher, they helped me understand the texts by supporting me to pay attention to the unnoticed parts. In overall understanding, I do not think there is a difference; but I believe that they contributed in remembering the details.

T: I got it, well, how did you make use of hints in the 2nd method? You clicked on a choice, the hint appeared and how did you benefit from it?

P6: According to the information provided in the hints, I returned to the text and found the correct answer.

T: Good, if we compare these two methods, in which method do you think you have displayed a better performance?

P6: Of course, the second one.

T: Why?

P6: Because as I said before, I read the text and understand it but because of some points I do not pay attention or unable to notice, I give incorrect answers. However, this does not happen in the second method because it gives you hints. It is like there are some steps in the correct road and you can head against to correct answer by following hints step by step. Well, of course this is very good.

T: I understand, in the 2nd method, was there anything confusing?

P6: I am thinking; no teacher nothing was confusing. I guess we had the change go back twice after the hint. Therefore, I barely needed to go back for the second time; I could overcome in the first attempt in general.

T: I see, very good. From the perspective of a learner, I want to ask you what can we do to improve the 2nd method?

P6: To improve the 2nd method?

T: Yes, I mean do you have any comments for making some additions? Like it would be better if it was conducted in that way, etc.

P6: Yes, I guess there is only one thing I would advise to make it better. In the first question, I felt like the answer of the question was given. I mean not the answer of the question but it would be better it was more like a hint. I think the hint should not simplify the question a lot.

T: I understand; you mean the hints should be leading.

P6: Sorry teacher?

T: You mean you should try to find the answers under the guidance of hints but they should not directly inform you about the correct answers.

P6: Yes, when I directly see the correct answer I felt like why I was trying to solve that question.

T: Well, could these revealing hints have been given when you clicked on the correct choice?

P6: No.

T: Were they in incorrect choices?

P6: I do not know teacher; I do not want to misinform you. I do not remember exactly but I felt like this in a question, I mean I said it was the answer of the question.

T: I see, well, is there anything else you would like to add in general?

P6: I think it is a method which should be preferred in general. I hope that this kind of methods become more prevalent in all levels for all students, I mean, as I stated before, it is a friendlier method so it can create positive changes in learners' attitude. Hence, I want it to become more prevalent. Rather than the usual method, the common practice of the 2nd method can be very good.

T: So it received your approval. Good, thank you so much.

P6: Thanks.



GAZİLİ OLMAK AYRICALIKTIR..