Gender Differences in the Effect of Dynamic Assessment on Grammatical Accuracy of Writings

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Abstract—One of Vygotsky’s contributions to education was the emergence and development of dynamic assessment which stresses the need for unifying assessment and instruction. This research was an attempt to investigate whether there is a difference between female and male EFL learners regarding the effect of dynamic assessment on grammatical accuracy of their writings or not. To this end sixty five male and female pre-intermediate Iranian EFL were randomly assigned into two groups namely control and experimental. After the pre-test of grammatical accuracy in essays, eight session mediations were implemented for experimental groups; however, for the control group no mediation of examiner was provided. The interventionist sandwich format of dynamic assessment was applied followed by the post-test. Both control and experimental groups were implemented the same the pretest and posttest in a non-dynamic way. The data obtained from both pretest and post-test were statistically analyzed through running independent-samples t-test. The results indicated that there is no difference between females and males regarding the effect of dynamic assessment on grammatical accuracy their writings. These findings can have pedagogical implications for language teachers, teacher educators, test developers, and syllabus designers.

Index Terms—dynamic assessment, grammatical accuracy, writing skill, gender

I. INTRODUCTION

Language includes four skills and one of the most important skills that is needed to teach is writing (Brown, 2000). Writing is a process through which a writer tries to communicate ideas and thoughts. Not only for second or foreign language writers but also for native language writers, writing needs special instruction. In writing, grammatical accuracy is vital since it causes the writer to transfer intended ideas and to avoid communicative misunderstanding (Lush 2002, Larsen-Freeman 2003). Therefore grammatical accuracy is very important in learning or teaching of the English language. One of the major grammatical knowledge that is essential for structuring a sentence is the verb tense.

Since grammatical accuracy plays an important role in writing and academic success, it is important for learners to recognize and use accurate structures in writing. Iranian pre-intermediate EFL learners have problem in recognizing and using simple present and simple past tenses. One of the most common difficulties of the pre-intermediate Iranian EFL learners is that they don’t recognize and use accurate grammar in writings. In other words, the learners don’t use "s" or "es" at the end of the verbs in simple present tense in the third person singular form of the verb. The model verb forms "do" and "does" are not appropriately used. The learners don’t also use regular (adding "d" or "ed" at end of past regular verbs) and irregular verbs in past tense accurately. Sometimes, some learners use "is" or "are" instead of "do" or "does" in question sentences. Therefore this study for the first time investigated the effect of DA, as an alternative in language assessment, on grammatical accuracy in writings of Iranian pre-intermediate EFL learners.

Dynamic assessment (DA) as a new technique in teaching and testing has some features that can be effective in grammatical accuracy among pre-intermediate male and female EFL learners. DA has been expanded as an alternative to ‘non-dynamic’ types of assessment, namely standardized tests. DA is based on Vygotsky’s sociocultural theory (1978) of cognitive development, as stated by which human cognitive capabilities can only be entirely conceived via studying the procedures of their expansion. Vygotsky (1978) takes the view that prognostic assessment is better than diagnostic assessment. Unlike the traditional ways of assessment which were non-dynamic, DA needs the tester to mediate the testee’s performance throughout the assessment via applications of feedbacks, issues, elicitations, implications, suggestions, and points. Thus in DA the concentrate on the assessment changes from testees’ success or failure in a task to an analysis of the amount and sorts of assistance they needed to achieve the task.
DA has been studied from different point of views, but the effect of DA on grammatical accuracy in writing among male and female has not been investigated so far. Consequently, this study was an attempt to investigate whether there is a significant difference between females and males regarding the effect of dynamic assessment on grammatical accuracy of pre-intermediate EFL learners’ writings or not.

II. REVIEW OF THE RELATED LITERATURE

A. Dynamic Assessment

The idiom of dynamic assessment was originated by Vygotsky’s colleague Luria (1961). The aims of DA is to assess, measure, evaluate, modify, intervene, examine, and improve behaviors and to authenticate the process of learning. Activity on the portion of tester and learner, and modifiability of behavior, are essential in DA. Therefore, DA is on the whole social, interactive, and qualitative. (Haywood & Lidz, 2007).

DA practices are derived from several theories, such as Vygotsky’s theory of cognitive development and his notion of Zone of Proximal Development, Vygotsky’s Sociocultural Theory and Mediated Learning Theory.

Zone of Proximal Development (ZDP) is the distance between the actual developmental level as specified by independent problem solving and the level of possible development as specified via problem solving under adult guidance or in cooperation with more capable compeers (Vygotsky, 1978).

Sociocultural theory (SCT) views language learners not as conductors of input or producers of output, but as speakers/listeners included in developmental processes that are recognized in interaction (Gibbons, 2003).

The form of mediation is pivotal to the sociocultural theory of Vygotsky, since it supplies through studying social processes entailed in situated language learning and application (Appel & Lantolf 1994).

DA has been developed in contrast to ‘non-dynamic’ assessment (NDA) tests. It has a complementary role rather than a substitutional one (Anton, 2003). DA represents a qualitatively different way of thinking about assessment (Haywood & Lidz, 2007) by stating that instruction and assessment should not be contemplated as separate but entirely merged. This integration is conceivable when intervention is devised within the assessment. Poehner and Lantolf (2005) mention that in DA the goal is to see the individual’s ability to transfer what has been internalized through mediation beyond the immediate task to other tasks, it means in DA rather than checking what learner has learnt in the past, the goal is settled toward future (Poehner & Lantolf, 2005).

Regarding the difference between DA and NDA it could be stated DA and NDA relate not to assessment tools but to conduction procedures; any assessment can be administered in a dynamic or non-dynamic method (Poehner, 2008).

Sternberg and Grigorenko (2002, p. 28) distinguish DA from NDA in three ways. First, NDA focuses on products as a result of learning and teaching. Second, NDA does not allow feedback from examiner to test-taker concerning quality of performance throughout the test method. Third, NDA is neutral and uninvolved toward the examinee as much as possible. Poehner and Lantolf (2005) contrasted DA from other assessments by mentioning that DA is based on cognitive theory and has a theoretically explicit position on cognitive development based on Vygotsky’s notion of ZPD. DA is more regarded with working with an individual’s ZPD to expand his/her capabilities systematically (Poehner & Lantolf, 2005, p. 260).

Moreover, there is another important distinction between NDA and DA. In NDA, the assessor conducts an assessment and the person’s performance on that assessment is specified against the criteria. NDA evaluates the skills and knowledge that the individual acquired from previous experiences. It does not evaluate the individual’s capability to attain skills and knowledge.

DA, in contrast to NDA, regards to an individual’s capability to achieve skills or knowledge throughout the assessment. In DA, at first a skill is tested (pre-test), in the second phase some hints are provided to solve the probable faced problems (mediation) and then it is retested (post-test). Correspondingly during this process, the learner is given the chance of learning the skill or knowledge that is being tested.

There are several models based on which DA can be administered. Interactionist DA conforms Vygotsky’s priority for collective conversation. According to this model, assistance arises from the interaction between the mediator and the learner, and is accordingly greatly impressionable to the learner’s ZPD. Interventionist DA, on the other hand, remains closer to inevitable forms of static assessment and their relations over the psychometric features of their procedures.

DA modals can be constructed as stated by what Sternberg and Grigorenko (2002) have explained as sandwich and cake formats. The sandwich format is much more congruent with traditional experimental research designs in which treatment is conducted following a pretest and a posttest. In this method of DA, a mediation stage is likely ‘sandwiched’ between pretest and posttest which are conducted in a non-dynamic model. The performance on the posttest can then be compared to the pretest so as to specify how much promotion an individual made as a result of mediation.

B. Grammatical Accuracy

Grammatical accuracy is obtained when each word in a sentence represents the meaning the author intends to convey and is arranged in a correct relation with other words. However, grammatical accuracy is very important and should be
a main focus when learning or teaching English. Knowledge of grammar is very important, as the ability to use it often determines the impression one has on other people.

Larsen-Freeman (2003) takes the view that even though form, meaning and use have a close relationship with each other, but each of them can create problems for language learners. Accuracy is the capability to apply the language authentically. The goal of teaching grammar in any language teaching/learning program is to improve learners’ grammar for better communication. Considering the importance of grammatical accuracy teachers should focus on their learners’ productions and guide them to create grammatically accurate sentences in which words are integrated to form meaningful and admissible sentences.

They should also find a sound way of assessing their learning of grammatical accuracy. Unfortunately, many grammar knowledge tests endeavor to separate grammar from language use, decontextualize sentences, and concentrates on a specific structural rule within a given sentence. If language testing applies as a complementary practice to language teaching, the researchers take the view that it is more influential to assess learners’ knowledge of grammar by providing them with meaningful context. Grammar items in which learners are encouraged to use specific structural rule in order to make a certain meaning can appropriately assess testees’ grammatical knowledge or applied knowledge of language forms. Grammar items in which learners are required to realize a grammatical error in a given statement, such as PBT TOEFL or other similar tests, can be replied by paying attention to grammatical clues; this can be practiced by studying sample tests which result in testees’ getting test-wiseness, but the same individuals may not be able to use well forms of language in an appropriate way when producing language.

C. Empirical Background of the Study

Anton (2003) investigated the effect of DA on Spanish students. The researcher instructed DA method for placement of L2 Spanish undergraduate students. The researcher mentioned that DA is more appropriate for placement aims since it concentrates on students’ developing capabilities instead of concentrating alone on developed ones that is performed by non-dynamic assessment and is only about what students have got. Anton concluded that using DA procedures makes the placement become more precise because overall abilities are presented.

Ableeva (2008) utilized DA for university students learning French. She made an effort at improving development of listening comprehension skills and recognized that individual differences in learners on an assessment manifested their unique ZPDs, which was not revealed in the non-dynamic pre-test. She concluded that DA can diagnose the possible sources of problems in test task completion.

Zhang (2010) constructed a study about the effect of DA in the writing class of English majors. The Assessment mode proposed that DA should provide graduated and contingent scaffolding instructional mediation according to the developmental needs of students in the process of writing, thus reflecting the dialectical integration of assessment and instruction, and making it possible to enhance both teaching and the development of students’ writing ability. He mentions that most of the studies of DA in Chinese ESL classroom failed to utilize the important concept of dialogic cooperation between mediator and learner, which also distinguished it from other forms of assessment.

Sadeghi and Khanahmadi (2011) examined the viability of DA which was applied as an instructional adjunct in the development of Iranian EFL learners’ grammar. Their research was administered on 60 intermediate EFL learners and each session throughout the treatment the two groups of experimental and control took a grammar test while the experimental group received mediation on test items. The results of their research confirmed that DA significantly improved the learning of L2 grammar.

In another study Shabani (2012) investigated the feasibility of computerized version of dynamic assessment (C-DA) in the context of L2 reading comprehension. The results indicated that electronically administered mediatory scaffolding can improve the students’ reading comprehension procedures and that computers can substitute humans in enhancing readers’ consciousness by conducting their consideration to the key parts of the text and helping them to find out the text efficiently.

Barzegar and Azarizad (2014) also applied DA to improve L2 learners’ knowledge of grammar: evidence from the tenses. The aim of the study was to examine the effect of DA of speaking on rule internalization through giving explicit feedback as mediation along with a focus on five tenses: simple present, simple past, present continuous, past continuous and present perfect.

All the above mentioned studies in the literature imply a need for further studies to clarify various dimensions of DA. Considering the characteristics of DA and its fundamental differences with non-dynamic assessment, the present study intended to find out difference between females and males regarding the effect of DA on grammatical accuracy of pre-intermediate EFL learners’ writings. Implementing this study can provide more guidance to language teachers who wish to use DA in their language classrooms, but, it has not received the attention that really deserves, and this gap was evident. Therefore, this study aimed at filling this gap. In line with these points the following research question was raised.

Is there a difference between females and males regarding the effect DA on grammatical accuracy of pre-intermediate EFL learners’ writings?

III. METHODOLOGY
A. Participants of the Study

To accomplish the objectives of this study sixty five male and female Iranian EFL pre-intermediate students (33 males and 32 females) were selected from male and female First Grade students of high school who attended extracurricula English class at their schools. They had the same level of proficiency and the same native language.

B. Data Gathering Instruments

In order to carry out this research two instruments, a placement test and compositions, were utilized to gather the required data. To make sure about the homogeneity of the participants and equality of the language proficiency in both experimental and control groups the standard Placement Test of Top Notch developed by Saslow and Ascher (2006) was administered to 120 male and female first grade students in extracurricula classes high school and 65 students were selected for this research. The Placement Test consisted of 120 multiple-choice questions. Testees’ scores on this test determined their level of proficiency, i.e. according to the criteria of placement test of Top Notch, the learners who got scores among 11-31 at pre-intermediate level. The reliability coefficient calculated by cronbach alpha formula had been 0.78 which lies in an acceptable band to be applied in Iranian context. As the second instrument, two compositions were administered in the study as the pre-test and the post-test. The topics of the pre-test and post-test are the same that are included a composition with two paragraphs (10 sentences about simple present tense and 10 sentences about simple past tense). It means that the composition was consisted of 20 sentences on the whole to measure the grammatical accuracy of the participants’ writing.

C. Data Gathering Procedures

In the present study data collection procedure comprised the following phases: 1) the pre-test; 2) the DA mediation (treatment); and 3) the post-test. In the pretest phase, the students were asked to write a composition about daily activities and past personal events that required the use of simple present and past tenses. The purpose of administering this pretest in both groups was showing if there is any significant difference between the performances of two experimental and control groups at the beginning of this research; in other words, in this study there were four groups of male and female experimental and control and the schools were not co-educational, i.e. it included 16 males and 16 females experimental group students and 17 males and 16 females control group students. It included a composition with two paragraphs i.e. the first paragraph was about “Daily activities of my family” including 10 sentences with simple present tense and the second paragraph was about “Last Friday activities of my family” including 10 sentences with simple past tense. Each correct sentence had one score and the scoring was done out of 20. The high inter-rater reliability (i.e., .76) was established through double rating the written data by another research assistant in the pre-test. After the pre-test, in the DA treatment phase, the experimental group received DA and the treatment lasted for eight sessions during four weeks. On the other hand, the control group students of control group continued their regular class procedure with no mediation. Each assessment was done in a separate session and to meet the conditions of DA four sessions of treatment of DA were carried out about simple present tense and four sessions of treatment of DA were carried out about simple past tense in mediation sessions. Interventionist sandwich model of DA was applied to in eight DA sessions in this research. In the DA sessions, the teacher of the classroom as a mediator started to mediate the learners from implicit to explicit. After eight sessions of treatment, the post-test was administered to check whether there is a significant difference between females and males regarding the effect of DA on grammatical accuracy of pre-intermediate EFL learners’ writings or not. For scoring the writings of the students in this phase, ‘two raters’ were used to avoid subjectivity in scoring. The high inter-rater reliability (i.e., .79) was established through double rating the written data by another research assistant in post-test.

IV. FINDINGS

In order to test the research question, the researcher compared the scores of females and males regarding grammatical accuracy of their writings in both pre-test and post-test. An independent-samples t-test was run to compare the mean scores of the females and males in the pre-test regarding grammatical accuracy of their writing. The results of the descriptive statistics are presented accordingly in Table 1.

<table>
<thead>
<tr>
<th>Grades</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
<td>32</td>
<td>14.00</td>
<td>1.84</td>
<td>.32</td>
</tr>
<tr>
<td></td>
<td>Males</td>
<td>33</td>
<td>13.72</td>
<td>1.73</td>
<td>.30</td>
</tr>
</tbody>
</table>

According to the mean scores, there was no difference between females and males regarding grammatical accuracy of their writing and an independent t-test was employed to confirm it, the results of which are presented in Table 2.
As shown in Table 2 there was no significant difference in scores for females \( (M=14.00, SD=1.84) \) and males \( (M=13.72, SD=1.73; t(63) = .61, p=.54 > .05) \), that is, both groups were homogeneous in pre-test regarding writing accuracy.

An independent-samples t-test was run to compare the mean score of the females and males in the post-test regarding grammatical accuracy of their writing. The results of the descriptive statistics are presented accordingly in Table 3.

<table>
<thead>
<tr>
<th>Grades</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
<td>32</td>
<td>15.46</td>
<td>1.99</td>
<td>.353</td>
</tr>
<tr>
<td></td>
<td>Males</td>
<td>33</td>
<td>15.51</td>
<td>2.15</td>
<td>.374</td>
</tr>
</tbody>
</table>

According to the mean scores, there was no difference between two groups, that is, females and males regarding grammatical accuracy of their writing and an independent t-test was employed to confirm it. Table 4 presents the results of this analysis.

<table>
<thead>
<tr>
<th>Grades</th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.00</td>
<td>.95</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An independent-samples t-test was conducted to compare the scores of females and males in post-test regarding grammatical accuracy of their writing. There was no significant difference in scores for females \( (M=15.46, SD=1.99) \) and males \( (M=15.51, SD=2.15; t(63) = -.09, p=.92 > .05) \), that is, the effect of DA on the grammatical accuracy of both females’ and males’ writings was the same. Therefore, the research question indicating that there is no difference between females and males regarding the effect of DA on grammatical accuracy of pre-intermediate EFL learners’ writings.

V. Discussion

The present research was an attempt to research the effect of DA on improving grammatical accuracy in writing (simple present tense, simple past tense); in other words, this research was to find out whether there is a significant difference between females and males regarding the effect of DA on grammatical accuracy of pre-intermediate EFL learners’ writings or not. The findings indicated that there was not a significant difference between females and males regarding grammatical accuracy of their writing.

The findings of this study are accompanied by the results of previous studies such as Hashemnejad and Fattollahzadeh (2015), Alavi and Taghizadeh (2014), Nourdad (2013), Ghahremani et al. (2013), and Isavi (2013). The outcomes of this study, however, were in contrast with the study conducted by Frisby and Braden (1992).

Gender has been considered as an important factor that plays a role in second or foreign language acquisition. It is not a problem what gender differences are mainly biologically or culturally specified, educational investigation has recently confirmed that the gender differences obviously affect students’ academic interests, needs, and achievements (Halpern, 1986; Kenway & McLeod, 2000; Swiatek & Lupkowski-Shoplik, 2000). It is worth to mention that different educational domains have different assertions to gender issue. Previous studies reveal that female learners indicate possible predominancy in their second language learning process (Burstall, 1975; Boyle, 1987; Ehrlich, 2001). Considering these issues and considering that Iranian schools are not coeducational, investigating gender based differences between learners in using DA technique and its beneficial guidance was valuable, and the results of research showed that there was no significant difference between male and female learners in using DA procedure. Therefore, teachers and examiners can use DA procedure and its effective guidance in both male and female schools in the same way. Also, findings of this showed that impressive guidance of DA can be applied in learners’ books without considering gender differences. One of the important reasons why there was no significant difference between male and female learners could be that in both male and female groups DA procedure was applied, and in DA procedure instruction and assessment are integrated with each other and the teacher provides students with mediation. Applying
DA can also show a more accurate picture of the EFL learners’ writing ability. Another reason could be that DA aims to examine the differential effects of different training strategies given to the student to improve his/her functioning.

Therefore findings of this study could have some practical implications for EFL curriculum developers and syllabus designers, EFL test developers, EFL teachers and testers, and EFL learners.

VI. CONCLUSION

This study was an attempt to investigate the effect of DA on improving grammatical accuracy in writings of male and female EFL learners (simple present tense, simple past tense); in other words, this study was to find out whether there is difference between females and males regarding the effect of DA on grammatical accuracy of pre-intermediate EFL learners’ writings or not. The findings indicated that there was not a significant difference between females and males regarding grammatical accuracy of their writings. It was concluded that EFL learners can take the advantage of DA depending on the size of their ZPDs and gender has no role to play in the effect of DA on their development.

REFERENCES


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