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Research Article

Impact of Dynamic Assessment on Elementary Students' Motivation

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ABSTRACT

In the language teaching arena, there are many notions that are closely interrelated in some way or another, among these, one can refer to instruction and assessment. It is because of this close interrelation that any change in one leads to a change in the other. However, changes in these two realms have not been in the same pace. One of the manifestations of change in the assessment area is the emergence of a recently proposed assessment procedure namely dynamic assessment (DA). This study aimed at investigating to see whether implementing dynamic assessment (DA) significantly affects Iranian elementary-level EFL learners' motivation. To this end, a quasi-experimental pre-test and post-test design were used. The sample of this study consisted of 30 female Iranian elementary-level EFL learners studying in a high school in Shiraz, Iran. The sampling of this study was convenient sampling because the two available intact classes (15 students in each class) were selected to participate in the study in the absence of random sampling. To measure the participants' motivation, the Persian version of Pinrich and De Groot's (1991) motivation questionnaire was used. Data analysis was conducted using descriptive statistics and independent samples t-tests. The results showed a significant difference between DA and non-dynamic assessment (NDA) groups. Therefore, it is suggested that elementary-level teachers use DA in their classes in an attempt to improve their students' motivation.

Keywords: Dynamic Assessment (DA), Motivation, Zone of Proximal Development (ZPD)

تأثیر سنجش پویا بر انگیزه ی فراگیران زبان انگلیسی: با تاکید بر دانش آموزان مقطع ابتدایی
در عرصه آموزش زبان مفاهیم زیادی وجود دارد که به نوعی با یکدیگر ارتباط تنگاتنگی دارند که از این میان می توان به آموزش و ارزشیابی اشاره کرد. به دلیل همین رابطه نزدیک است که هر تغییری در یکی منجر به تغییر دیگری می شود. با این حال، تغییرات در این دو حوزه با سرعت یکسانی انجام نشده است. یکی از مظاهر تغییر در حوزه ارزیابی، ظهور یک روش ارزیابی پیشنهادی اخیر به نام ارزیابی پویا (DA) است. این مطالعه با هدف بررسی اینکه آیا اجرای ارزیابی پویا (DA) به طور قابل توجهی بر انگیزه زبان آموزان ایرانی سطح ابتدایی انگلیسی تأثیر می گذارد یا خیر، انجام شد. برای این منظور از طرح نیمه آزمایشی پیش آزمون پس آزمون استفاده شد. نمونه این پژوهش شامل 30 نفر از زبان آموزان دختر ایرانی مقطع ابتدایی زبان انگلیسی بود که در دبیرستانی در شیراز تحصیل می کردند. نمونه گیری این پژوهش به صورت نمونه گیری در دسترس بود زیرا دو کلاس سالم موجود (15 دانش آموز در هر کلاس) در غیاب نمونه گیری تصادفی برای شرکت در مطالعه انتخاب شدند. برای سنجش انگیزش شرکت کنندگان از نسخه فارسی پرسشنامه انگیزش پینریچ و دی گروت (1991) استفاده شد. تجزیه و تحلیل داده ها با استفاده از آمار توصیفی و آزمون تی مستقل انجام شد. نتایج نشان داد که بین گروه های DA و ارزیابی غیردینامیک (NDA) تفاوت معنی داری وجود دارد. بنابراین، پیشنهاد می شود که معلمان سطح ابتدایی از DA در کلاس های خود در تلاش برای بهبود انگیزه دانش آموزان خود استفاده کنند.

واژگان کلیدی: ارزیابی پویا (DA)، انگیزش، منطقه توسعه نزدیک (ZPD).

INTRODUCTION

In the language teaching arena, there are many notions that are closely interrelated in some way or another, among these, one can refer to instruction and assessment. It is because of this close interrelation that any change in one leads to a change in the other. However, changes in these two realms have not been in the same pace. One of the manifestations of change in assessment area is emergence of a recently proposed assessment procedure namely dynamic assessment (DA). DA, derived from Vygotsky (1989)'s SCT and his concept of ZPD, is based on the view that observing individuals' independent performance reveals the results of their past development, while the purpose of most assessments is prediction of learners' future performance. If one wishes to understand the processes of development, to intervene to help individuals overcome difficulties, to support their development and to predict their future performance, mere observation of their sole performance is not sufficient. Instead, active collaboration with the individuals reveals the full range of their abilities and promotes their development simultaneously. In educational contexts, this means that understanding the learners' abilities (assessment) and supporting their development (instruction) is a dialectically integrated activity. This pedagogical approach is known as DA (Poehner, 2008). According to SCT, what the learners are capable of doing with the help of mediator is the indicator of what they will be capable of doing independently in the future. This is the cornerstone of ZPD concept in Vygotskyian terms. In a simple definition, ZPD is the difference between learners' assisted and unassisted performance. The term dynamic assessment, coined by one of Vygotsky's colleagues Luria (1961) was popularized by Israeli researcher Reuven Feuerstein (1979) in contrast with traditional static assessment (Poehner, 2007).

It has been evidenced that DA has the potential to improve learners both affectively and cognitively. An affective factor with huge effectiveness on learning is motivation. Therefore, this notion has attracted the attention of scholars in different fields including education. Motivation research, according to Dörnyei and Ushioda (2009), has observed bulk of discussion and theory, investigating the complicated nature of language learning motivation and its influence in the field of education. Also, since the late 90s and the introduction of globalization, power relations, political shifts worldwide leading to widespread migration, and identity concerns into the field of English language learning, motivation-themed research has shifted toward taking these global issues into consideration in order to see how they might change what we theorize about motivation to learn a new language (Dörnyei & Ushioda, 2009). While the volume of studies done on learning motivation is relatively rich, the extant literature on motivation for learning as affected by DA is scarce. This scarcity is more serious as far as elementary-level students are concerned. This is while according to Gardner (1985), learning motivation determines the extent to which an individual works or strives to learn because of a desire to do so and the satisfaction experienced in this activity. With this in mind, this study sought to investigate the impact of DA on elementary-level students' motivation.

LITERATURE REVIEW

Nambiar (2020) explored the influence of DA on the perceptions of language teachers and learners. In doing so, a questionnaire was utilized at the service of a survey study. The outcomes of the research disclosed that the participants conceived the following matters as very important in WDA: (a) successful and appropriate interaction between learner and teacher, (b) technical knowledge, (c) well-planned online units, and (d) technical adaptations. Aliyyah et al. (2020) tried to identify the views of teachers on DA. To this end, a semi-structured interview was implemented. The outcomes of the research demonstrated that teachers' views revolved around four main themes: support, teachers' motivation, teaching strategies, and challenges. Sadeghi (2015), and Malmeeer



and Zoghi (2014) have reported a significant effect for DA-oriented instruction on learners' L2 grammar, using a pretest post test design. However, the latter compared the effect of DA on the teenagers and adults' grammar, in the absence of control group, and found that the adult learners significantly outperformed the teenagers. Ajideh and Nourdad (2012) have investigated the effect of DA on learners' reading comprehension in different proficiency levels. They reported that while the results show the beneficial effect of DA (both immediate and delayed) on the learners' reading comprehension in all proficiency levels, the difference was not significant. They attributed the long-term effect of DA to its development-oriented nature of DA compared with performance-oriented nature of static assessment. Nazari (2012) has argued for the great positive impact of DA for the learners and recommended that language teachers take advantage of this new method in their classes. However, he has acknowledged the scarcity of the research in this area and lack of practical guidelines for teachers to apply DA.

According to Davin (2011, as cited in Ajideh & Nourdad, 2012), DA makes recommendations possible based on a developmental potential the static assessment is devoid of which. In a study by Lantolf and Poehner (2011), for the first time DA was used in its interactive form as opposed to its individual interventionist form and the results confirmed the promoting effect of group-based DA implementation. Poehner (2011) has suggested that DA and non-DA are sharply different regarding their underlying view of the abilities, their purpose and the role of the assessor. He continued that the former regards the learners' abilities as something dynamic and ever-developing, while the latter treats them as fixed and static. In the former, the aim behind assessment is to simultaneously understand and promote the learners' development, while the latter seeks to measure their present-level performance and finally the role of examiner in the latter is replaced with mediator in the former.

As it can be seen clearly, clear, although DA has been touched in several old and new studies, no study has tried to tackle the impact of DA on elementary-level students' motivation. Thus, this study sought to bridge this gap by investigating the effect of DA on Iranian elementary-level students' motivation.

METHOD

Design

This study benefited from a quasi-experimental pre-test post-test design. It is quasi-experimental in the sense that the selection of the participants was not based on a true random sampling procedure and two intact classes were picked up by convenient sampling.

Participants

Sample of this study consisted of 30 female Iranian elementary-level students studying in a high school in Shiraz, Iran. Sampling of this study was convenient sampling because the two available intact classes (15 students in each class) were selected to participate in the study in the absence of random sampling. One of these classes was assigned to the DA group and the other one to the NDA group. The participants were young and averaged about 8 years of age.

Instrument

To achieve the objective of the study, the Persian version of Pinrich and DeGroot's (1991) Motivation Questionnaire, which is composed of 44 items on a 7-point Likert scale ranging from "1= not at all true of me" to "6 = very true of me", was used to measure the participants' motivation. The researcher estimated its reliability as .89. Moreover, the construct validity of the questionnaire was confirmed through factor analysis. The range of scores of this questionnaire is 44 to 308.

Procedure

In this study, first, the Motivation Questionnaire was administered in both groups. Then, educational sessions started. In each educational session, both groups were taught the educational books of Grade 2 of elementary school in Iran. The only difference between the two groups was that mediation of the type common in DA, through joint engagement and interaction, was present in the DA group but absent in the NDA group. In each session, in the DA group, a mini-test based on the content of the books of Grade 2 of elementary school in Iran was administered. The mini-test was designed by the researcher. After each mini-test, the teacher reviewed the test results with students in the DA group, mediating for them the strategies required for answering each item, finding together with the students the shortcuts for answering each item, and indicating what strategies could be used to answer the items. Also, students provided mediation to their peers in order to find the correct answer for each item. In this group, if the learners give correct answers, no mediation was provided, but if they give incorrect answers, the teacher moved one step forward till she reached the last step where she provided the learner with full explanation. Some hints were also used. But in the NDA group, there was no such mediation, and after instruction, students just received a static test in order to review the learnt materials. The treatment lasted for eight sessions. Ten days after the treatment, both groups were given the Motivation Questionnaire to be filled so that their motivation level after the treatment could be measured and compared between the two groups. Data analysis was conducted using descriptive statistics and independent samples t-tests.

RESULTS

To compare the motivation level of DA and NDA groups, firstly descriptive statistics was calculated for both groups and then independent samples t-test was run to see if the observed difference is significant. Results of pre-test group statistics in Table 1 show that DA and NDA mean is 7.33 and 7.96 respectively.

Table 1

Pre-test Group Statistics for DA and NDA Groups

group	N	Mean	Std. Deviation	Std. Error Mean
DA	15	17.3333	2.01603	.36807
NDA	15	17.9667	2.02541	.36979

According to the results of independent samples t-test, as shown in Table 2, this difference is not significant ($t = -.06$, $df = 58$, $p > .05$). This means that both groups are equivalent in terms of their motivation before educational sessions.

Table 2

Pre-test Independent Samples T-test for DA and NDA Groups

t	df	Sig. tailed)	(2- Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
-.064	58	.949	-.03334	.52175	-1.07773	1.01106
					-1.07773	1.01106

Results of post-test group statistics in Table 3 indicate that DA and NDA mean scores are 176.40 and 130.60 respectively.

Table 3

Post -test group Statistics for DA and NDA Groups

group	N	Mean	Std. Deviation	Std. Error Mean
DA	15	176.4000	2.12700	.38834
NDA	15	130.6000	2.01032	.36703

Table 4, showing the results of post-test independent samples t-test, shows that after participants' exposure to educational sessions the two groups' mean motivation scores are significantly different ($t= 5.240$, $df=58$, $p<.05$). This shows that DA had a significant effect on elementary-level students' motivation.

Table 4

Post-test Independent Samples T-test for DA and NDA Groups

t	df	Sig. (2-tailed)	(2- Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
5.240	58	.000	2.80000	.53434	1.73041	3.86959
					1.73033	3.86967

DISCUSSION AND CONCLUSION

The present study aimed at investigating the impact of DA on elementary-level students' motivation and the results showed a significant difference between DA and NDA groups. The significant difference between the two groups (in favor of the DA group) implies that the students in the DA group benefited from DA as a tool for improving their motivation. The results are in line with Sternberg and Grigorenko (2002)'s claim that DA plays an important role by giving a deeper insight into learners' abilities. The results also give support to Swain (2001) in that he also found interaction as a powerful tool for learning assessment and usefulness of students' dialogues in this regard. The results are also consistent with Nazari (2012) in that he also reported a great positive effect of DA for the learners.

The researcher perceives that because in the DA group, the learners' answers, even when partially correct, were accepted and negotiated by the teacher during educational sessions, and as a result of increased quality of relationship between teacher and students, they felt more comfortable to put whatever answer comes to their mind on the exam sheets. This contributed to higher motivation among the members of the DA group. Generally, the success of DA may be also traced back to its humanistic individualistic learner-based orientations and presuppositions and advocacy of self-construction of experience. Moreover, the ground can be taken that DA can enhance learners' problem-solving potential and this leads to higher motivation in them. Moreover, with the help of DA, learners gain more control over the learning process and this is associated with higher motivation. Finally, DA contributes to learners' more engagement in the process of learning by reducing their anxiety. This enhances their motivation.

The implication of the results is that using DA would be beneficial for elementary-level students to improve their motivation. Although our study firmly supported the positive role of DA in motivation, we see a need for further studies to be commissioned in all other affective factors, with learners of different ages, genders and proficiency levels to better reveal the relative share of DA-



based mediation in the accomplishment of the most important concern in education, i.e. the learning.

Using Gigorenko's terminology, it is implied by the results of this study that teachers can educate the learners by taking the students' patterns of thought and response into account and adjust his/her pedagogical strategies based on the revealed patterns in the process of DA. More importantly, useful strategies used by more successful students are revealed and can be used by weaker students.

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