International Journal of Foreign Language Teaching and Research

Research Paper

Effect of Interventionist Computerized Dynamic Assessment on Learners' Grammatical English Tenses: Analysis of Cake and Sandwich Formats

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Abstract
The present mixed-method study sought to investigate the efficacy of using an interventionist dynamic assessment and specifically its formats namely the cake and the sandwich ones on learners' grammatical English Tenses. In doing so, 45 advanced learners of English language at Iran Language Institute (ILI) in Shiraz, Iran were selected. They were randomly assigned to 3 groups, each including 15 participants. Two experimental groups namely the cake and the sandwich ones received the interventionist dynamic assessment test while the third group received a non-dynamic grammar test which was functioning as a control group. As the study utilized a sequential exploratory design (QUAN → qual) of mixed method approach (MMR), the quantitative part was carried out via a well-established grammar test and in the qualitative component, six informants (3 from the cake group and 3 from the sandwich group) were selected to be interviewed and their quotations were descriptively analyzed through a sociocultural perspective. The quantitative component of the study revealed the outperformance of the two experimental group over the control group. However, the two modes of delivering mediation in experimental groups had no statistically significant difference on the degree of the acquisition of grammatical English tenses by learners. The interview analysis of the negotiations also demonstrated positive viewpoints of learners about the two experimental groups. Merging the quantitative and qualitative analyses, the study found that interventionist dynamic assessment, in both modes, could have positive effects on learners' ability to improve their acquisition of English tenses.
Keywords: Cake and Sandwich Formats, Computerized dynamic assessment, Interventionist Approach

Introduction

Dynamic assessment presents a qualitatively unique way of thinking about assessment from how it is typically understood by classroom practitioners and researchers. Although the term dynamic assessment (henceforth, DA) was first used by Luria (1961), a colleague of Vygotsky, it was Vygotsky himself who developed the ideas that are at the heart of DA. Vygotsky (1978) posits that higher mental development originates in interpersonal activity. He maintains that, through interactions with others, within meaningful sociocultural context, learners acquire the cultural tools that mediate and facilitate their actions. An essential outcome of this view of mental abilities is that noticing individuals' independent performance discloses, taking the most optimistic view, the results of past development. If one wishes to discern the processes of development, to intervene to support individuals surpass difficulties and to trigger their still in progress development, then mere observation of solo performance is inadequate. Instead, dynamic collaboration and cooperation with individuals concurrently demonstrates the total domain of their abilities and triggers their development. In pedagogical contexts, this means that assessment and instruction are dialectically integrated with each other. As such, this pedagogical approach is referred to as dynamic assessment.

Dynamic assessment is born to present a dialectic approach to both instruction and assessment which is highly rooted in Vygotsky's sociocultural theory of mind and specifically in his concept of the Zone of Proximal Development (ZPD). As Lantolf and Poehner (2004) state, dynamic assessment integrates assessment and instruction into a monistic activity aimed at triggering learner development through proper forms of mediation or hint which are close to the individual's or in some cases a group's current abilities. That said, DA also focuses "on modifiability and on producing suggestions for interventions that appear to be successful in facilitating improved learner performance" (Lidz, 1991, p. 6).

As such, Lantolf and Poehner (2004) propose the terms *Interactionist* and *Interventionist* to delineate the two general forms of mediation that DA researchers are after. Mediation in DA involves a wide series of support, ranging from standardized hints to collaborative interaction. In interactionist DA, assistance comes out from the interaction between the examiner and the examinee, and is consequently highly sensitive to the learner's ZPD. To put it in another way, interactionist DA refers to Vygotsky's concept of collaborative dialoging, while in interventionist DA which is the focus of the current study Lantolf (2009) posits that, a set of predetermined and prefabricated hints or prompts are prepared in advance. The learners can make use of them as they move through each test item. As Aljaafreh and Lantolf (1994) state the hints should meet two features. They should be graduated and contingent. The former requires that for each test item the hints be graduated from the most implicit to the most explicit and the latter requires that the hints be presented when they are needed. If either of these features be floated, the mediator and the learner will not be able to construct the ZPD. The most significant advantage of the interventionist approach to DA is that, it can be administered with a large number of the learners via computer at the same time. Moreover, the learners can get numerical scores based on their use of hints for each item Lantolf (2009). In other words, in interventionist approach the mediations offered to the learners are standardized (Poehner, 2008).

Sternberg and Grigorenko (2002) assert that the researchers can make use of two general formats for developing an interventionist model of DA. The first format is called the "sandwich" format in which the researchers follow a pretest-mediation-posttest pattern. The pretest and posttest can be identical to traditional tests but the unique point is that between these two tests the researchers provide a mediation session in which the learners would receive assistance in terms of hints, prompts and strategy-based instruction. This format is most similar to classical research

design in experimental psychology. The second format is called the "cake" format through which the students receive the mediations in terms of hints, prompts and leading questions during their test performance when the help is needed. This is a truism for each item of the test. Thus, the "cake" metaphor implies the layering of test items and hints in such a way that a wide array of hints can be accessible, as needed, for each question or problem *before* moving on to the next question on the test. Moreover, in this format the amount of hints used by each learner is different based on the learners needs, but the content of the hints is the same for all learners (Sternberg and Grigorenko, 2001).

 While several studies have been planned to investigate the effectiveness of interventionist dynamic assessment in foreign language learning, to the best of researchers' knowledge, no study thus far found to compare the effectiveness of the cake and the sandwich approaches of interventionist DA on learners' grammatical knowledge with special attention to English tenses. In the current study, attempts were be made to see which formats of interventionist DA whether the cake or the sandwich were more effective in developing learners' grammatical English tenses.

Literature Review

Literature on the efficacy of dynamic assessment in various language learning skills and components is rich like (Ableeva, 2010; Aljaafreh & Lantolf, 1994; Anton, 2003; Kozulin & Garb, 2002; Poehner, 2005, 2008, to allude just a few). DA has been studied in its effect on improving different skills such as reading, speaking, etc. For instance, Orikasa (2010) carried out a case study on the effect of interactionist DA in the EFL context by teaching second language English oral communication in order to investigate how interactions between an examiner and a first language Japanese learner develops the student's ability. The results of his study demonstrated that interactionist DA in the EFL context was successful in helping the student to surpass the problems and had better performance through interactions with the mediator.

In another attempt to explore the effectiveness of DA, Ajideh and Nourdad (2012) investigated the emergence of any difference between implementing dynamic and non-dynamic assessment of EFL learners' reading comprehension ability and explored its instant and late impact. To this end, 197 Iranian university students participated in their study. The results of their study disclosed a significant difference between dynamic and non-dynamic assessment of reading ability with the dynamic assessment outperforming. In addition, dynamic assessment had a statistically significant positive influence on EFL learners' reading ability and this effect did not disappear after a while. Also, the impact of dynamic assessment on Iranian EFL learners' reading comprehension, while considering different proficiency levels, was explored by them. The results of data analysis indicated that dynamic assessment had positive immediate and delayed impact on the reading comprehension of the EFL learners.

Furthermore, Anton (2009) explored the fulfillment of diagnostic assessment in an advanced Spanish language program. He paid special attention to the application of dynamic assessment procedures as a way of assessing language capability, providing interventions in learning, and documenting learners' progress. The procedures of assessment applied to third-year Spanish language learners were described in order to indicate the effect that dynamic assessment can have on second language learning. Therefore, the learners underwent a five-part diagnostic test. The speaking and writing parts of the test were conducted on the ground of the assumptions of dynamic assessment. The analysis of the findings indicated that dynamic assessment provides a more immersive and comprehensive account of the students' real and potential abilities, which provides the programs with the idea of developing individualized educational policies adjusted for the students' needs.

In another study, Panahi, Birjandi, and Azabdaftari (2013) carried out a study under the title of "Toward a sociocultural approach to feedback provision in L2 writing classrooms: the alignment of dynamic assessment and teacher error feedback". They came to this conclusion that feedback is an essential part of teaching second language writing. Furthermore, they stated that since the field of teaching writing of second language has put more stress on sociocultural issues, the subjects relevant to the essence, negotiation, and delivery of feedback are needed to be revised. Therefore, they suggested a sociocultural basis for such a refinement by implementing dynamic assessment into the re-examining aspect of the writing process in second language writing classes.

Specifically, several other studies found to focus on different components of language like grammar knowledge which is also the focus of the current study. Particularly, Ahmadi and Barabadi (2014) examined Iranian EFL learners' knowledge of grammar through a computerized dynamic test which is a form of interventionist DA and found that that the computerized dynamic test made significant contribution both to enhancing students' grammar ability and to obtaining information about their potential for learning. Interventionist studies basically support the teaching of grammar through standardized and pre-sequenced hints and procedures. Researchers such as Schmitt and Swain were among the proponents of teaching grammar in such a way (Purpura, 2004). Purpura (2004) clearly stated that "despite the non-interventionist recommendations toward grammar teaching, I believe grammar still plays an important role in most L2 classrooms around the world, (p.34).". He believed that for many language teachers systematic error correction of grammatical mistakes could have a great effect on the improvement of the learners' linguistic knowledge. In other words, he concluded that explicit teaching and testing of grammar is still quite effective in many contexts.

In a similar study, Malmeer and Zoghi (2014) investigated the effect of an interactionist model of DA on the development of grammatical knowledge of Iranian EFL learners. Fulfilling the objectives of their study, the researchers randomly selected 80 students. They implemented the interactionist model of DA as the independent variable. The results of data analysis divulged that DA intervention has a statistically significant positive effect on EFL learners' grammatical knowledge.

Purpura (2004) believed that the assessment of grammatical knowledge could happen both in context-reduced (multiple choice, grammaticality judgment tasks) and context-rich (problem-solving tasks) testing situations. The current study is an attempt to assess learners' grammatical English tenses in a context-reduced testing situation by using error identification test format. Given that, computer-based tests came into being and researchers tried to provide computer-based mediation to learners in order to save time. Lantolf and Poehner (2008) believed that two important issues will be taken into account in the realm of dynamic assessment in the close future: Computerized DA and Group-based DA. Poehner (2008, P.39) states three important advantages for Computerized Dynamic Assessment (C-DA) as follows: It can be simultaneously administered to a large number of learners; individuals may be reassessed as frequently as needed; report of each leaner's performance is automatically generated.

Also we can have a profile for each test item in order to investigate the response pattern of all learners on the same item.

The disadvantage of computerized DA like other interventionist approaches is related to the type and quality of mediation it offers. Because the mediation is preplanned, no matter how rigorously has been planned, it cannot be attuned to the very personal needs of the learners (Poehner 2007). In an experimental study Barabadi (2010) examined the effectiveness of conducting a computerized dynamic reading comprehension test (CDRT) on EFL learners. He

developed a software package which provided the learners with graduated hints (from most implicit to the most explicit) in the case of their erroneous response to questions. His device was able to automatically generate a scoring profile and it contained a non-dynamic score based on the learners' first try of the questions, a dynamic score based on the number of hints they used for each question, the total number of hints used in the test, and the total time spent on the test.

His sample consisted of 77 university students with moderate language proficiency. The results of his study confirmed that providing students with hints in terms of reading strategies contributed significantly to their reading comprehension ability.

Research up to now has put concerted attempt into the issue of dynamic assessment through various aspects of language skills and components. However, a comparative study about the effectiveness of two modes of interventionist approach; namely, the cake and the sandwich formats seemed to be an unaddressed issue. The novelty of the current research lies in its attempt to make comparison between the aforementioned interventionist DA formats through a mixed methods research approach. Thus, this study sought to answer the following research questions:

Q1. Does interventionist DA have any statistically significant effect on Iranian EFL learners' grammatical English tenses?
Q2. Which format of interventionist DA (the cake or the sandwich) is more effective in developing learners' grammatical English tenses?
Q3. What are the learners' viewpoints about the implementation of the cake and the sandwich interventionist DA?

Method
Design
In the initial step a pre-test was given to all the three groups in order to check the normality assumption. As such, the current study utilized a sequential exploratory design (QUAN → qual) of mixed method approach (MMR) attempting to add to the rigor and validity of the findings through triangulation of the data. The quantitative part of the study was also carried out via a well-established grammar test while in the qualitative component, six informants (3 from the cake format and 3 from the sandwich format) were selected to be interviewed and their quotations were descriptively analyzed through a sociocultural perspective.

Participants
The sample of the study consisted of 45 Iranian EFL learners of English language at Iran Language Institute (ILI) in Shiraz, Iran. The participants were advanced learners of ILI attending their English language classes. All of them were between 16 and 20 years with a mean age of 18. As such, they were randomly assigned to 3 groups, each including 15 participants. In experimental group 1, the participants received the sandwich interventionist dynamic assessment test while experimental group 2 received the cake format of interventionist dynamic assessment test. Also, group 3 received non-dynamic grammar test which was functioning as a control group.

Instruments
As this study followed an MMR format, the quantitative phase utilized well pre-established   grammar tests and the qualitative phase made use of interview. The grammatical English tense questions were extracted from the error identification section of the books *Rahnama TOEFL Sample Test (Grammar)* by Nazari (2009) and *Oxford Practice Grammar (Advanced)* By Yule (2006). To this end, each group was given 20 homogeneous or equivalent

grammar questions and also 6 out of 30 individuals were randomly selected to be interviewed (Three from the cake format and three from the sandwich format).

Procedure

For the initial step, the students attending already-formed English language classes were randomly assigned to three groups (two experimental and one control group). This random assignment tried to rule out pre-existing differences between the participants. In the cake experimental group the students were given a well formed test of grammar with pre-established hints from implicit to explicit in a computerized format.

As highlighted previously, to prepare the items of the computerized test, English tense items were extracted from the books *Rahnama TOEFL Sample Test (Grammar)* by Nazari (2009) and *Oxford Practice Grammar (Advanced)* By Yule (2006). The best item format for our test was error identification type questions because this format could lend itself to the hints that accompanies by each question. Other formats such as multiple choice questions could not be used because they would increase the chance of guessing, that is, each time the learners answer a question wrong, the number of choices would decrease so the learners would have a bigger chance of guessing even without the help of the hints which were provided. In other words, provision of each hint indicates the deletion of one alternative.

After preparing the test items, we provide five hints for each item. Based on the Aljaafreh and Lantolf's Regulatory Scale (1994) the hints were arranged from the most implicit to the most explicit. Three of these hints were designed to help the learners identify the erroneous part of the question. In case the learners could not identify the error after using the third hint, the fourth hint would provide them with the erroneous part, however at the same time they were required to write the correct form of the erroneous part. If they wrote the correct form they would go for the next question otherwise they would receive the fifth (last) hint. Naturally in the first hint which was the most implicit one, the purpose was just to signal to the test takers that their answers were wrong and hence to be given the chance to go back to the item and try it again. For the second hint we narrowed down the scope of the erroneous part into a part of the sentence which was highlighted. The third hint is usually a description of the nature of the error in the sentence. It is important to say that in some questions the order of the presentation of the second and third hints was changed. This change of order is because of attention to presenting the hints from the most implicit to the most explicit. In other words, sometimes it is thought that the highlighted part is a bigger help than the third hint, that is, the description of the nature of the hint. In the fourth hint only the erroneous part was highlighted while at the same time the test takers were required to write the correct form of the erroneous part. In the last hint test takers were provided with the right answer with a short explanation of the grammatical point in question. Sometime this explanation was accompanied by an example of the proper use of the grammatical point. This is because of the fact that DA studies are aimed at not only assessing the student's knowledge but also developing their knowledge of the particular point in question.

As an example, an error identification question is given below to represent a general scheme of presenting the hints for each question and the way we collect the data:

Q. When I went to bed last night, I fell asleep immediately. I must have been tired because have been working so hard for several hours. So I forgot to close the windows before getting to bed.
Hint1: Your answer is wrong! Try again.
Hint 2: There is a problem with tense making.
Hint 3: The error is in the highlighted part. Try to rewrite the correct form.

When I went to bed last night, I fell asleep immediately. I must have been tired because I have been working so hard for several hours. So I forgot to close the windows before getting to bed.

Hint4:
The tense should be changed from present perfect progressive to past perfect progressive.
Hint 5:
The tense should be changed as follows:
    have been working   ⟹   had been working
Example: The actor who had been playing the part of hamlet became too ill to go on stage.
        In the sandwich format, the students received a brief instruction and explanation of grammatical points relevant to the content of the questions in a written format as a mediation then they received grammatical English tense questions in a paper and pencil format. In the control group, the students received a paper and pencil test of grammatical English tenses without any hints or instruction in order to compare the effectiveness of interventionist dynamic test versus non-dynamic one. Altogether, in the cake format the students just received the questions in a computerized format while in both the sandwich format and the control group the students received the questions similar to traditional paper and pencil formats. Mention is also made of the fact that the content of questions was equivalent in all the three groups.

Scoring learners' test performance
        The students' test performance was marked out of 100. In the control and the sandwich group each correct answer had 5 points. In the cake group, the scoring was based on the number of hints being used by the students. For each question, if they had used no hint, they were received 5 points; if they had used one hint, they were received 4 points; if they had used two hints, they were received 3 points; if they had used three hints, they were received 2 points; if they had used 4 hints, they were received 1 point; and finally if they had used 5 hints, they received no point.

Data Analysis Procedure
Quantitative analyses
        As for the quantitative part of the study, a number of statistical procedures were performed on the data. As highlighted previously, a pretest was given to all the three groups in order to see whether the participants are normally distributed or not. As can be seen in Table 1 below, in terms of the pretest the Sig. value for Kolmogorov-Smirnov is .061 which indicates normality. Simply put a non-significant result illustrates normal distribution. When the assumption of normality is not violated we tried to make use of ANOVA which is a parametric statistic for the present study.

Table 1. *Test of Normality*

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Pretest	.128	45	.061	.908	45	.002

a. Lilliefors Significance Correction

In order to fulfill the first two research questions ANOVA was run so as to see whether interventionist DA had any statistically significant effect on Iranian EFL learners' grammatical English tenses or not; and also which formats of interventionist DA either the cake or the sandwich were more effective in developing learners' grammatical English tenses. If the assumption of normality as illustrated in Table 1 was violated regarding the pretest scores of the three groups, a non-parametric statistic like Kruskal-Wallis might be used to address the aforementioned research objectives but now the best possible solution is to resort to ANOVA. Altogether, the results from ANOVA are presented below. As can be seen in Table 2 the means for each group are given.

Table 2.*Descriptive Statistics of the Three Groups*

Groups

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Cake group	15	87.4667	3.83344	.98979	85.3438	89.5896	82.00	93.00
Sandwich group	15	84.6667	7.18795	1.85592	80.6861	88.6472	70.00	95.00
Control group	15	53.6667	10.43118	2.69332	47.8901	59.4433	35.00	70.00
Total	45	75.2667	17.19461	2.56322	70.1008	80.4325	35.00	95.00

Table 3. *Mean and Sum of Squares for the Groups*

Groups

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	10556.400	2	5278.200	90.395	.000
Within Groups	2452.400	42	58.390		
Total	13008.800	44			

The main thing we are interested in Table 3 is the column marked Sig. which is the P value. In the current study the Sig. value is less than .05 which indicates a significant difference among the mean scores of the three groups. The statistical significance of the differences between each pair of groups is provided in Table 4 below which gives us the results of post-hoc tests. The post-hoc tests in this Table will tell us exactly where the differences among the groups occur. Particularly we should see the astericks (*) next to the values listed. This asterick means that the two groups being compared are significantly different from one another at the P<.05 level. On the basis of the results presented below the control group is significantly different from the cake and

sandwich group while the sandwich and the cake group are not significantly different from each other.

Table 4. *Multiple Comparisons among the three groups*

Tukey HSD

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Cake group	Sandwich group	2.80000	2.79023	.579	-3.9789	9.5789
	Control group	33.80000*	2.79023	.000	27.0211	40.5789
Sandwich group	Cake group	-2.80000	2.79023	.579	-9.5789	3.9789
	Control group	31.00000*	2.79023	.000	24.2211	37.7789
Control group	Cake group	-33.80000*	2.79023	.000	-40.5789	-27.0211
	Sandwich group	-31.00000*	2.79023	.000	-37.7789	-24.2211

*. The mean difference is significant at the 0.05 level.

In Table 5 below we tried to a have a planned comparison between the cake and the sandwich group. In doing so, we should use the first row in which the Sig. level for the contrast that we specified is .321. This is higher than .05, meaning that there is no a statistically significant difference between the sandwich and the cake group.

Table 5. *Planned Comparison of Sandwich and Cake Group*

		Contrast	Value of Contrast	Std. Error	T	Df	Sig. (2-tailed)
Scores	Assume equal variances	1	-2.8000	2.79023	-1.004	42	.321
	Does not assume equal variances	1	-2.8000	2.10336	-1.331	21.368	.197

Also the Figure1 below clearly illustrates the mean of the three groups. As can be seen the experimental groups outperform the control group. Although in the cake group we can see a slightly better performance of the participants in comparison to the sandwich group, this is not statistically significant.
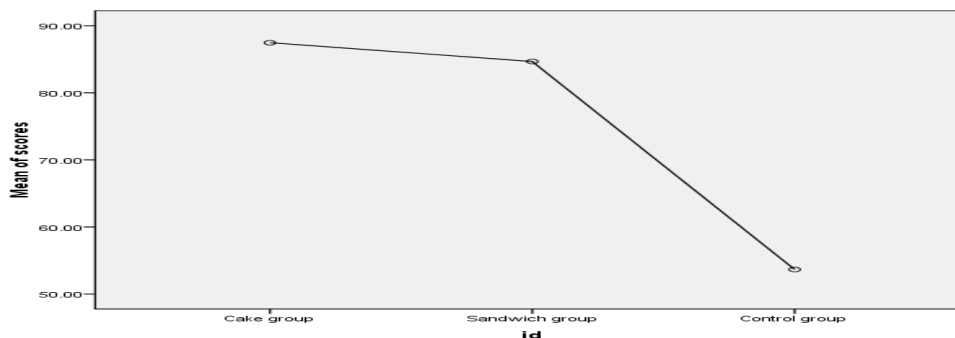
Figure1. *The Mean of Scores for the Three Groups*

Qualitative analysis

In the qualitative part of the current study, six informants (3 from the cake format and 3 from the sandwich format) were selected to be interviewed and their quotations were descriptively analyzed through a sociocultural perspective. Throughout the study, pseudonyms were used to protect their anonymity. For this reason, to keep the participants' real identities confidential, all the names used in the qualitative part of the study were pseudo ones. Also the interviews were done in Persian and the learners' viewpoints were translated and transcribed in English by the lead researcher. On the whole, the informants' viewpoints about the aforementioned interventionist DA are presented below;

The Cake Group
(1) Participant 1 (16 years old)

The test was good because we could make up for our mistakes. However, for me it was very difficult because I didn't learn grammar in detail. Most of the grammar test that I have taken so far were multiple-choice in which I should identify the errors or fill in the blanks. This was the first time that I had to write the correct answer. It was very hard but the hints really helped me and also I learned some points through the hints.

(2) Participant 2 (17 years old)

It was a good test because I had the chance to think about my grammatical errors. Previously I had some other assumptions about some specific points of English tenses but this test helped me to learn on the spot I made an error. That was fantastic.

(3) Participant 3 (18 years old)

I wish we had such a test for all our courses. Each time I made an error a hint provided me great information about my problem. Also, we wouldn't lose the whole score if we answered a question wrong while in multiple choice test just the correct answer was the case.

The Sandwich Group
(1) Participant 4 (16 years old)

After reading the instructions, I could answer the test very well. I think if we had such a test for other grammatical aspects it would help us to learn as fast as possible.

(2) Participant 5 (16 years old)

Previously I was very bad in learning English tenses but now through the nice instructions and prompt test after the instructions I learned so many points. I think this is the best way for me to diagnose my weaknesses.

(3) Participant 6 (15 years old)

If the instruction was specifically given to each question that would be more helpful and I could gain a complete score. However, I think my score is good.

Discussion

Utilizing a mixed method design, this study investigated the implementation of an interventionist dynamic assessment and its aforementioned formats on learners' grammatical English tenses so as to see whether it could help the learners improve their acquisition of English tenses. Attempts were also made to address two research objectives quantitatively and one qualitatively. In line with the robust literature on the effectiveness of dynamic assessment (Ableeva, 2010; Aljaafreh & Lantolf, 1994; Anton, 2003; Kozulin & Garb, 2002; Poehner, 2005, 2008) the present study also found that establishing interventionist procedure and supportive mediations in the form of cake and sandwich formats, could yield fruitful results for learners. More specifically, the results of the study regarding the computerized part conducted for the cake group were in line with Ahmadi and Barabadi (2014) who examined Iranian EFL learners' knowledge of grammar through a computerized dynamic test who found that the computerized dynamic test made significant contribution both to enhancing students' grammar ability and to obtaining information about learners' potential for learning. The analyses also proved the efficacy of the mediation regardless of the medium through which it was delivered, meaning that the participants in the two experimental groups namely the cake and the sandwich group performed equally well on the posttest. To put it another way, both the cake and the sandwich groups benefited equally from the negotiations although the mean of scores for the cake group was slightly higher than the sandwich group but it was not that much significant. One reason for this scanty better performance of the cake group might be because of the reason that the hint for each question was directly administered after the learners made errors while in the sandwich group the total hints and instructions were given before the test and during the test they were given no hints or mediations. Also, The qualitative analysis of the negotiations demonstrated positive viewpoints of learners about the two experimental groups. In the qualitative part, a number of strategies were used like member checks, thick description of the participants, extended fieldwork, cross-case comparison between what the learners said and how they performed the test. We found that the results obtained from the qualitative part were more or less in line with the quantitative part. Merging the quantitative and qualitative analyses, the study found that interventionist dynamic assessment, in both modes, could have positive effects on learners' ability to improve their acquisition of English tenses.

The reason for the results gained from this study could also be described as follows: (a) as nearly all of the test takers benefited from the hints in different percentages and manners, DA researchers' claim that traditional (non-dynamic) tests could not show the whole picture of the test taker abilities, that is both intramental and intermental, was verified. While traditional (non-dynamic) tests could only account for the intramental, self-regulated, and fully-internalized abilities of the test takers, the dynamic test addressed not only these abilities but also the abilities that are intermental and other-regulated. In other words, from a Vygotskyan perspective, non-dynamic tests could only account for the test takers' ZAD (Zone of Actual Development) while

dynamic tests could account for both ZAD and ZPD. (b) As Barabadi (2010) claimed and the results of the current study revealed, the change of test takers' scores from a non-dynamic to a dynamic test would not be only related to the learners' ZPD. As such the scoring files of the test takers in terms of the number and the kind of hints used by learners we came across with the fact that a large number of test takers answered some of the questions after getting the first hint, that is, "Your answer is Wrong! Try again." This indicated that some non-intellectual factors such as lack of motivation and inattentiveness might be the cause of the test takers' wrong answer in their first try. To put it another way, although the first hint was independent of the nature of the grammatical point, it helped the learners overcome these non-intellectual factors that might cause them lose the whole score in a non-dynamic test.

Based on the results, it was also believed that the time each learner spent moving from one hint to the next one was more critical. In other words, a learner might answer a test item using four hints in a shorter period of time compared with a learner who answered the same test item using two hints because the former had moved from one hint to the other more quickly. This fact was specially confirmed when each learner's scoring profile was studied in terms of the number of hints used for each question.

Conclusions

The present study found that interventionist dynamic assessment and specifically the cake and the sandwich formats could be employed by teachers to both uncover the potential abilities in learners and to provide individual support to enhance learners' level of functioning in language learning classes. It was also explored that both the cake and the sandwich medium of delivering mediation had no differential impact on the degree of improvement in learners. Furthermore, learners in both experimental groups could transfer their learning equally well. We also had tried to develop the software for the cake group in a user-friendly manner in a sense that all the learners from different backgrounds could make use of it. Conclusively, dynamic assessment was deemed to be a better performance indicator in teaching and assessing language skill than static traditional assessment; yet, its application in the Iranian context remained an unaddressed issue which has to be taken into account seriously.

Given the significance of interventionist dynamic assessment, the findings of the study had implications for EFL classroom teachers aiming to provide more supportive context for their students. The findings of the present study could be used within the teaching pedagogy and assessment practice. For classroom-based teaching and assessment, in particular, the study illustrated the path through which language teachers might assist their learners to have a higher performance and simultaneously develop their grammatical ability. Building upon the findings of the present research, EFL teachers should define grammar knowledge not as a static, unilateral skill but as a dynamic and dialectic ability which could be holistically developed through co-constructing supportive mediations in their classes.

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