Using Dynamic Intervention for Promoting Reading Fluency of Quranic Learners in Qum: A Comparative Study of Old and New Approaches

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Abstract

The ability to read fluently is a critical skill for language learners in foreign language contexts. Learning to read Arabic texts for Persian language learners is not an exception. The importance of this reading is more recognized when these learners are faced with religious texts including the holy Quran. Iranian readers of the Quran have many difficulties in uttering and pronouncing Arabic words and letters which blocks their fluency. Traditional approaches toward reading fluency such as teacher model have not been very successful. Therefore, the current research has investigated the effect of dynamic assessment on promoting learning fluency of Iranian learners of Arabic. Deeply rooted in mediated interaction and learning in zone of proximal development (ZPD), dynamic intervention is a new instructional strategy toward language learning. The current research has adopted an inventory of mediational strategies (Aljaafreh and Lantolf, 1994) of interventionist dynamic assessment to intervene learning hotspots and promote fluency of intermediate Quranic learners of teacher training centers in Qum. To this aim 20 students were selected through convenience sampling and their scores were compared in a quasi-experimental design. These students were assigned to two experimental groups where one of them underwent dynamic intervention while the other was recruited in a traditional teacher modeling course. Their scores in the post-test were analyzed through t-test. The findings showed that dynamic intervention promoted reading fluency of Iranian Quranic readers more than traditional approaches. Dynamic intervention can be replaced with traditional instructional methods by Iranian Quranic teachers and promote reading fluency significantly.

Keywords: Dynamic Intervention, Mediated Learning, the holy Quran, Reading Fluency, ZPD

Introduction

The ability to read proficiently and fluently is a critical skill for language learners in foreign and second language contexts. According to Hosp et al. (2007), oral reading fluency (consisting of speed, accuracy, and proper expression) is a sub-skill of proficient reading the mastery of which stands in the need of using several contributing competencies including phonological awareness, knowledge of letter-sound correspondence, vocabulary, syntax, and content knowledge. Similarly, Pikulski and Chard (2002) state that fluency is dependent on a number of oral language skills, phonemic awareness, familiarity with letter forms, and efficient decoding skills and therefore, a reader who fails to obtain mastery over these skills is required to devote his limited pool of attention to either word identification or decoding and comprehension. A research

conducted by Chard and his colleagues (2009) showed that when attention is devoted to decoding, the reader's ability to comprehend the text decrease significantly during reading while decoding itself is required for high levels of reading achievement than fluency.

Importance of mastery in oral reading fluency is increased for Persian learners of Arabic because, in addition to linguistic development, they require such mastery for performing religious rituals correctly. Language-specific characteristics of Arabic have rendered it a formidable task for Persian learners to gain mastery over different linguistic components of the language, on top of that, oral reading proficiency. The shape of Arabic letters tend to be very identical and the visual detection requires non-linear detection processes and therefore, certain features of Arabic letters and the way they are arranged challenges every reader. In many academic and religious texts such as the holy Quran, some of the vowel sounds are not represented and therefore the reader must count on the neighboring words for fluency and comprehension. Another source of difficulty for learning Arabic resides in the distance between morphological and syntactic features of modern standard Arabic and vernacular varieties of the language. For instance, most Arabic dialects pronounce "t" instead of "th" or use the vowels "e" and "o" that can not be written in Arabic. In addition, according to Abadzi and Martelli (2004) who performed a lot of research on Arabic reading, some varieties of Egyptian Arabic change the pronunciation of "Q" into a glottal stop "'a" or change the sound "j" into "g". Besides, some Maghreb dialects shorten vowel sounds. So, interaction of these perceptual and linguistic difficulties has made reading Arabic texts very difficult. Although these problems are not all applicable to Quran texts, this religious discourse, as a rich and literary old Arab discourse, encompass all these difficulties

at segmental and supra-segmental levels. For the same reason, a Quranic reader, to gain mastery in oral reading fluency must decipher the letters, predict short vowels, and keep alternative words in the working memory to make sense of it. For instance, as it is stated above, some Quranic vowel sounds, especially short vowel sounds do not have manifest alphabetic representations but any failure in predicting them belittles pronunciation and reading fluency. This makes the visual identification of sounds very difficult. Therefore, in many Latin languages a typical sound such as "a" is easily decipherable by orthographic feature but in Arabic for example, this sound in the word "اخری" is not as decipherable as "okhr**a**" in English. This difficulty in reading all types of Arabic texts is supported by many researchers including Pelli, et al (2007) and Ibrahim, et al (2013). Although Quranic texts might have some differences with standard Arabic, it suffers from similar orthographic crowding that makes deciphering it difficult.

Many researches are conducted proving the importance of oral reading fluency. Schwanenflugel et al. (2004) concluded that mastery in oral reading fluency frees up cognitive resources for higher level cognitive processes. Jenkins and Johnson (2011) carried out a research and found that oral reading proficiency is correlated positively with readers' universal screening. Similarly, the findings of Hosp and Fuchs (2005) showed that oral reading proficiency is a benchmark for expected achievements of language learners. A similar research was done by Fuchs and Fuchs (2006) and showed that oral reading proficiency is a predictive tool for reading growth of language learners.

Considering the inherent difficulties of Arabic and those with which Iranian learners are faced, on one side, and the weight review of literature gives to oral reading fluency, on the other, provoked the current research to put forward an

appropriate instructional solution to the problem. Review of theories and literature shows that a number of theoretical and practical attempts are already done to remove these difficulties. Programs such as "Open Court Reading" by Scott and Shearer (2002) and "Great Leaps" by Wehby et al. (2003) which incorporated scripted explicit instruction of reading skills to address the skills necessary for reading acquisition are exemplars. Besides, "repeated reading" in which a student repeatedly read a specific passage to a teacher or peer monitor without explicit assistance (Begeny et al., 2009) or "teacher modeling" which involves a student receiving an explicit model of the text passage while silently following along with the reading passage (Begeny et al., 2009) are examples of practical approaches for remedying problems. Some theories, too, came on the scene such as automatic information processing (LaBerge and Samuels, 1974) but none of them submitted enough evidence on removing these problems because they were either classroom-level techniques which were not rooted in profound theories of learning or were theories which were not proved successful when put into effect.

For the same very reason, the current research is an attempt to make an innovatory attempt and employ dynamic assessment, as a successful theoretical and practical movement in instruction and educational psychology, to identify and cure problems of Iranian learners of the holy Quran in reading fluency. Despite rich theoretical foundations of dynamic assessment in linguistic theories and empirical research, the current research is the first one that uses this approach for promoting oral reading fluency.

Literature review

Situated in a broader context, Dynamic Assessment (DA) has attracted a lot of attention in the fields of psychological therapy and education (Haywood, 2007).

In their conceptualization of DA, Sternberg and Grigorenko (2002) distinguished DA from all other forms of instruction-embedded assessments and stated that DA is a paradigm shift toward a new philosophy of instruction that brings assisting individuals and developing them through the agency of intervention into focus of assessment. Furthermore, Poehner (2008) believes that DA is an approach to instructional assessment which has serious consideration for the results of an intervention, one in which the examiner teaches the examinee how to perform better on individual items or on the test as a whole. According to him, the final score may be a learning score representing the difference between pretest (before learning) and posttest (after learning) scores, or it may be the score on the posttest considered alone. Lantolf and Poehner (2004) wrote that dynamic assessment is a procedure in which assessment and instruction become integrated into an integral and unified activity, working toward promoting learner development through appropriate forms of mediation which are fine-tuned and sensitive to the individuals or groups' current level of functions. In other words, on the basis of this later conceptualization, dynamic assessment is a procedure for simultaneous assessment and promotion of development while considering zone of proximal development.

DA is theoretically rooted in Vygotskian socio-cultural theory of cognitive development. Vygotsky (1978) stated that the difference between learners' unassisted and assisted performance in their zone of proximal development and the amount of performance learners are able to reach with assistance in the present time is indicative of their future performance, while unassisted. Therefore, scholars in the field of DA, particularly Poehner (2004, 2005, and 2008) believe that it is necessary to collaborate with learners like a mediator during the

completion of assessment tasks and extend their independent performance to levels they could not reach alone. Therefore, a typical dynamic intervention aimed at promoting learning is concerned with the way a person can learn in a new situation and the amount he/she can improve his/her performance. Also it is concerned with identifying primary obstacles in the way of optimal level of the competence. Then, the outcome of dynamic assessment would be arriving at individuals' learning potential. Besides, the evaluation process in dynamic assessment is individualized, i.e. it is responsive to learning difficulties and obstacles of examinees. Such an evaluation estimates the amount of investment needed for a particular examinee to overcome difficulties because it focuses on the processes involved in acquisition of new skills by them.

Many scholars have employed dynamic assessment for promoting language skills such as speaking, reading, listening, writing and syntax but none of them have used this approach for promoting oral reading fluency, however, little is done on the effect of this emerging trend in Arabic language. In a scarce attempt, Fahmy (2013) studied the effect of dynamic assessment on adult learner of Arabic and found that dynamic assessment improves structural control and oral proficiency of adult Arabic learners. Yet, many studies are conducted on the effects of dynamic intervention on reading in other languages which are briefly reviewed below. In a study in Iranian context, Ajideh and Nourdad conducted a study aimed at investigating the effect of dynamic assessment on EFL learners' reading comprehension in different proficiency levels. The results of MANOVA test revealed that dynamic assessment had improving immediate and delayed effect on reading comprehension of learners in all proficiency levels.

In addition, Birjandi and his colleagues (2013) explored the feasibility of development and implementation of dynamic assessment procedure in the areas of EFL reading comprehension and meta-cognitive awareness of reading strategy. A statistically significant effect was found for the performance of the participants in the experimental group who had received mediations of dynamic assessment. Furthermore, Jarrahzade and Tabatabaei (2014) investigated the impact of Dynamic Assessment (DA) on promoting reading comprehension ability of Iranian male and female EFL learners, focusing on Guthke's Lerntest approach. In this study, the researcher used DA which unifies instruction with assessment to provide learners with mediation to promote their hidden potential during assessment. The findings showed that participants of experimental group significantly outperformed the one in the static way. Likewise, many similar researches were conducted in foreign context. In a research by Alderson et al (2015) the findings showed that DA is a viable framework for identifying and tackling learning problems in reading and listening. Similar findings were obtained by Thouësny (2010), Poehner and Lantolf (2010), Poehner et al (2014), and etc.

Considering all these issues into account, the current research is an innovatory attempt to employ the interventionist model of dynamic assessment for identifying learning problems and promoting oral reading fluency of Persian learners of Arabic in reciting Quranic text. Therefore, the following research question is formulated:

RQ1: Does dynamic intervention have a significant effect on promoting oral reading fluency of Iranian Quranic learners?

RQ2: Does dynamic assessment group (experimental group 2) outperform normative group (experimental group 1) in post test of oral reading fluency?

Method:

Design

In the current research, a quasi-experimental design is used. A quasi-experiment is an empirical interventional research employed to investigate or calculate the causal effect of an intervention on a population without random assignment. However, in the current research, to secure internal validity of the experiment, assignment of participants to experimental groups (EX1 and EX2) was done randomly. Such a design is consistent with sandwich format and interventionist model of dynamic assessment. In interventionist dynamic assessment, mediator uses a standardized administration procedures and forms of assistance that bring about quantifiable results for the purpose of within and between groups comparison and future prediction (Poehner, 2008). In other words, this model of DA tends to follow a quantitative approach and incline more toward psychometric orientations. This quantification can also be used as an indicator for the rate of learning or the amount of help required for a learner to arrive at an educational endpoint which is set in advance. In this model, the mediation is offered by mediator through a series of graded and sequenced standardized hints selected from a mediational inventory which start from most implicit ones to most explicit ones in a continuum. Here the role of mediator is calculating frequency and kind of the hints that are required for a learner to answer an item or group of items correctly (Poehner, 2008, pp.18-19). Also, according to Haywood and Lidz (2007), in sandwich format which is also called test-train-test design, the procedure is divided into three different phases of pre-test, intervention and post − test. Within the sandwich format, instruction may be given in individual or group settings and is intended to promote test-takers' development.

Participants

In the current study, 20 students studying theology instruction were selected from academic teacher-training center of Qum, affiliated to the ministry of teaching and training. These students were selected considering the principles of convenience sampling and intact group study. Convenience sampling is a non-probability sampling procedure in which participants are selected for their convenient accessibility and proximity to the researcher. These students were recruited in a Quran recitation course as partial requirements of their educational program for graduation. These students were assigned randomly to either experimental group 1 (n=10) or experimental group 2 (n=10).

Instruments

Due to the aims of this research, a number of instruments were used in this study. The main instrument used in this study was a standard mediation inventory of dynamic assessment adopted from Aljafareh and Lantolf (1994). This regulatory scale included 13 different mediatory steps from most implicit to most explicit ones that were used for assisting learning during the intervention phase of the research. This mediation inventory is shown in the following table:

Table 1: Regulatory scale – implicit to explicit (Aljaafreh and Lantolf, 1994, p. 471)

Steps	Description of Mediation
1	Tutor asks the learner to read, find the errors, and correct them independently, prior to the tutorial.
2	Construction of a "collaborative frame" prompted by the tutor as a potential dialogic partner.
3	Prompted or focused reading of the sentence that contains the error by the learner or the tutor.
4	Tutor indicates that something may be wrong in a segment (e.g., sentence, clause, line)
5	Tutor rejects unsuccessful attempts at recognizing the error
6	Tutor narrows down the location of the error (e.g., tutor repeats the segment which contains error).

7	Tutor indicates the nature of the error, but does not identify the error.
8	Tutor identifies the error.
9	Tutor rejects learner's unsuccessful attempts at correcting error.
10	Tutor provides clues to help the learner arrive at the correct form.
11	Tutor provides the correct form.
12	Tutor provides some explanation for use of the correct form.
13	Tutor provides examples of the correct pattern when other forms of help fail to produce an appropriate responsive action

The second instrument used in this research was reading texts selected from the 30th chapter of holy Quran. Two different texts were selected from different parts of the chapter in holy book for testing the oral reading fluency of the participants in pre-test and post-test conditions. To ensure equality of the texts, the researchers homogenized them for difficulty level and readability scores through appropriate measures.

Procedure

To the aims of this research, an intact group of 20 students of teaching theology were selected as participants of the study. These participants were randomly assigned to either EX1 or EX2 groups. At the very beginning of a Quran recitation course, a Quranic text was administered to both groups. Each student was required to read the text aloud. The teacher used a self-developed checklist for counting mistakes. Each participant was assessed separately. The score obtained was an interaction of the time consumed (per second) and the number of the mistakes committed. In addition, the students' performances were audio-taped for further analysis and identification of problems and their types. In other words, this pre-test was both a baseline for estimating change and a diagnostic tool for identifying problems. After identifications of problems, both groups underwent five-session enforcement course aimed at promoting

reading fluency on the basis of the encountered problems. Following Begeny, et al (2009) procedure, the EX1 underwent a normative teacher modeling exercise for five sessions. As it was touched above, teacher modeling involves a student receiving an explicit model of the text passage while silently following along with the reading passage. However, the EX2 underwent a dynamic assessment intervention using regulatory scale of Aljaafreh and Lantolf (1994) to scaffold his interaction with the students, remove the problems and develop learning. This intervention also took five sessions. Then, in order to investigate the effect of interventions on promoting reading fluency of the learners, both experimental groups were administered a parallel Quranic text to read. Using the earlier procedure, students scores were calculated on post-test too. Scores obtained from both assessment sessions (pre/post tests) were collected and entered into SPSS (Version 21) and analyzed through paired samples t-test and independent sample t-test (to answer first and second research questions separately).

Results:

The first question of the research was; does dynamic intervention have a significant effect on promoting oral reading fluency of Iranian Quranic learners? In order to answer this question a pre-test/post-test experiment was conducted. The scores of second experimental group (EX2) entered into SPSS and analyzed through paired samples t-test. The output of this analysis is shown in the following tables;

Table 2:Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	EX2PRE	12.2000	10	2.04396	.64636
	EX2POST	16.4000	10	.96609	.30551

Table 3: Paired Samples Test

		Paired Differences							
				Std. Error	95% Confidence Interval of the Difference				Sig. (2-tailed)
		Mean	Std. Deviation	Mean	Lower	Upper	t	df	
Pair 1	EX2PRE - EX2POST	-4.20000	2.09762	.66332	-5.70055	-2.69945	-6.332	9	.000

A paired-samples t-test was conducted to compare the oral reading fluency scores of EX2 in pre-test and post-test conditions. There was a significant difference in the scores for Pre-test (M=12.2, SD=2.04396) and Post-test (M=16.4, SD=0.96609) conditions; t (9) = -6.332, p = 0.000". These findings suggest that dynamic intervention exercised a significant effect on promoting oral reading fluency scores.

The second question of the research asked whether dynamic assessment group (experimental group 2) outperform normative group (experimental group 1) in post test of oral reading fluency. In order to answer this question, an independent-samples t-test was performed. The results of these tests in pre-test and post-test conditions are reported in the following tables:

Table4: Independent t-test in Pre-test Condition

		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Scores	Equal variances assumed	-.372	18	.714	-.30000	.80623	-1.99382	1.39382
	Equal variances not assumed	-.372	16.644	.715	-.30000	.80623	-2.00377	1.40377

As it is shown in Table 4, the level of significance in this table is more than 0.05 (p=0.714) and therefore the performance of both experimental groups in oral reading fluency test is not significantly different. In order to see whether dynamic assessment

impacts learning scores more than traditional techniques (teacher modeling exercise), the performance of both groups in post-test was investigated through independent samples t-test. The results of this test are presented in following table;

Table 5:Independent t-test in Post-test Condition

		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Scores	Equal variances assumed	-6.783	18	.000	-3.30000	.48648	-4.32206	-2.27794
	Equal variances not assumed	-6.783	17.231	.000	-3.30000	.48648	-4.32534	-2.27466

These data show that the mean scores of EX1 and EX2 in the post-test was significant (t (18) = -6.783, p=0.000. These

findings suggests that these groups did not perform equally in the post-test, the mean score of EX2 (dynamic assessment) was significantly higher than the mean scores

of EX1 (teacher modeling exercise). This means that, dynamic assessment intervention is a better instructional tool for promoting learning of oral reading fluency than teacher modeling exercise. In sum, the findings obtained from both questions showed that dynamic intervention, not only promotes learning meaningfully but also proved better than traditional approaches toward reading fluency among Persian learners of Arabic in reciting Quranic texts.

Discussion and Conclusion

Dynamic assessment which is well-founded in theory and practice for decades is known as a valuable diagnostic and instructional therapeutic tool in some fields of research, on top of which is psychology and some educational contexts such mathematics and but language educators have only recently started investigating its pedagogical applications (e.g. Lantolf & Poehner 2004, Poehner 2005; Antón, 2009;). Therefore, to investigate the efficacy of this approach on the identified problems of Persian Quranic learners, a quasi-experimental study was performed to investigate the effect of interventionist dynamic assessment on oral reading fluency of Persian learners reading Quranic texts. The findings showed that DA promotes learning significantly and efficiently. The findings of this study are consistent with Fahmy (2013) that used the benefits of integrating dynamic assessment with task based language teaching to improve the oral proficiency of language learners. The results of his study which compared different evaluations conducted in both the pre- and post-DA phases showed that the structural control of language improved for all participants. Also, these findings are in line with In addition, the findings of the present research are in line with Navaro and Lara (2017) who had found that dynamic scores, obtained from the implementation of a dynamic device, significantly predict the

studied variables that affect performance in language skills, especially reading. In addition, their findings showed that dynamic scores enjoy a significant incremental validity in relation to predictions based on a non-dynamic scale. Though dynamic assessment is an established model of assessment which enjoys a plethora of confirmatory researches, it should be noted that dynamic assessment is not a one-size-fit-all approach. Considering this fact and the necessity of devising a more local approach for this more global agenda, the future research must make an attempt to put this global agenda at the service of native context. The logic behind this necessity derives from those studies which found standard models of DA are not able to consider individual and local differences. From this angle of look, the current research is also in tandem with Isavi (2012) who applied the regulatory scale of Aljaafreh and Lantolf (1994) to Iranian EFL learners and found that learners respond differently to the same type of errors they made in the pretest stage after introduction of mediation by the teacher. This shows that a native mediation inventory which is finely tuned to the differences as well as the difficulties of students in a local context can bring about better results especially in group dynamic assessment, as it was the case in our research. Thus, further research can be conducted to obtain a local inventory of mediations for promoting oral reading proficiency. These findings have implications for teacher trainers, language teachers, language learners and syllabus designers.

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