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A Thesis Submitted to the School of Graduate Students in Partial Fulfillment of the Requirements for the Degree of Master of Arts (MA)

The Effect of Computerized Dynamic Assessment of L2 Writing on

Iranian EFL Learners' Writing Development

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In the Name of God

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We hereby certify that we have read this thesis written by **Maryam Ataii Tabar** entitled **The Effect of Computerized Dynamic Assessment of L2 Writing on Iranian EFL Learners' Writing Development,** and that is satisfactory in scope and quality as a thesis for the degree of M.A. in Teaching English as a Foreign Language (TEFL).

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Abstract

The present study investigated the effect of using a computerized dynamic test of writing (CDTW) on L2 writing performance of Iranian EFL students. 60 upper-intermediate predominantly female (14 male, 46 female) junior EFL students from three different universities in Iran participated in this study. They were Persian speakers studying English majoring in English translation or English literature. This study with an experimental design was a quantitative study of the effect of C-DA procedures for developing writing skills. A pretest (as non-dynamic test) was given to the participants in both experimental and control groups, and the results were compared with those of the posttests both within and across the two groups. Using an interventionist approach, the researcher designed software as treatment which provided students with a set of pre-formulated supportive hints during the test administration. Through the interactive and strategy-based learning environment, CDTW made it likely to assess the potential level of students' writing development and their improvement of writing quality. CDTW consisted of three dynamic writing tests covering a repertoire of pre-planned strategies and hints. They were prepared in response to the errors derived from the results of pilot study of the same writing essays assessed in CDTW on 58 EFL students of the same level and based on some guidelines of writing books. During three successive weeks, 90 minutes of class time were allocated to administration of each three essays in CDTW. The results of the study illustrated that the performance of the students has improved. Findings also indicated that low achievers could benefit more than high achievers from the implementation of CDTW. Following a brief questionnaire, students' attitude confirmed effective and facilitative role of computerized dynamic assessment procedures.

Key words: interventionist dynamic assessment, L2 writing, non-dynamic assessment.

Table of Contents

List of Tables

List of Figures

Chapter One

Introduction

1.1 Overview

One of the most practical assessment techniques for understanding the difficulties that impede successful L2 learner is formative or ongoing assessment. Based on its results, many programs such as tailoring instruction to meet the individual needs or mediating instruction have been designed to alleviate problematic parts of education. At the higher level, the most meaningful and authentic assessment which engages learners actively in the cognitive aspect of their learning, rather than taking extra instructions after waiting to fail, is dynamic assessment (Fenwick, T. J., 2000). DA tries to integrate ongoing evaluation with ongoing learning as an activity within learner's zone of proximal development (ZPD) (Vygotsky, 1978) and it is in the ZPD that learning is optimal (Grigorenko & Sternberg, 1998). Due to this critical principle, DA increases the degree of benefiting from assessment (Haywood and Lidz, 2007)**.**

Dynamic assessment (DA)-based studies with more than five decades of experience in educational context and its current application in language pedagogy (Anton, 2009; Lantolf & Poehner, 2004; Poehner & Lantolf, 2005; Poehner, 2005, 2008, Ableeva, 2007, 2008) provides insights concerning cognitive development and modifiability in the assessment that is necessary for effective learning (cited in Ableeva, 2010).

By definition, DA, as an interactive assessment technique, provides the unity of assessment and instruction with the goal of learner development. DA is a procedure for simultaneously assessing and promoting development that takes account of the individual's (or group's) zone of proximal development (Poehner & Lantolf, 2003, p.1). While traditional static assessment (non-dynamic assessment) is limited because it does not directly aim to stimulate learners into becoming independent knowledge constructors, and problem solvers (Johnsson, Mattheos, Swingby & Attstrom, 2007), DA procedure, regarded as a compliment for the other test types, includes the *mediation* in terms of Poehner and Lantolf (2003) (as a

form of instruction) that attempts to change, guide, or improve the students' ability to learn and potential for achievement (Daniel, M. H., 1997; Haywood, H. C. & Tzuriel, D., 2000; Shepard, L., 2000, cited in Nirmalakhandan, N., 2007).

Lantolf and Poehner (2004), in elaborating a theoretical framework for DA procedures, designate both types of mediation as interventionist and interactionist, respectively. One major feature is that the mediation between the learner and the teacher is negotiated, rather than established in advance (as cited in Thoësny, S., 2010). Almost all researchers working on DA have found that test performance improves after mediation through DA (Campion, J. C. and Brown, A., 1990; Elliot, J., 2003; Haywood, H. C. & Tzuriel, D., 2000). DA which embodies diagnostic monitoring and context-sensitive prompting and feedback has been found to be an effective approach to improve students' achievement. (Campione, J. C. and Brown, A.L., 1990).

Often, instruction as a delivery environment covering a broad range of skills, knowledge and strategies ends with the evaluation to produce scores that sum up learner's power of transmission of predictable knowledge (non-dynamic assessment). DA, however, is commonly viewed as an approach which provides a learning opportunity in the assessment and allows students, according to the concept of ZPD (Vygotsky, 1978), to potentially reach further than they can on their own, thus making the assessment *dynamic*. (Jönsson, A., Mattheos, N., Svingby, G., & Attström, R., 2007). Poehner (2008) points out that DA and NDA do not refer to instruments, but to administration procedures; thus, any assessment instrument can be used in a dynamic or non-dynamic way. In this way, DA provides the possibility to learn from the assessment, but also to assess the student's potential ("best performance"), rather than (or together with) his or her "typical performance" (Gipps, 2001).

This study adopts a pretest-intervention-posttest model of DA to promote learning in writing tasks. Using an interventionist approach, the researcher designed software which

provides students with a set of pre-formulated supportive hints during the test administration. Through the interactive and strategy-based learning environment, computerized-dynamic test of writing (CDTW) makes it possible for the teacher to assess potential level of students' writing development and their improvement of writing quality.

1.2 Statement of the Problem

It is assumed that much of the recent research does not take advantage of the power of this active procedural model for enhancing the process of writing in large-scale assessment .There are few studies which tried to introduce this new strand of assessment in writing instruction and assessment, for example, a case study has been done using the framework (or a process) for English writing instruction based on the principle of DA by Xiaoxiao, L.,& Yan, L., (2010) and a web-based application based on interventionist as well as interactionist approaches concentrated on the assessment of grammatical or lexical features of written language of learners of French by Thouësny, S. (2010).

Many learners experience difficulties mastering the process of writing for their high educational needs. Too often, their efforts typically result in the problem of underachievement in writing tasks because writing might be viewed as a complex problem-solving process and they often lack self-confidence in their writing abilities. They lack ideas, they cannot think of anything significant to write, they cannot activate the process of writing, they do not know how and what to write in English. In practice, they often become frustrated while writing and their writing is short, containing few ideas, little elaborations, inadequate content, and repetition.

A very good starting point in attempts to design the CDTW is the adoption of dynamic essence of process writing that facilitates the cognitive development. Studies to date indicate that the writing process is one effective way to teach students to be good writers. This study

concentrates on the application of a computer-based dynamic assessment (C-DA) for use in writing courses.

Adhering to interventionist approach to DA which is used in computer-based assessment and is well adapted to large-scale assessment and psychometric measures (Thoësny, s., 2010), learners are asked to self-modify their own written texts (independent performance) with different levels of assistance to progress towards their potential (dependent performance). Covering a repertoire of pre-planned strategies and hints, CDTW focuses on improvement of four major skills of the most challenging part of their writing: Outlining and organization, logical development and content, cohesion and coherence and style and quality of expression (derived from the results of pilot study of the same writing essays assessed in CDTW).

1.3 Significance of the Study

Following a recent study; computerized dynamic assessment of L2 reading (CDRT) (Pishghadam, R., Barabady, E. & Mehrikamrood, A., 2011), the present study was one of the first attempts in the domain of interventionist DA of writing essay which concentrates on learner's performance in learning situations at the level of assessment, applied in L2 instruction practices and second language learning. This experiment highlights the results and merits of using DA procedures in improving student's learning and achievement in line with other emergent research on DA.

The significance of the present study is grounded in the application of C-DA to construct tests with respect to pedagogical sense of "learn how to learn"; providing conditions conductive to learner's progress in writing. Major concern in design and development of this C-DA is minimizing continuing problems that impede learning and maximizing the quality of learner's performance through activating what they know and what they don't know (Haywood & Lidz, 2007) to use for the writing purpose.

It is commonly assumed that if the learner is able to produce a correct alternative with implicit assistance, therefore, the learner has already achieved "a degree of control over the educational object" (Lantolf, 2009, p. 360). Hence, as mentioned above, this critical principle of DA increases the degree of benefiting from assessment and provides a general direction to high quality education in terms of doing things differently to improve their under-developed skills and, according to Freeman (2001), to enhance their learning and abilities to transfer and to work independently and productively in other situations. This will help teachers to plan the best possible programs and to create effective additional materials responsive to each learner's need to success.

1.4 Research Questions

The purpose of this study was to answer the following questions:

Research Question 1: Does C-DA procedures in CDTW affect EFL writing of Iranian students with intermediate level of proficiency in English?

Research Question 2: What is the effect of C-DA procedures in CDTW on students' learning over time (in terms of development of four major writing skills areas focused in CDTW)?

Research Question 3: Would low achievers benefit more than high achievers from the implementation of CDTW?

Research Question 4: Do students have positive attitudes towards the effective role of C-DA procedures in learning of English?

1.5 Research Hypotheses

To find systematic answers to the above questions, the researcher proposed the following null hypotheses:

Null Hypothesis 1: There is no relationship between C-DA procedures in CDTW and students' writing tasks improvement compared with Non-DA.

Null Hypothesis 2: There is no significant improvement on students' learning development in four major writing skills focused in CDTW.

Null Hypothesis 3: The low achievers do not gain more progress in their scores in comparison to the high achievers through CDTW.

Null Hypothesis 4: Students do not have positive attitudes towards the effective role of C-DA procedures in learning of English.

1.6 Definition of the Key Words:

These definitions are provided for an understanding of the items and issues addressed in this study.

Dynamic Assessment (DA): It refers to an interactive assessment technique which provides the unity of assessment and instruction with the goal of learner development. DA is a procedure for simultaneously assessing and promoting development that takes account of the individual's (or group's) zone of proximal development (Poehner & Lantolf, 2003).

Zone of proximal development (ZPD)

Vygotsky's concept of ZPD (1986) is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Aljafreh & Lantolf, 1994 p. 468).

Interventionist dynamic assessment includes intervention from the examiner during the test procedures itself but it is a more formal and standardized approach. Examinees are given instruction item by item and if they cannot solve the item correctly, they are given pre-fabricated hints. (Ableeva, 2010, p. 10)

Static or non-dynamic assessment (NDA henceforth) is defined as an exam in which test items are presented to examinees either one at a time or all at once, and each examinee is asked to respond to these items successively, without feedback or intervention of any kind. At

some point in time after the administration of the test is over, each examinee typically receives the only feedback he or she will get: a report on a score or set of scores. (Sternberg & Grigorenko, 2002, p. vii)

1.7 Limitations of the Study

Due to lack of any standardized procedures for the implementation of DA to date (De Beer, M., 2006), its implementation is tedious, laborious and time-consuming. Additionally, designing and applying of C-DA is not an easy task. As one of the first DA studies of writing essays in Iran, this research project has certain limitations:

1. Any dynamic assessment that includes an element of intervention depends on the quality of mediation provided by the assessor (Birjandi, 2012). Results obtained in the present study reflect the students' learning potential in response to mediation provided during CDTW for four major subskills of writing: outlining and organization, logical development and content, cohesion and coherence, style and quality of expression (derived from the results of pilot study of the same writing essays assessed in CDTW). In this respect, it would be necessary to conduct a range of empirical studies with a different meditational style in order to reveal different pattern of learning abilities in problem areas of writing.

2. The time for intervention was limited. The treatment was conducted over four weeks, the collection of data ended when the learners began to show some improvements in writing tasks as confirmed in Figure 4.1. illustrating students' growth across tests (pretest, CDTW, posttest).

3. The preparation of hints was based on some guidelines of some writing books and in response to the errors students would make on the original non-dynamic test (one type writing task; cause-effect essay). Learner's needs and their preference of learning may be challenged by other types of writing tasks to explain the power of these DA-based instructional programs to develop students' writing learning.