

The Impact of Electronic–Based Dynamic Assessment on the Listening Skill of Iranian EFL Learners

Hamid Ashraf¹, Khalil Motallebzadeh², Faezeh Ghazizadeh³

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Abstract

This study investigated the impact of electronic–based dynamic assessment on the listening skill of Iranian EFL learners to achieve this goal, a group of 40 female EFL upper-intermediate students (aged between 26 to 38 years old) from language institutes were selected as the participants of the study after administering a Quick Placement Test (QPT) to a larger population of EFL learners (N=65). All of the selected female EFL upper intermediate students were administered a Listening Test (IELTS Format) as the pretest and posttest to assess the participants' listening comprehension. Participants were divided into two control (N=20) and experimental (n=20) groups. The learners in the experimental group were taught the listening skill via Dynamic Assessment through a virtual electronic-based classroom and the learners in the control group were taught listening skill via traditional dynamic assessment in a physical language classroom. A quasi-experimental pretest and post-test design was employed. After three-month study, the participants in the experimental group showed that electronic-based dynamic assessment can significantly affect the listening skill of Iranian EFL learners.

Key words: *E-learning, Dynamic assessment, Listening skill*

1. Introduction

In spite of the existence of a rich research literature demonstrating more than 40 years of specialized working in psychology and education, dynamic assessment (DA) in the setting of second language research is still in its early stages. As an intrinsic characteristic of Vygotsky's socio-cultural theory (SCT) and Activity Theory, the idea of 'mediation' has been extensively investigated and its role completely recognized by the L1 and L2 trainings on human's cognitive functioning (Lantolf, 2004; Lantolf & Apple, 1994; Lantolf & Thorne, 2006). The notion of mediation proposes that human's association with the world is not straight but 'mediated' by physical and symbolic apparatuses. The subsequent extract from Lantolf (2000, p. 80) nicely delineates the nature of mediation in human's mental growth:

¹English Department, Torbat-e Heydarieh Branch, Islamic Azad University, Iran, Email: h.ashraf@iautorbat.ac.ir ; hamid.ashraf.elt@gmail.com

²English Department, Torbat-e Heydarieh Branch, Islamic Azad University, Iran, Email: k.motalleb@iautorbat.ac.ir , kmotalleb@gmail.com

³English Department, Torbat-e Heydarieh Branch, Islamic Azad University, Iran, Email: faezeh.ghazizadeh.tefl@gmail.com

The central and distinguishing concept of sociocultural theory is that higher forms of human mental activity are mediated. Vygotsky argued that just as humans do not act directly on the physical world but rely, instead, on tools and labor activity, we also use symbolic tools, or signs, to mediate and regulate our relationships with others and with ourselves.

As it is described in the quotation above, a central supposition underlying Vygotsky's SCT is the argument that human mental action is a mediated procedure in which symbolic and socio-cultural apparatuses, the most momentous of which is the language, enact as an essential part. In DA studies, a chief trial facing the literature is in what way to use DA in the classroom where the instructor cooperates with not a single ZPD but a group of ZPDs, a setting which does not license the practice of one-to-one DA (Poehner, 2009). In Vygotskian viewpoint, classroom evaluations should take into account the influences of peers and more important others on the operation of individuals (Poehner, 2009; Shabani et al., 2010). In DA-based study, delivery of mediation in an upright manner has always been a basis of distress and also a key motive for the low occurrence of empirical research (Haywood & Lidz, 2007). It is a subject which has not acknowledged the care it really warrants both in general DA (Lidz, 1991) and in L2 DA research (Ableeva, 2010; Aljaafreh & Lantolf, 1994; Poehner, 2005).

Recently, a number of language testing researches have tried to classify influences that impact difference in performance on listening comprehension tests (e.g. Révész & Brunfaut, 2013; Tavakoli, Hashemi, & Rezazadeh, 2012; Vandergrift & Goh, 2009). It appears that little attention is paid to the diagnostic and dynamic appraisal of this language skill, though. (Ableeva, 2010). Language learners have often observed listening comprehension to be the most difficult language skill to learn (Graham, 2006), yet worse the assessment of this skill has always haunted them (Bloomfield, Wayland, Rhoades, Blodgett, Linck, & Ross, 2011). The recent pedagogical applications of Dynamic Assessment (DA) rooted in Vygotskian Socio-Cultural Theory (SCT), serving as both an instructional and an evaluative tool seems to have opened new horizons for teaching and assessment of listening comprehension. Through DA, a teacher can diagnose developed abilities of a learner revealed through her/his independent performance, as well as abilities that are in the process of forming along with gaining insight of the sources of poor performance (Sternberg & Grigorenko, 2002; Haywood & Lidz, 2007). Therefore, this study aims at investigating the effect of electronic based dynamic assessment on EFL learners listening skills. Accordingly, this study proposed the following research question to be investigated:

RQ: Does employing electronic based dynamic assessment have any significant effect on Iranian EFL learners' listening abilities?

Based on the above research question, the following null hypothesis is proposed:

H01: Employing electronic based dynamic assessment doesn't have any significant effect on EFL learners' listening abilities.

2. Review of literature

Since the 1980s, DA has been implemented in psychological and educational researches and has proven to be a valuable diagnostic tool (e.g. Feuerstein, Rand, Hoffman, & Miller, 1980;

Budoff, 1987). However, the pedagogical applications of DA have begun in L2 research within the last two decades (e.g. Abdolrezapour, Tavakoli, & Ketabi, 2014; Ableeva, 2010; Antón, 2009; Kozulin, & Garb, 2002; Poehner & Lantolf, 2013). Not many DA studies have been done on the listening comprehension skill (Ableeva, 2010; Hidri, 2014). In a DA project carried out on L2 listening comprehension on university level intermediate learners of French, Ableeva (2010) detected ten types of mediational strategies throughout the interactions she had with the learners. The strategies included a) Accepting Response; b) Structuring the text; c) Replaying of a passage; d) Asking the Words; e) Identifying a Problem Area; f) Metalinguistic Clues; g) Offering a Choice; h) Translation; i) Providing a Correct Pattern; and j) Providing an Explicit Explanation. Ableeva observed that causes of poor performance were sometimes the results of lack of lexical knowledge of the L2, problems stemming from phonology, limited knowledge of the L2 culture and issues with discourse level grammar. She also witnessed that there were limits to what individuals were capable of doing under mediation. Hidri (2014) compared static and dynamic testing of L2 listening comprehension at university level. Her study revealed that DA provided better insights into learners' cognitive and meta-cognitive processes than did the traditional static assessment.

In most of the studies done on L2 DA (e.g. Ableeva, 2010; Anton, 2009), researchers have favored a dyadic model with one teacher and one student. This form of administration, however, can be an unrealistic model for classroom teachers who have to typically manage a group of learners not only one individual. Since Vygotsky (1998) describes the Zone of Proximal Development (ZPD) as "the optimum time for teaching both the group and each individual" (p. 204), SCT practitioners agree that it is possible to have group dynamic assessment (G-DA) in which the mediator simultaneously offers mediation to a group of learners to help them co-construct a group's ZPD (Poehner & Lantolf, 2005; Poehner, 2009). Some studies (e.g., Lantolf & Poehner, 2011; Davin, 2013) have recently implemented DA procedures with groups of classroom L2 learners, but this matter has not yet been adequately addressed. A major challenge that has caused the classroom context to receive a small share of DA research is that it is not very clear how to apply DA in a place where the teacher interacts with not a single ZPD but a group of ZPDs (Haywood & Lidz, 2007; Poehner, 2009).

An early attempt that was not overtly framed as a DA yet focused on co-constructing a group's ZPD by mediation is Gibbons (2003). The findings of her study revealed the ways students and teacher used to co-construct meaning in a shared experience had a great impact on students' progress stretching their ZPD to more complex domains. Lantolf and Poehner (2011) report on the efforts of an elementary school L2 Spanish teacher who implemented G-DA in her daily instructions to improve oral proficiency. The results showed learners' readiness to gain control over an L2 feature was not the same; it was gradual for some and abrupt for others. Moreover, the co-construction of a ZPD with an individual had the potential to push the development of the group of students forward. Davin has done another study in G-DA (2013) that reports on the efforts of an L2 Spanish teacher who integrated DA and instructional conversation (IC) within classroom setting to teach a grammatical structure. The findings of her study provided evidence of the compatibility of G-DA and the IC to promote development and improve assessment in the language classroom.

One of the studies that figures prominently in research on L2 DA is the one conducted by Aljaafreh and Lantolf (1994). They studied the effect of negative feedback and scaffolding

on adult ESL learners' development of English tense, articles, prepositions, and modal verbs. During the assessment procedure, they worked out appropriate mediation to continuously assess the learners' needs and abilities and to give appropriate scaffolding. Upon students' failure to either accomplish the task or make errors, gradual scaffolding was offered based on a regulatory scale composed of 13 types of feedback starting from the most implicit to most explicit. This scale helped them provide a kind of feedback finely tuned to the individual learners' developmental needs. They finally provided the learners with the correct form and gave examples as the last type of feedback in their scale.

3. Methodology

3.1 Participants

A sample consisting of 40 upper-intermediate EFL learners from two language institutes in Torbat-e Heydarieh (Ayandehsazan, Goldis), Iran was selected after administering a homogenizing instrument, e.g. Quick Placement Test (QPT) to a larger population of EFL learners (N=65). All of them were female with the age range of 26 to 38. The participants' mother tongue was Farsi and none of them had experienced living or studying in an English speaking country. The selected participants were randomly assigned to control (N=20) and experimental (N=20) groups.

3.2 Instrumentations

The following instruments were employed to collect the required data:

3.2.1 Quick Placement Test (QPT)

To assure the homogeneity of the participants, QPT, developed by Oxford University Press and Cambridge ESOL (2001) was distributed to 65 EFL learners from two language institutes in Torbat-e Heydarieh. The test includes two parts:

- **Part one**, this part (questions 1-40) can be taken by all candidates and the participant whose scores are between 1-35 are below or at lower intermediate levels.

- **Part 2**(questions 41-60) is only for higher ability students only.

The second part (items 41-60) is taken by those participants who score more than 35 out of 40 on the first part and can be used for those learners with higher ability. In this study both parts were administered. Finally, those participants who scored 40-47 out of 60 were selected as the participants (upper-intermediate) of this study.

3.2.2 Listening Test Module (IELTS Format)

This test was administered as the pretest as well as the posttest to assess the participants' listening comprehension at the outset and at the end of the course. It consisted of 20 items in forms of multiple-choice, fill in the blanks, and matching. The time allocated for the test was 20 minutes.

3.2.3 Materials

The following is the material which was practiced throughout the course:

3.2.3.1 Audio files of tactics for listening (Richards, 2004)

A number of audio files of the book was selected and practiced in both classrooms.

4. Procedure

After selecting and homogenizing the participants (40 upper-intermediate EFL learners), they were randomly assigned to two groups: control (N=20) and experimental (N=20). These groups were administered a pretest: Listening Test Module (IELTS Format). Participants in both groups were informed of the purpose of the study. The course was explained for them. Throughout the course audio files from Tactics for Listening were practiced in the two classes. Dynamic assessment as a tool of instruction and assessment was used in both group. However, Dynamic assessment the way in which dynamic assessment was implemented varied in these groups. Participants in the experimental group were asked to install Telegram Mobile Software on their smart mobile phones. Then they were asked to create a group. The researcher was the group's supervisor. There was a consensus among the participants on attending the virtual class on even days at 10:00 P.M in the summer 2015. The audio files were sent to the participants of this virtual group. The Telegram group received the file. These participants were asked to answer to the comprehension questions posed by the teacher. Instructions and hints, required for every question, were also sent to help the group respond more effectively.

Participants in the control group received the same materials as those in the experimental group in a physical language classroom. The students in control group were assessed traditional dynamic assessment. The listening sessions of the control group were held on odd days at 6:00 p.m. Audio files were brought into the control classroom and the participants were provided with the teacher's oral hints and instructions. It is necessary to mention that the participants in both groups were provided with a set of pre-formulated supportive hints and mediations during the question-answer process.

4.1. Study Design

The present study employed a quasi-experimental pretest and posttest design. Participants became homogeneous and then the groups were formed. Variables including dynamic electronic-based assessment (independent) and listening comprehension (dependent) were investigated. The data were analyzed using independent sample t-test in SPSS version 21.

4.2. Results and discussion

The descriptive statistics for the control and experimental groups' pretest scores are provided in Table 1 below:

Table 1. Control and experimental group pretest's scores

	DA	N	Mean	Std. Deviation	Std. Error Mean
Class	Control	20	13.35	2.11	.34

Experimental	20	12.34	3.31	.55
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As seen in Table 1, the mean scores of both groups are very close (13.35 and 12.34) respectively.

The result of independent sample t-test for the pretest is provided below:

Table 2. Independent sample 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
Equal variances assumed	6.053	.31	-3.27	72	.12	-2.10	.64	-3.38	-.82
Class Equal variances not assumed			-3.23	58.82	.12	-2.10	.650	-3.40	-.80

As indicated in Table 2, students' performances, regarding their listening ability, are very close to each other since sig. (2-tailed) is $0.12 > 0.05$ and the researcher can implement the experiment.

In order to find out if the treatment was effective, the means of experimental and control groups' scores were compared using independent sample t-test in the posttest. The descriptive results are provided below:

Table 3. Posttest descriptive statistics

	VAR00001	N	Mean	Std. Deviation	Std. Error Mean
class	Control	20	16.23	2.23	.16
	Experimental	20	18.75	3.55	.27

Based on the above table, the researcher used the independent sample t-test. The result of this test is provided below:

Table 4. Independent sample posttest

		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
class	Equal variances assumed	26.13	.000	-6.25	74	.000	-4.26	.68	-5.62	-2.90
	Equal variances not assumed			-6.25	62.37	.000	-4.26	.68	-5.62	-2.90

As seen in Table 4, the difference between experimental and control groups' posttest means is statistically significant since sig. (2-tailed) is $.000 < .05$. Therefore, based on these results, the researcher claims that the treatment improved the performance of learners in experimental group significantly. Accordingly, based on the results of statistical test, the researcher claims that the null hypothesis is rejected. Thus, electronic-based dynamic assessment improved the listening skill of Iranian EFL learners

5. Conclusion

This paper provided a quantitative account of the results in order to answer the research questions posed. The analyses of the quantitative data provided by the pretest and posttest indicated that, over time, mediation sensitive to the learners ZPD resulted in significant changes in their listening comprehension ability. This agrees with the developmental theory upon which dynamic assessment is grounded which declares that any mediational plan that is adjusted to the learners' ZPD can concurrently bring to the surface those abilities that have matured along with those which are on the verge of maturing allowing the mediator to provide opportunities for the maturation of new abilities (Sternberg & Grigorenko, 2002; Haywood & Lidz, 2007). The data obtained from the pretest and posttest of the experimental group showed that although the learners of this group received a significant gain from the DA intervention, the standard deviation of the posttest exhibited considerable variation, an indication that some learners were improving more, and some less than others. The findings of this study can have some implications for second language pedagogy. The DA procedures used in the present study have the potential to inform EFL listening comprehension pedagogy. ZPD-oriented listening courses with a focus on raising L2 listening comprehension can be designed since DA interactions were observed in this

study to bring about a better understanding of L2 pragmatics in listening comprehension on the part of the learners.

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