

# WHICH ONE IS SUPERIOR; THE CAKE APPROACH OR THE SANDWICH APPROACH? THE EFFECT OF DYNAMIC ASSESSMENT ON EFL UNDERGRADUATES' VOCABULARY KNOWLEDGE

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## ABSTRACT

*The purpose of the present study is to investigate the relationship between two types of approach which are pertinent to dynamic assessment, namely, the Cake approach and the Sandwich approach, and vocabulary development of EFL (English as a Foreign Language) learners at Shiraz Azad University. This research targets at figuring out differences between applying these two various approaches of dynamic assessment in relation to their application for boosting the knowledge of vocabulary among the above-mentioned university students. Therefore, to administer both approaches of dynamic assessment, 60 sophomore EFL University learners majoring in 'English Teaching' at the intermediate level of proficiency at Shiraz Azad University are selected as the sample of the study. Then, two procedures for collecting data are administered. The first procedure applies the Sandwich approach, and the pretest-mediation-posttest design (Sandwich model of DA) is used in the study. The participants serving as the first experimental group receives mediation (through giving them one or more synonyms) after pre-test. Finally, they are taken a post-test. The second procedure applies the Cake approach, and the pre-test-mediation-quiz1-mediation-quiz2-mediation-quiz3-mediation-post-test design (Cake model of DA) is used in this study. One point here is that these three quizzes which are given to the second experimental group are administered after each month. The findings of this study illustrates a significant difference between the pre-test and post-test scores of vocabulary test (504 words) in both groups (through using paired t-test) which shows the improvement of scores after mediation. Furthermore, by applying the independent sample t-test and analyzing the results obtained from both groups, it is revealed that the second experimental group outperformed in their post-test; so, it can be concluded that it is a sign of superiority of the Cake approach of DA to the Sandwich approach.*

**KEYWORDS:** Dynamic Assessment (DA) – The Cake Approach – The Sandwich Approach

## INTRODUCTION

Boosting the knowledge of vocabulary has been considered as a strong desire for all second and foreign language teachers and assessors. No one can really deny the role of vocabulary in learning another language. To achieve this goal, researchers and teachers in the domain of teaching and testing have done their best. Dynamic Assessment (DA) emphasizes the need for unifying assessment and instruction. Furthermore, it claims that by providing assistance during learning process, not only can teachers gain useful information regarding learner's performance, but also he/she can be assisted to improve his/her abilities provided that the mediation is finely tuned to his/her learning abilities while engaging in the process of assessment.

In dynamic assessment, interaction between teachers/assessors and learners creates their ZPD (Zone of Proximal Development) where the learners learning potential emerges. In other words, to assess a learner's learning potential means to create his or her ZPD through the interaction with the teacher/assessor. Lidz and Peña (2009) contended that DA is an approach to individual assessment based on ZPD. The internalization process leading to learner's potential proficiency involves a transformation shift from interpsychological to intrapsychological planes within social interaction in the ZPD, where the expert (teacher/assessor) and novice (learner) together engage in communication. The dynamic assessor instructs learners on how to perform certain tasks, provides mediated assistance on how to master them, and then measures their progress in learning to solve similar problems (Kirschenbaum, 1998). In other words, dynamic assessment goes beyond the cognitive measure of the one-shot standardized test.

Current developments in dynamic assessment rest primarily on the ideas of both Vygotsky and Feuerstein, as well as models of practice developed by researchers such as Brown and Campione (see reference list ). Vygotsky's emphasis on the importance of social context for the development of higher mental processing is essential to dynamic assessment, since the interactional nature of dynamic assessment simulates the developmental process itself, where the mediator works with the learner to facilitate the learner's move to a higher level of functioning. Vygotsky's concept of the "zone of proximal development" (ZPD) describes this collaboration where the conditions for the next steps are created within the interaction. Vygotsky suggested that it was necessary to determine both the zones of actual, as well as proximal, development in order to have a more complete understanding of the child's abilities.

The ZPD refers to what a learner is able to accomplish with the help of a more experienced collaborator. This contrasts with the "zone of actual development (ZAD)," which is what the learner is able to accomplish independently. This makes it possible to conceptualize assessment in terms of the type of information provided by the procedural models. That is, most procedures provide information about the learner's ZAD, while dynamic assessment provides information about the learner's ZPD. To really understand the learner and to be able to plan for instruction, it is necessary to have both sources of information. Promotion of higher mental functions requires that the more experienced collaborator provide leadership within this interaction. This leadership occurs to a large extent through the tools of language, which serves to mediate the transition from external knowledge to internalized mental functioning.

***The concept 'Transparency'***

Feuerstein took the concepts of Vygotsky even further in providing more precise guidelines regarding the nature of the collaborative interactions that created a zone of proximal development, as well as procedures that were explicitly modified to access these zones in varying content domains. While an ecological approach to assessment might suggest that understanding of even broader contexts than personal interactions are necessary for understanding the functioning of any individual, Feuerstein would claim that these contexts are important in their implications for their impact on the mediational interactions among individuals who serve as transmitters of culture. The broader contexts such as ethnicity, socioeconomic status, biological or health issues would be considered “distal” influences to development, while the actual mediational interactions are “proximal.” Resting on the foundations of Vygotsky and Feuerstein, dynamic assessment can be defined as the creation of a zone of proximal development, within which the assessor provides mediation to promote the higher mental functioning of the learner.

The most general characteristics of dynamic assessment include the interactive role of the assessor, the focus on learner processes and how these interact with process demands of the task, and the typical employment of a pretest-intervention-posttest administration format. Specific procedures differ considerably particularly with regard to the content of the tasks, the degree of standardization of both the tasks and intervention, and the purpose of the procedure. There is continuing discussion about just how far a procedure can deviate from these characteristics and still be considered dynamic. Given these characteristics, the type of information that can be generated by dynamic assessment procedures would include in depth understanding of the strengths and weaknesses of the learner, the responsiveness of the learner to the intervention provided within the procedure, the intensity of effort (or cueing) involved in trying to elicit responsiveness, and the relationship of assessment information to subsequent instruction. It is this last item that attracts many to the idea of dynamic assessment, as assessors are often accused of generating information that is irrelevant for intervention and instruction.

Vocabularies are the essential part of a successful communication. By the help of words, individuals can express themselves, exchange ideas and show feelings and attitudes. According to Schmitt (2000), vocabularies are divided into productive (active) and receptive (passive) categories. Productive vocabularies are the type of words which learners learn through day to day communication and apply them daily in their speaking and writing. By contrast, receptive vocabularies are vital for general comprehension when arising in context. They are not utilized on a daily basis (Schmitt, 2000).

Vocabulary instruction is often a neglected area. Learners always face long lists of vocabularies with or without translations that they have to memorize. In this respect, the study incorporated a more fine-grained and individually negotiated modes of mediation to indicate learners' mediated and unmediated performances, report their learning potential and uncover evidence of their vocabulary development. ZPD, which is the cornerstone of Vygotsky's Sociocultural theory, differentiates a learner unmediated and mediated performances. As Poehner and Lantolf (2013) stated, the diagnosis made in DA makes it different from other types of assessment; “collaborative functioning with others is given equal, if not greater, attention” (p. 324). Based on

Vygotsky's (1987) discussion of the ZPD, learner's responsiveness to the mediation signifies the development of his/her abilities presenting the processes underlying his/her performances.

### ***Two Approaches to Dynamic Assessment***

There are a number of approaches and models that fall under the umbrella term of DA. This is due to the fact that mediation can be implemented in a number of ways. However, Lantolf and Poehner, (2004) identified two general approaches to DA: interventionist and interactionist.

The interventionist type of DA includes intervention from the examiner during the test procedure itself and it is a more formal and standardized approach. During interventionist DA, the examinees are given instruction item by item and if they cannot solve the item correctly, they are given pre-fabricated hints. Poehner (2008) stated that the defining characteristic of interventionist DA is the use of standardized administration procedures and forms of assistance to present easily quantifiable results that can be exploited to make comparisons between and within groups, and can be contrasted with other measures and employed to make predictions about performance on future tests.

Interactionist approach is usually accompanied with the name of Feuerstein. Feuerstein fully integrated assessment and instruction so that one does not exist apart from the other (Poehner, 2008). According to Feuerstein, human cognitive abilities are not fixed and can be modified or developed through intervention. Thus, he criticizes prevailing assumptions about normal distribution of intelligence and traditional psychometric models (Feuerstein & Feuerstein, 2001). One of the concerns in such assessments is the issue of cultural differences, which is also addressed by Feuerstein. In fact, in Feuerstein's Mediated Learning Experience (MLE) model, the stimulus-response model has been revised so that the child is interacting with a more competent peer who helps the child in any way by selecting, changing, amplifying, elaborating, and interpreting the objects with the child through mediations.

Unlike interventionist orientations to DA, which have a strong propensity toward quantification and psychometric analysis, interactionist approaches follow Vygotsky's preference for qualitative assessment of psychological processes and dynamics of their development (Minick, 1987). Indeed, Vygotsky (1998) himself insisted that "we must not measure the child, we must interpret the child" (p.204) and this can only be achieved through interaction and cooperation with the child. Interactionist DA entails mediation emerging from interaction between examiner and examinee. During interactionist DA, leading questions, hints or prompts are not planned in advance; instead, they emerge from mediated dialogue and collaborative interaction.

Interventionist DA is implemented in two formats:

1. *The Cake format*
2. *The Sandwich format*

#### ➤ *Cake Format*

In the cake or layer-cake format, whenever a problem arises, the examiner offers mediation or intervention during the assessment procedure; that is to say that, the examinees perform item by

item presented testing exercises and should they face a problem in doing the activity correctly, they are offered instruction formed in a pre-established list of hints and prompts. Since "the successive hints are presented like successive layers of icing on a cake [and] the number of hints varies across examinees, but not the content of them" (Sternberg & Grigorenko 2002, p.27), this DA orientation is called layer-cake format. It is essential to note that the tasks should have cumulative difficulty and feedback and support should be offered to an individual after the completion of each task to assist him/her identify and overcome his/her errors.

➤ *Sandwich Format*

The sandwich format resembles traditional experimental research designs in the sense that it implements a pretest to set a preliminary measurement and a posttest to assess the efficiency of treatment; therefore, the administration of mediation process is through "sandwiching" it between pretest and posttest which themselves are implemented non-dynamically. In other words, the learners are given a set of pretest exercises, then instruction is offered based on their needs and feedbacks received from their performance in the pretest, and at last, they are given posttest activities. As the instruction is given between pretest and posttest procedures, it is called sandwiched instruction, and it can be presented both on individuals and in group settings. In the sandwich format, there is a comparison between the performance on the pretest and posttest as to see the extent to which development occurs.

## LITERATURE REVIEW

The concept of DA is originated from both Vygotsky's (1978) learning theory and Feuerstein's (1979) theory of mediated learning experiences. Vygotsky's (1978) suggests that the development process rather than the product is of great importance. Vygotsky proposed the concept of ZPD. He found that what a child is able to do independently is not the child's full ability, as his abilities develop through assistance, or mediation offered by another capable person. Vygotsky's notion of Zone of Proximal Development (ZPD) refers to the gap between what the child can learn unassisted, and what he or she can learn with the help of an adult or a more knowledgeable peer. In other words, ZPD proposes that learning may be greatly facilitated through interactions between students as novices and a more knowledgeable and experienced person such as a teacher. According to Vygotsky, it is impossible to understand a child's potential intellectual development using a one-way assessment. Vygotsky believes that abilities are not innate but are emergent and dynamic (Lidz & Gindis, 2003).

Feuerstein, similar to Vygotsky's ZPD concept, designed his theory of DA around the theory of mediated learning experience (MLE) and structural cognitive modifiability. The basic assumptions of the MLE are as follows:

1. Human beings possess a unique capacity to modify their cognitive functioning and adapt to changing demands in the environment.
2. Cognitive modifiability is possible disregarding the barriers of age, etiology, and severity of condition.



3. Cognitive modifiability is possible through MLE processes rather than direct unmediated experience (Seok-Hoon, Kheng & Jensen, 2005).

According to Budoff (1987), DA serves as a better tool for classification of students and prediction of their future achievements. This theory investigates how social interactions influence human intellectual development and centralizes on the social nature of the learning process through the notion of the ZPD.

Lidz and Gindis (2003) state, “DA is an approach to understanding individual differences and their implications for instruction that embeds intervention within the assessment procedure, the focus of most dynamic assessment procedures is on the process rather than on the product of learning” (p. 99). In other words, in DA the mediator seeks to improve learner performance through modification of student activity. This interaction focuses on learner behavior and learner receptivity to mediation (Lidz, 1991).

Lidz (1987) defines DA in a specific way which emphasizes the interaction. She proposes that DA is “an interaction between an examiner-as-intervener and a learner-as-active participant, which seeks to estimate the degree of modifiability of the learner and the means by which positive changes in cognitive functioning can be induced and maintained” (p.4). Moreover, Hasson and Joffe (2007) believe that “DA includes a range of methods and materials to assess individuals’ potential for learning. Its aim is to reveal the maximum level of performance by providing mediation in the course of assessment session” (p.10). Furthermore, Kozulin (2003) claims “instead of studying the child’s individual performance dynamic assessment focuses on the difference between performance before and that after the learning or assistance phase” (p.17).

In addition, Lantolf and Poehner (2004) state that DA is a procedure that “integrates assessment and instruction into a seamless, unified activity aimed at promoting learner development through appropriate forms of mediation that are sensitive to the individual’s (or in some cases a group’s) current abilities. In essence, DA is a procedure for simultaneously assessing and promoting development that takes account of the individual’s (or groups’) zone of proximal development”(p.50). Furthermore, Mardani and Tavakoli (2011) stress that DA is a method which reduces the stress by combining teaching and testing.

Mardani and Tavakoli (2011) investigated the role of dynamic assessment in reading comprehension of 30 Iranian male learners. During the mediation phase the researchers followed an interactionist method which was based on cooperative dialog. The findings rejected the null hypothesis of the researchers and they concluded that incorporation of DA as a supplementary procedure to standard testing had positive effects on both test performance and learning of learners.

Shrestha and Coffin (2012) explored the value of tutor mediation in the context of academic writing development among undergraduate business studies learners in open and distance learning. The authors concluded that DA can help to identify and respond to the areas that

learners needed the most support (in this study, managing information flow). However, the authors recognized that the study was limited to a particular sociocultural context in higher education (Open University) and their findings could not be generalized to other contexts. Sadeghi and Khanahmadi (2011) probed the role of mediated learning experience in L2 grammar of Iranian EFL learners. Sixty EFL learners (30 male and 30 female) in two institutes in Iran were the participants of the study. The results showed that the type of assessment –based instruction or mediation (DA based versus NDA-based) made significant difference in the learning of grammar by Iranian EFL learners.

Pishgadam, Barabadi, and Kamrood (2011) examined the effectiveness of using a computerized dynamic reading comprehension test (CDRT) on Iranian EFL learners with a moderate level of proficiency. Findings showed that providing mediation in the form of hints increased significantly the learners' scores and consequently their reading comprehension. DA seemed to be a bigger help to weaker learners than stronger ones. Naeini and Duvali (2012) investigated improvements in English Language Training (ELT) university learners' reading comprehension performance by applying the mediations of a dynamic assessment approach to instruction and assessment. The descriptive and analytic analyses of the results revealed dramatic and measurable progress in participants' reading comprehension performance.

Language proficiency requires mastery of considerably larger number of words. Schmitt (2008) emphasizes that language learners require large vocabularies to productively use a second language, and as a result high vocabulary targets need to be set and pursued. The body of literature, to the best of our knowledge, has not reported many DA studies of vocabulary development. Generally, three classes of studies can be found. The first category of studies worked with children with learning difficulties (Alony & Kozulin, 2007; Kapantzoglou, Restrepo, & Thompsona, 2012). The second and third categories reported results from children (Burton & Watkins, 2007) and EFL/ESL learners (Shabani, 2014; Taghizadeh & Bahrami, 2014; Woltera & Pikea, 2015), respectively.

The common feature of these studies is the implementation of interventionist approach to DA (e.g. Taghizadeh & Bahrami, 2014 for cake DA format and Kapantzoglou et al., 2012 for sandwich DA format) except for Alony and Kozulin, (2007) who followed the principles of mediated learning experience (Feuerstein, Rand, & Hoffman, 1979) actively supporting the child's cognitive modifiability. For example, Taghizadeh and Bahrami (2014) combined Budoff's (1987) Test-Train-Test model, Campione and Brown's (1987) graduated prompting assessment model and Sternberg and Grigorenko's (2002) cake format to explore the effect of DA on EFL learners' lexical inferencing ability. Learners were asked to guess the meaning of unknown words and the instructor mediated them moving from most implicit to the most explicit prompts based on strategies of lexical inferencing. On the other hand, Kapantzoglou et al. (2012) adopted a pretest–teach–posttest design to teach three non-words with three unfamiliar items in single session of 30–40 minutes. Target words were taught using a scripted structured play activity and learners were mediated through learning strategies. The studies argued that DA is a promising method for mediating L2 learners' vocabulary growth.

## THE RESEARCH QUESTION

Does Dynamic Assessment promote English vocabulary knowledge of EFL learners based on a sandwich format or a cake format?

### *The null hypothesis*

There is no significant difference between applying two approaches of DA, namely, the Sandwich approach and the Cake approach, and increasing of EFL learners' vocabulary knowledge.

## METHODOLOGY

### *Participants*

The participants in this study comprised of 90 EFL sophomores studying at Islamic Azad university of Shiraz. They were selected based on the convenience sampling procedure. In addition, they were within the age range of 18 to 27, including 34 females and 26 males, majoring in 'English Teaching'. To make sure that they were homogenously proficient, a test of vocabulary which was chosen from the book "TOEFL Barron's" was given to them. Consequently, 60 out of 90 were chosen. In addition, they were mainly university students and were studying English for the purpose of finding a better job or achieving higher degrees in their field. To this end, they were studying the book '504 Words' in order to improve their language proficiency, especially their knowledge of vocabulary. So, they attended the class twice a week for 17 sessions.

### *Instrument*

To collect the quantitative data for the present study, two multiple-choice content-based vocabulary tests were designed as the instrument for assessing the participants' vocabulary knowledge. One test functioned as the pre-test and another as the post-test. The tests were taken from the book '504 words'. So, the items in these tests were valid enough due to the content which they were taught.

### *Design of the Study*

First, a 35- item vocabulary test was designed as a pre-test. Of course, after a pilot study, some items were revised and 5 of them were dropped. Finally, a post-test in parallel with the pre-test in terms of content, length and level of difficulty was developed to measure the influence of the treatment on the participants. For the purpose of data collection on the students' ability in acquiring English words, vocabulary of 30 units of the book '504 words' were chosen. This book was taught during the 17 sessions of one semester.

The sixty participants were equally assigned to two groups namely, 30 in experimental group 1 and 30 in experimental group 2. The learners in these classes learned English as a foreign language. In the first experimental group, vocabulary was taught by offering some but not frequent mediation after pre-test by the teacher. In this study, two procedures for collecting data were administered. The first procedure applies the sandwich approach, and the pretest-mediation-posttest design (Sandwich model of DA) was used.



As poehner (2008) clearly states "in sandwich format, a mediation phase is sandwiched between pre-testing and post-testing." So, the participants in the first experimental group receive mediation (through giving them one or more synonyms) after pre-test. Dynamic Assessment in the experimental group included mediation between the examiner and the examinee such as giving some definition of vocabularies, offering synonyms, and illustrating the words in the sentences. Finally, they were taken a post-test. The second procedure applied the cake approach, and the pre-test-mediation-quiz1-mediation-quiz2-mediation-quiz3-mediation-post-test design (Cake model of DA) was used in this study. During three months, three quizzes were designed and administered to the second experimental group (one quiz per month). At last, one post-test was designed and the researcher compared the students' performance on pre-tests and post-tests in both groups as to see how much improvement in learning English words had been emerged.

## RESULTS AND DISSCUSSION

The collected data were analyzed using SPSS. Table1 shows descriptive statistics for both experimental group 1 and experimental group 2.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PreGroup1	30	5.00	18.00	12.7667	3.44096
PostGroup1	30	10.00	20.00	16.5000	2.81315
PreGroup2	30	7.00	18.00	12.5333	2.86156
PostGroup2	30	14.00	20.00	17.8000	2.02399
Valid N (listwise)	30				

As shown in Table1, the two groups had similar means in the pre-test, 12.7667 and 12.5333 in both experimental groups, respectively. So, it is obvious that in the pre-testing stage, both groups were nearly homogeneous with respect to their knowledge of vocabulary. However, after mediation, the difference between the means of the groups was increased dramatically. To achieve the goal of study and obtain a clear picture of the impact of dynamic assessment on the vocabulary learning of EFL sophomores, an independent sample *t*-test was adopted to analyze the data. Table 2 shows the findings.

Independent Samples t-test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Pretest	1.204	.277	.286	58	.776	.23333	.81708	-1.40224	1.86890
Posttest	3.975	.051	-2.055	58	.044	-1.30000	.63273	-2.56654	-.03346
Pretest	1.204	.277	.286	56.134	.776	.23333	.81708	-1.40339	1.87006
Posttest	3.975	.051	-2.055	52.679	.045	-1.30000	.63273	-2.56927	-.03073

The results of the independent sample t-test revealed that the two groups were not different in terms of their performance in the pretest (sig.=.776). However, according to the results, there was a significant difference between the two groups in terms of their post-test scores (sig.=.04). Therefore, the null hypothesis was rejected. As shown in Table2, the difference between the pre-test and the post-test was statistically significant (p<0.05). It implies that the treatment in the form of dynamic assessment and mediation after pre-test has been effective in the vocabulary learning of EFL learners. According to this table, one can conclude that the Cake approach is superior to the Sandwich approach due to the fact that gradual and dynamic development of vocabulary learning is consistent to Piaget's developmental stages in the processing of a language.

Paired Samples t-test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 PreGroup1 PostGroup1	-3.73333	1.17248	.21406	-4.17115	-3.29552	-17.440	29	.000
Pair 2 PreGroup2 PostGroup2	-5.26667	1.63861	.29917	-5.87854	-4.65480	-17.604	29	.000

A paired sample t-test was run to compare the students' mean scores of both multiple-choice vocabulary tests including pre-tests and post-tests in both experimental groups, namely, (the first experimental group = the sandwich group, and the second experimental group = the cake group). Table 3 reveals the results of the paired-sample t-test which presents that the two groups had significantly better performance in the post-test compared with the pretest (sig. = .000,  $p < .05$ ). Therefore, it is vivid that both groups of university students improved their performances through the use of both approaches of dynamic assessment. The results obtained from the present study are consistent with the other studies indicating the positive effect of DA on the EFL learners. In other words, dynamic assessment could improve the vocabulary learning of EFL learners. This can strengthen the findings of previous studies done by Albeeva (2008), Pishgadam et al. (2011), Sadeghi et al. (2011) and other researchers who have found positive effects of DA on learning a foreign or second language.

Combining assessment and instruction can be helpful for EFL learners in vocabulary learning. In addition, the researchers agree that non-dynamic tests are unable to show a complete picture of learners' abilities. They believe that adopting DA in EFL classes has some considerable advantages such as increasing learners' motivation, reducing the anxiety of taking test, assessing the learners' understanding, and identifying the areas that learners need more help.

DA with its monistic view toward teaching and testing not only assesses the learners' abilities but also provides them with opportunities for learning and development. EFL teachers, learners, and students can benefit from the results of this study. The findings may encourage teachers to incorporate appropriate techniques for instruction of vocabulary in their classroom instead of applying traditional method. In addition, this work helps the teachers to avoid overestimating and underestimating their students' abilities.

## CONCLUSION

This study included two approaches for assessing the university students' knowledge of vocabulary, namely, the Sandwich approach and the Cake approach. To empirically investigate the effects of DA on vocabulary development of the participants at Shiraz Azad University, the researcher selected 60 sophomores majoring in 'English Teaching'. The results, as reported in Table 2 & 3, demonstrated that DA, as a novel method, is quite successful in enhancing vocabulary development of undergraduates. Outstanding performance of the students in the second experimental group indicated their development. This development was due to their extensive exposure to meditational prompts during this course such as giving definition of the words, offering synonyms, and different examples. So, it was obvious that the Cake approach, due to applying three quizzes before the post-test, revealed significant difference in comparison to the Sandwich approach. Finally, it can be concluded that Dynamic Assessment is in consistent with both Piaget's cognitive development due to gradual stages of learning by giving prompts and mediating and Vygotsky's social development due to considering the teacher as a social mediator in the classroom context who provides interaction between students and himself/herself and tries to reduce the stress of learning new items.

### **Limitation of the study**

As any study has its own shortcomings, the present study suffers from a number of limitations. There are two main limitations for this work as follow: The first limitation was regard to the nature of the first two tests which assess vocabulary development in a multiple-choice format. Multiple-choice nature of the items can bring about guessing opportunity for the learners. Therefore, the students could answer the questions correctly by chance without requiring mediation. The second limitation of this study is following an interventionist approach to DA, thus the learners have access to a fixed set of hints that may not include specific problems that each individual student may face at the time taking the exam.

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