The Role of Portfolio Assessment and Reflection on Process Writing

Ahmad Sharifi

University of Guilan

Jaleh Hassaskhah

University of Guilan

Bio Data:

Ahmad Sharifi received his M.A. in TEFL from Guilan University. His main area of interest is issues in assessment and testing. He is currently teaching undergraduate courses in Shahid Sattari Air University, Iran.

Dr. Jaleh Hassaskhah is a lecturer at the university of Guilan. She has presented many papers in different conferences. She also teaches undergraduate and postgraduate courses in the university of Guilan, Iran.
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Abstract

Language teaching and testing have always been highly interrelated in the sense that it's been impossible to work in either without taking the other into account. By the movement of language teaching in the direction of learner-centered approach, testing and assessment have begun to apply the same approach. However, it seems that applying a single test at the end of the course is still popular. Since any single measure seems incapable of estimating the diversity of skills, knowledge, processes, and strategies that combine to determine student progress, scholars have begun to incorporate alternative assessment techniques to yield more useful information about students' achievement and classroom instruction. One of these alternative assessment techniques is portfolio assessment. The present study has devoted itself to investigate the effect of using portfolio assessment technique and reflection activities on students' writings and process writing. This study, which followed the quasi-experimental design, was conducted in a class of 20 students at Shahid Sattari Air University of Iran.

During one semester, they took ten tests: five pretests, and five posttests. The portfolio-based teaching in the second half of the semester was introduced as the treatment. Also, a validated questionnaire was given to students to express their attitude to portfolio-based learning. A set of paired-sample *t* tests was run to compare the students' tests. Each pair of tests was compared to see how much progress they made over time. The level of significance in this study was .001 as a result of using repeated measurement and Bonferroni test. Based on the findings achieved in this study, the effectiveness of the treatment was confirmed. Further, the students' responses to questionnaire indicate that their attitude was positive to portfolio-based learning.

Keywords: Assessment, Portfolio, Portfolio Assessment, Writing Assessment, Formative Assessment, Summative Assessment, Reflection, Process Writing

Introduction

A study into the history of language teaching and pedagogy suggests that there has been a close interrelationship between language teaching and testing. This interrelationship has been so close that it has been impossible to work in either without taking the other into account (Farhady, Jafarpoor, & Birjandi, 1994). The conceptual framework guiding the development of curriculum and instruction practices in teaching of English as a second language (ESL) has undergone significant modification during the last fifteen years. This shift in pedagogical theory has resulted in the increasing use of student-centered communicative approaches in the classroom. These approaches include process writing, process reading, communicative competence, and whole language (Goodman, 1989; Heymsfeld, 1989) and are distinguished from prior practices by their focus on language function and meaning and the processes of learning.

  Proponents of process-oriented curricula and instruction concur that traditional assessment techniques are often incongruent with current ESL classroom practices. Standardized testing is seen as particularly antithetical to process learning and has been attacked vigorously not only in ESL, but throughout the field of education (Rothman, 1990; Shepard, 1989). Because

of the incompatibility of process learning and product assessment and the discrepancy between the information needed and the information derived through standardized testing, educators have begun to explore alternative forms of student assessment techniques, one of which is portfolio assessment. It is increasingly cited as a viable alternative to standardized testing (Wolf, 1989).

As language teaching has moved in the direction of learner-centered approach, testing and assessment have begun to incorporate the measures that reflect the type of tasks which are more learner-centered and authentic (Birenbaum, 1996). However, it seems that the current trend in some educational systems is that teachers provide students with a single test at the end of the course. Whereas standardized tests serve a purpose in education, they are neither infallible nor sufficient. Many educators like Flood and Lapp (1989) acknowledge that any "single score . . . almost always fails to accurately report student overall progress" (p. 509). A single measure seems incapable of estimating the diversity of skills, knowledge, processes, and strategies that combine to determine student progress. Therefore, the multifaceted nature of language proficiency makes it difficult for any single test to measure it (Genesee & Upshur, 1996).

To compensate for limitations associated with using standardized tests, professionals in ESL education often use a combination of formal and informal assessment techniques for monitoring student language development. One of the assessment techniques which represent the combined and integrated form of formal and informal assessment is portfolio assessment. What distinguishes assessment from testing is that assessment integrates instruction into itself in the sense that assessment is at the service of learning and measuring, but the area of testing can be characterized by a separation of instruction and testing activities, and by measuring products solely in the form of a single test (Wolf, Bixby, & Glen, 1991 p. 53).

The last two decades have also seen substantial growth in the use of reflection. Reflection is seen by many as a form of meta-cognition or "thinking about thinking" (Swartzendruber-

Putnam, 2000). English (1998) states, "Metacognitive ability is the determining factor that enables writers to adjust accordingly to varying task demands and contexts. It facilitates the selection, allocation of techniques, and strategies for successful task completion" (p.5). Although many scholars have made statements about the value of reflection (e.g. Swartzendruber-Putnam, 2000; English, 1998), Swain (2002) sums up the generally accepted benefits of reflection: "Reflection enables us to evaluate experience, learn from mistakes, repeat successes, revise, and plan" (p.12).

Research Questions and Hypotheses

The researcher intends to seek answers to the following questions:

1. Do reflective activities for the portfolio have any effect on the improvement of students' process writing?

2. Do reflective activities for the portfolio improve students' writing quality in terms of depth (It enables students to show quality work, which is done without pressure and time constraints, and with the help of resources, reference materials and collaboration with others.), breadth (A wide range of skills can be demonstrated.) and growth (It shows efforts to improve and develop, and demonstrates progress over time)?

3. Does portfolio assessment with its multiple perspectives on the student's performance contribute to the assessment process?

4. Do reflective activities for the portfolio have any effect on the student's growth over time, including the student's abilities, knowledge, skills, and attitudes?

The researcher has put forward the following hypotheses:

1. Reflective activities for the portfolio do not have any significant effect on the improvement of students' process writing.

2. Reflective activities for the portfolio do not have any specific effect on students' writing quality.

3. Portfolio assessment does not contribute to the assessment process.

4. Reflective activities for the portfolio do not have any significant effect on the student's growth over time, including the student's abilities, knowledge, skills, and attitudes.

Literature Review

Portfolio Assessment

The concept of portfolio assessment is not new. Portfolios originated with artists' collections of their works and have long been used to demonstrate competencies. In response to the need for alternative and more authentic assessment practices, portfolios have become a common alternative to the traditional assessment methods (Mayer & Tusin, 1999). Based on the constructivist theories, which advocate that learning has to be constructed by the learners themselves, rather than being imparted by the teachers, portfolio assessment requires students to provide selected evidence to show that learning relevant to the course objectives has taken place. They also have to justify the selected portfolio items with reference to the course objectives (Steffe & Gale, 1995).

Biggs (1996) holds that the preparation of an assessment portfolio is an active process involving collecting, synthesizing and organizing possible relevant items to provide the best evidence of achievement of the learning objectives; a process that demands ongoing assessment, reflection and justification. There is also the assumption that during the process of preparing an assessment portfolio, learning is enhanced as students are encouraged to reflect on their experience, identify learning needs and initiate further learning (Harris, Dolan, & Fairbairn, 2001). Such an assumption, however, should be supported with empirical evidence if the full potential of portfolio assessment is to be realized.

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Genesee and Upshur (1996) define portfolio as follows:

A portfolio is purposeful collection of students' work that demonstrates to the students and others their efforts, progress, and achievements in given areas. Student portfolios have been inspired by professionals such as photographers and architects as a means of keeping a record of their accomplishments to show to others. Second language portfolios can have a very specific focus, such as writing, or broad focus that includes example of all aspects of language development. Students should have their own portfolios, which can be a conventional file folder, a small cardboard box, a section of a file drawer, or some other such receptacle (p. 99).

They maintain that the value of portfolios is in the assessment of student achievement. They are particularly useful in this respect because they provide a continuous record of students' language development that can be shared with others. Genesee and Upshur clearly state that reviewing portfolio can increase the students' involvement in and ownership of their own learning. The positive effects of portfolios student learning arise from the opportunities they afford students to become actively involved in assessment and learning.

Theoretical Background of Portfolio Assessment

The underlying philosophy of this alternative approach to evaluation is that students are encouraged to become more autonomous and to take more responsibility for their work, including the evaluation of it. The following is what Yancey (1992) thinks of assessment:

Assessment is no longer seen as a process where one party submits his or her work to another with no influence on how the work is performed or interpreted because . . . all the parties are bona fide participants, and the person whose performance is being assessed is more than an object of someone else's perusal (p. 18).

Also Belanoff (1994) believes that portfolio assessment promotes participation and autonomy by allowing students to select the work on which they will be evaluated to reflect on their work to take control of revision and have the opportunity to produce substantive revision to be granted the time to grow as writers; to take risks with their writing, and to seek advice from peers. The result is that evaluation becomes a positive force to encourage growth, maturity, and independence, rather than a means of pointing out deficiencies.

Self-Assessment and Peer Assessment

A study into the literature will make it evident that self-assessment and portfolios are intertwined (Farr & Tone, 1994). It is impossible to find an article that mentions self assessment that does not do it in the context of discussing portfolio assessment. Portfolio assessment is the only methodology that responds directly to the goal of training students to assess their own success (ibid). It incorporates collecting and reviewing artifacts, understanding progress through record keeping, documenting interests and preferences, conferencing with teacher and peers. It also combines instruction with assessment that allows for self-reflection and self-evaluation.

Students can become better language learners when they engage in deliberate thought about what they are learning and how they are learning it. In this kind of reflection, students step back from the learning process to think about their language learning strategies and their progress as language learners. Such self assessment encourages students to become independent learners and can increase their motivation (McMullan, 2006).

Crooks (2001) also maintains that self-assessment provides students with the opportunity to understand the grading system. They can eliminate the controversy regarding subjective grading and gain ownership in their learning process. When students are involved with self-assessment, they are better able to work with other students, exchange ideas, get assistance when needed, and be more involved in cooperative and collaborative language-learning

activities. As these students go about learning, they begin to construct meaning, revise their understanding, and share meanings with others.

The benefits of incorporating peer assessment into the regular assessment procedures have been discussed in a number of studies. Peer assessment is believed to enable learners to develop abilities and skills denied to them in a learning environment in which the teacher alone assesses their work. In other words, it provides learners with the opportunity to take responsibility for analyzing, monitoring and evaluating aspects of both the learning process and product of their peers. Research studies examining this mode of assessment have revealed that it can work towards developing students' higher order reasoning and higher level cognitive thought , helping to nurture student-centered learning among undergraduate learners, encouraging active and flexible learning and facilitating a deep approach to learning rather than a surface approach (Gibbs, 1992). Peer assessment can act as a socializing force and enhances relevant skills and interpersonal relationships between learner groups.

Reflection and Portfolio

Despite the prevalence of a constructivist and "dialogic" pedagogy used by many writing teachers, little has been written explicitly on the role of reflection in the writing classroom. In the preface to "Dialogic Classroom", Galin and Latchow (1998) identify three things that must happen for the successful establishment of a "Dialogic Classroom", the third being reflection (cited in Crooks, 2001).

Gallagher (2001) also maintains that reflection is a major component of portfolios as it helps students to learn from experience and practice, thereby helping them to bridge the theory-practice gap. He says through the reflective process students are able to identify gaps in knowledge and/or skills and competence, but also to reconfirm and document strengths, skills and knowledge.

Studies on Portfolio Assessment and Reflection

Although there have been a good number of studies on the alternative assessments, there seems to be little research related to the effect of it along with reflection, which was employed in the current study. It appears that due to practicality and time issues, this technique has been neglected in studies on alternative assessment. However, some research has been done on reflection. Two experimental studies conducted by Fontana and Fernandes (1994), and Frederikson and White (1997) have shown that students who have opportunities to reflect on their work and self-assess themselves show greater improvement than those who do not. Other studies done by Mccurdy and Shapiro (1992), Sawer, Graham and Harris (1992) also show performance gains related to reflection and self-assessment.

Methodology

Participants

This study was conducted with 20 intermediate-level male students at Shahid Sattari Air University. They were in the age range of 22 to 28 with different cultural background. As far as the writing instruction is concerned, they had already had some informal lessons on paragraph writing. Actually, due to the practical problems, no random selection procedure was made. During the semester, the researcher administered 10 tests after teaching a particular writing lesson which served as five pretests and five posttests.

Instruments

According to the purpose of the study, a number of instruments for collecting the relevant data were used. The writing tests, the instructional material used in the treatment sessions, assessment and rating checklists. They are presented and explained below.

Writing Tests

As Raimes (1983) suggests, in the process approach, students are trained to generate ideas for writing, think of the purpose and audience, and write multiple drafts in order to present written products that communicate their own ideas. This approach was also selected since portfolio assessment and process writing are considered to be natural partners, and that both show effort and development very clearly. The topic of the test was chosen based on the topics of some IELTS books.

Writing Test Scoring Criteria

Of the common scoring method, analytic method is the most objective and valid one (Farhady, et al., 1994) in that the learners writing components, which are content, organization, accuracy, and complexity, are scored based on criteria, and the mean score is considered the final score. In this study, the Weigle's (2004) essay scoring criteria was used to score the students' essays (See Appendix A). In this scale, composition profile is used to score the students' performance on writing components. Each paper is rated on these components. Two qualified raters, who were trained at Iran Language Institute, scored the papers, and the results were analyzed to estimate the inter-rater reliability.

Instructional Material

As the focus of the study was on the written performance of the learners, the researcher tailored some materials from related books like *Academic Writing Course* (Jordan, 1999), and *The Longman Handbook for Writers and Readers* (Anson & Schwegler, 1998). The researcher used these materials for the writing package to teach in the class. The researcher developed a writing package which consisted of eighteen writing lessons. These lesson, which were basically based on Anson and Schwegler

(1998), had the following main sections: Part 1: writing and reading; Part 2: revising and shaping writing; and Part 3, editing and proofreading. Some model paragraphs were also extracted and incorporated into the package. Different grammatical points, basics of paragraph writing, essay writing, and so forth were among the writing tips dealt with in the package.

Assessment and Rating Checklists

In addition to the above-mentioned instruments, the following assessment tools were also employed by the researcher in this study:

- Self/peer assessment with rating scales

- Checklist with criteria (such as: clear presentation, relevant vocabulary, correct spelling), depending on the task

- Guided reflection on the task

These criteria were used to make the students' portfolio-based teaching more objective. Students needed to familiarize themselves with the types of analytical questions which they might need to answer in order to organize their portfolio. The questions were: What work am I most proud of? What are my goals? How are my language goals changing over time? When do I know I've done good work? What does my portfolio reveal about me and my learning style?

Questionnaire

An already validated questionnaire was given to students to express their attitude to portfolio-based teaching and reflective activities. This questionnaire, which was adopted from McMullan (2006), has three parts: questions about personal and professional development; general statements; and portfolio effectiveness.

Design of the Study

The design used for this study is both quantitative and qualitative in nature. It is quantitative in that a quasi-experimental design has been adopted. Also the students' performances on writing have been described in terms of organization, content, accuracy, and complexity. Their performances were checked using repeated measure statistical technique to see the amount of students' improvement over the period of time.

The design is also qualitative in that students' growth over time has been described through the portfolio they have prepared. There have been some criteria students had to meet in their portfolio, which will be discussed later. Also, a validated questionnaire was given to students to express their attitude to portfolio-based teaching and reflective activities.

Procedure

On the first day of the course, as the researcher talked through the syllabus, he introduced students to the portfolio project. He explained that they would talk about the portfolio shortly after midterm. The researcher told them that focusing on the writing tasks at hand would be more than adequately preparing them for the project and that it was crucial that they keep everything they write in a folder. Although it was important for students to know about the portfolio project from the outset, the researcher deferred discussing the portfolio any further at that time because he didn't want the portfolio to become an end product towards which students were self-consciously aiming their efforts for a grade. Up to the half of the semester, the researcher administered five pretests before giving treatment. These pretests were accompanied by teaching essay writing without requiring students to keep portfolio and do reflective activities.

In the second half of the semester, he provided students with a handout that explained the portfolio and told them why he was asking them to do it. Then, he made the objectives of the

course as explicit as possible. To prepare students for this project, the researcher asked them frequently throughout the term to answer questions about their writing, to reflect on each others' writing, and to characterize their own writing and writing processes in terms of what they saw others doing. In addition, he designed writing assignments that asked students to think about the issue. Finally, the students took the tests along with their treatment. Like the pretests, these tests were scored by two raters the mean of which was considered the final score. The reason students took these tests in the order mentioned is that the researcher intended to see the students' growth in process writing over the period of time.

Data Collection and Analysis Procedures

Portfolios are collections of relevant work that reflect students' individual efforts, development, and progress over a designated period of time and can provide students, teachers, parents, and administrators with a broad picture of each student's growth over time. To do so, the following were considered for inclusion of data:

1. Cover Letter "About the author" and "What my portfolio shows about my progress as a learner" (written at the end, but put at the beginning). The cover letter summarizes the evidence of a student's learning and progress.

2. Table of Contents with numbered pages.

3. Entries - both core (items students have to include) and optional (items of student's choice). The core elements will be required for each student and will provide a common base from which to make decisions on assessment. The optional items will allow the folder to represent the uniqueness of each student. Students can choose to include "best" pieces of work, but also a piece of work which gave trouble or one that was less successful, and give reasons why.

4. Dates on all entries, to facilitate proof of growth over time.

5. Drafts of written products and revised versions; that is, first drafts and corrected/revised versions.

6. Reflections appeared at different stages in the learning process (for formative and summative purposes or both).

Besides these procedures, which were used for the qualitative part of the study, the students' scores on pretests and posttests were used to be analyzed through the statistical procedure of paired *t* test. Further, a validated questionnaire was given to students to express their attitude to portfolio-based teaching and reflective activities.

Result

For the quantative part of the study, the researcher used the paired-sample *t* test and time series to see if the application of reflection through portfolio had any effect on the students' writing. Before that, the researcher administered five pre-tests before giving treatment. These pretests, which were administered every week, were accompanied by teaching essay writing without requiring students to keep portfolio and do reflective activities. The students were given treatment along with an administration of five post-tests. To see the students' possible improvement, every two tests were compared. The level of significance set in this study is .001. The reason for this is that *t* test is used for two comparisons only, and because there were 10 comparisons in this study (i.e. Pretest 1 with Pretest 2, Pretest 2 with Pretest 3, etc), the new level of significance was set as a result of applying Bonferroni test, having the previous level of significance divided by the number of comparisons: $.01/10 = .001$

The following is the description of the data gained by paired sample *t* test.

Table 1 Paired-Sample *t* Test for the Students' Pretest 1 and Pretest 2

	Paired Differences	T	df	Sig. (2-

		Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				tailed)
	Mean			Lower	Upper			
Pair 1 pretest1 - pretest2	-.04250	.10036	.02244	-.08947	.00447	-1.894	19	.074

Paired Samples Statistics

Std. Error Mean	Std. Deviation	N	Mean	
.21863	.97776	20	5.9875	pretest1 Pair 1
.21384	.95634	20	6.0300	pretest2

Paired Samples Correlations

Sig.	Correlation	N	
.000	.995	20	pretest1 & pretest2 Pair 1

As shown in the table, there is not any significant difference between students' scores on the first and second pretests. The students' mean score moved from 5.98 on pretest 1 to 6.03 on pretest 2.

Table 2 Paired-Sample *t* Test for the Students' Pretest 2 and Pretest 3

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1 pretest2 - pretest3		-.07500	.10822	.02420	-.12565	-.02435	-3.099	19	.006

Paired Samples Statistics

Std. Error Mean	Std. Deviation	N	Mean	
.21384	.95634	20	6.0300	pretest2 Pair 1
.20979	.93821	20	6.1050	pretest3

Paired Samples Correlations

Sig.	Correlation	N	
.000	.994	20	pretest2 & pretest3 Pair 1

Table 2 indicates that there isn't any significant difference between students' Pretest 2 and Pretest 3. There is an improvement in the students' scores, moving form the mean score of 6.03 on Pretest 2 to 6.10 on Pretest 3.

Table 3 Paired-Sample *t* Test for the Students' Pretest 3 and Pretest 4

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 pretest3 - pretest4	-.01750	.11502	.02572	-.07133	.03633	-.680	19	.504

Paired Samples Statistics

Std. Error Mean	Std. Deviation	N	Mean	
.20979	.93821	20	6.1050	pretest3 Pair 1
.19946	.89199	20	6.1225	pretest4

Paired Samples Correlations

Sig.	Correlation	N	
.000	.993	20	pretest3 & pretest4 Pair 1

As seen in table 3, there isn't any significant difference between students' scores on Pretest 3 and Pretest 4. There was a slight improvement 9 (only .02) on students mean score, moving from 6.10 on Pretest 3 to 6.12 on Pretest 4.

Table 4 Paired-Sample *t* Test for the Students' Pretest 4 and Pretest 5

		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pretest 4 pretest 5	-.03250	.09904	.02215	-.07885	.01385	-1.468	19	.159

Paired Samples Statistics

Std. Error	Std. Deviation	N	Mean	

Mean				
.19946	.89199	20	6.1225	pretest4 Pair 1
.20297	.90770	20	6.1550	pretest5

Paired Samples Correlations

Sig.	Correlation	N	
.000	.994	20	pretest4 & pretest5 Pair 1

Table 4 suggests that there isn't any significant difference between students' scores on pretests 4 and 5. The improvement on these tests is also slight. The mean score just moved from 6.12 to 6.15 on Pretest 5.

Table 5 Paired sample *t* Test for the Students' Pretest 5 and Posttest 1

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 pretest5 posttest1	.28250	.20537	.04592	-.37862	-.18638	6.152	1 9	.000

Paired Samples Statistics

Std. Error Mean	Std. Deviation	N	Mean	
.20297	.90770	20	6.1550	pretest5 Pair 1
.18031	.80637	20	6.4375	posttest1

Sig.	Correlation	N	
.000	.978	20	pretest5 & Pair 1 posttest1

As seen above, there is a significant difference between Pretest 5 and Posttest 1. The students' improvement is from the mean score of 6.15 on Pretest 5 to 6.43 on Posttest 1. This result implies that the students' improvement might be due to the treatment given.

Table 6 Paired-Sample *t* test for the Students' Posttes1 and Posttest 2

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 posttest 1 posttest 2	.28750	.34254	.07659	-.44781	-.12719	3.754	19	.001

Paired Samples Statistics

Std. Error Mean	Std. Deviation	N	Mean	
.18031	.80637	20	6.4375	posttest1 Pair 1
.18777	.83972	20	6.7250	posttest2

Paired Samples Correlations

Sig.	Correlation	N	
.000	.914	20	posttest1 & posttest2 Pair 1

As illustrated in table 6, there is a significant difference between the performance of students on Posttest 1 and 2. This result implies that the students' performance improves as time goes on; in other words, the students' improvement growth over time is significantly different.

Table 7 Paired-Sample *t* Test for the Students' Posttest 2 and Posttest 3

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 postets2 postest3	.12000	.37781	.08448	-.29682	.05682	1.420	19	.172

Paired Samples Statistics

Std. Error Mean	Std. Deviation	N	Mean	
.18777	.83972	20	6.7250	postets2 Pair 1
.21070	.94227	20	6.8450	postest3

Paired Samples Correlations

Sig.	Correlation	N	
.000	.916	20	postets2 & postest3 Pair 1

Unlike Posttest 2, Posttest 3 doesn't show any significantly different improvement. Though there is an evidence of improvement, it's not significantly different. The mean score has moved from 6.72 on Posttest 2 to 6.84 on Posttest 3.

Table 8 Paired-Sample *t* Test for the Students' Posttest 3 and Posttest 4

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	posttest3 - posttest4	-.19500	.29509	.06598	-.33311	-.05689	2.955	19	.008

Paired Samples Statistics

Std. Error Mean	Std. Deviation	N	Mean	
.21070	.94227	20	6.8450	posttest3 Pair 1
.22886	1.02349	20	7.0400	posttest4

Paired Samples Correlations

Sig.	Correlation	N	

.000	.958	20	posttest3 & posttest4 Pair 1

Table 8 supports improvement in the students' performance on Posttest 4 compared to Posttest 3, though not significantly at p < 001 value. This table also implies that the students' improvement in performance over time is significantly different.

Table 9 Paired-Sample *t* Test for the Students' Posttest 4 and Posttest 5

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	postets4 postest5	.17500	.21244	.04750	-.27443	-.07557	3.684	19	.001

Paired Samples Statistics

Std. Error Mean	Std. Deviation	N	Mean	
.22886	1.02349	20	7.0400	postets4 Pair 1
.24720	1.10550	20	7.2150	postest5

Paired Samples Correlations

Sig.	Correlation	N	
.000	.983	20	postets4 & postest5 Pair 1

And finally, table 9 also illustrates that Posttests 4 and 5 are also significantly different. This is another evidence of students' improvement over the period of experiment. The students' growth over time is also shown through the following diagram.

Graph 1 The Students' Growth Over Time
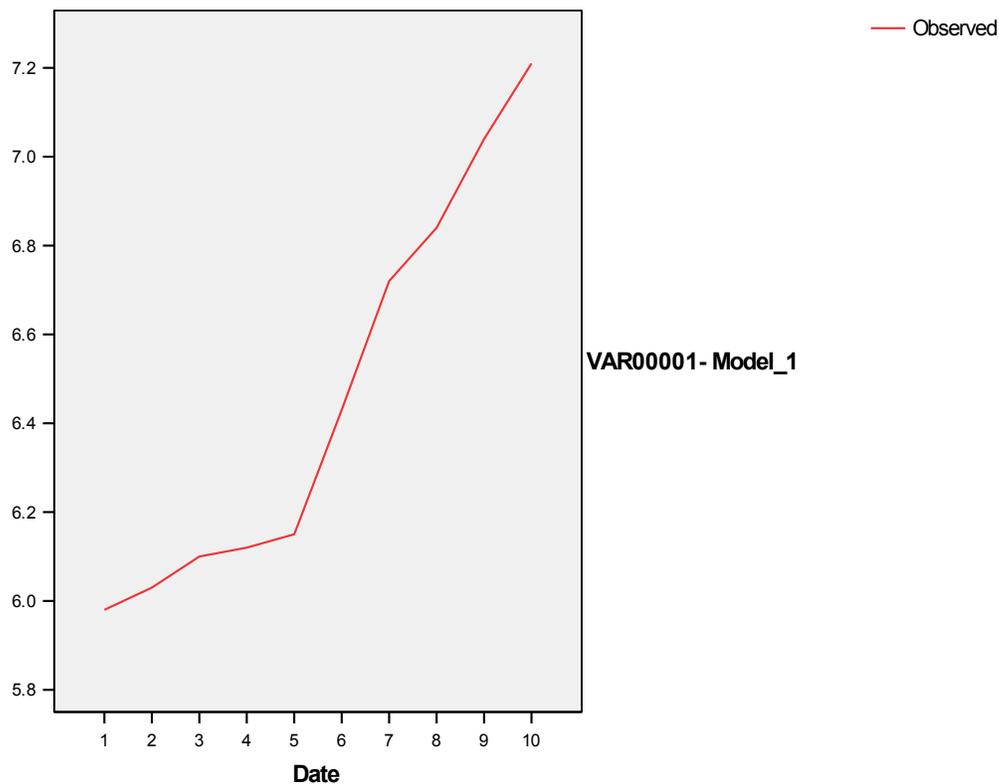
A

As shown in the diagram above, there was a gradual improvement from the mean score of 5.98 to 6.15 before they received the treatment. The improvement turned out to be significant by the time they received treatment, moving from the mean score of 6.43 on the first posttest to 7.21 on the last one.

As a result of the data analysis run above, it can be concluded that due to the treatment effect, the experimental group outperformed the control group. Therefore, the null hypotheses 1 and 2 are rejected.

Qualitative Studies

Students' Reflective Letter and Course Objectives

White (2005) put forth a new method of scoring called "Phase 2 Scoring ". This method requires that two documents be developed as part of assessment: first, a set of goals set by faculty or teacher for the particular course, program, or purpose for which the portfolio is submitted; the second one is a reflective letter to readers composed by the students showing that those goals have been met. This reflective letter allows the students to evaluate the course in terms of their own experience of it. Phase 2 scoring is highly dependent on the reflective letter. It is used as evidence that the goals have been met. It is now possible to give a reliable and reasonably quick reading to the portfolios in hand. In this part students' portfolios are discussed through reflective letters.

The course objectives we have provided students with were adopted from White (2005). The course objectives were divided into three main parts: goals of rhetorical knowledge; goals of process writing; and goals of conventions. The table below shows the percentage of achievement in each goal by students, which suggests students made a big achievement in portfolio program.

Table 10. The Percentage of Achievement in Each Goal by Students

Rhetorical knowledge	Process writing	Conventions
86%	94%	87%

Table 10 suggests that 94% of the students had writing portfolio with brainstorming, draft papers, revised papers, peer revision and self revision, and the final draft. The students' portfolio suggests the students had a great improvement in process writing. With the

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quantative and qualitative data gathered, we can conclude that the treatment was effective. Therefore, null Hypotheses 1, 2, and 4 are rejected. Hypothesis 3 is also rejected since the students' portfolio helped the researcher have a greater view of students' improvement and assess their achievement more effectively.

Questionnaire

An already validated questionnaire was given to students to express their attitude to portfolio-based teaching and reflective activities. This questionnaire, which was adopted from McMullan (2006), has three parts: questions about personal and professional development, general statements, and portfolio effectiveness. Each is discussed below.

The analysis of the questionnaire shows that 89% of students agreed or strongly agreed portfolios helped them to take responsibility for their own professional development, and 78% agreed or strongly agreed that portfolios enhanced their reflective skills. Also 75% felt that portfolios helped them to become aware of their strengths and weaknesses, and that they helped them to become independent learners (77% agreed or strongly agreed). Even more students (80%) felt that portfolio helped to promote critical thinking, and more than this (81%) felt that portfolio helped them to improve their self-esteem. students felt that portfolios took a great deal of time to complete (73% agreed/strongly agreed) and caused them much anxiety (64% agreed/strongly agreed). On the other hand, 75% of the students felt they had good reflective writing skills. Table 4.4.2.2 shows that students felt that portfolios took a great deal of time to complete (73% agreed/strongly agreed) and caused them much anxiety (64% agreed/strongly agreed). On the other hand, 75% of the students felt they had good reflective writing skills. 80% of respondents agreed or strongly agreed that they liked the portfolio as an assessment tool, and 81% agreed or strongly agreed that they liked the portfolio as a developmental learning tool.

When respondents were asked how effective they felt portfolios were, the majority said they were very effective. 72% felt that portfolios were very effective in helping them to learn from practice, and 59% felt that they helped them to be prepared for practice. When it came to the effectiveness of portfolios in assessing learning and competence, 66% felt that portfolios were very effective in assessing learning and 54% in assessing competence.

Discussion

As stated in the literature, portfolio encourages students to enhance their reflective skills (Grant & Dornan, 2001) and help them become aware of their strengths and weaknesses (Priest & Roberts, 1998). They help students to take responsibility for their own professional development and promote critical thinking (Wenzel et al., 1998). In addition, they help students to develop independent learning and increase their feelings of self-esteem and confidence (Harris et al., 2001). In this study also, they did help students to enhance their reflective skills and to develop a sense of responsibility for their own professional development. A possible reason why students in this study reported that portfolios helped them enhance their reflective skills and their critical thinking skills could be due to the amount of support and guidance students felt they received with their portfolio use. If students do not receive ongoing support and guidance and regular feedback sessions on how to use the portfolio and on how to reflect, their reflective skills will remain shallow and the deeper critical thinking skills will not develop sufficiently.

Implication of the Study

In general, the results of this study have five main implications for syllabus designers, materials developers, and language teachers. First, this study may be helpful to syllabus

designers because they can gain insights from the results of this study that in designing a syllabus, flexibility should be emphasized, because only in that case the students can be expected to actively participate in the teaching process. Portfolio assessment plays a significant role in incorporating the learner's suggestions and opinions into decision making and the instructors' opinions. This study has shown that such an approach is helpful. So syllabus designers should also consider and value learners' rights to formulate their own decisions, suggestions, and criticism while designing syllabuses. Therefore, the findings of this study suggest that language syllabuses should be flexible and consider the learner's participation in decision making.

Second, the study can also be useful for materials developers. That is, they should consider the learner's own performances and for the possibility of manipulating material if learners are more likely to make progress that way.

Third, language teachers can also benefit from the results of this study. This study may give language teachers the insight that incorporating formative assessment into the classes helps both the teachers and the students identify their own strengths and weaknesses and provide modification where and when needed. Moreover, the implication that can be drawn is likely to provide language teachers with insightful guidelines to conduct portfolio assessment while teaching language skills and components in their own classes. In short, the results imply that helping learners to develop the habits of self-assessment and critical, reflective thinking and providing them with feedback in their learning are effective techniques to be incorporated into the writing classes.

Fourth, the findings of this study might be applicable to the assessment of all language skills including listening comprehension, speaking ability, and to the assessment of language components such as pronunciation, vocabulary, and grammar. However, many investigations are still needed to support this implication.

Fifth, this study may also have implications for assessing the progress of the students of

translation. Mastery of different structures of both the foreign language and the native language and different semantic relationships of both languages in the process of converting one language into the other can be continuously checked through the use of portfolio assessment. Strengths and weaknesses in different parts and at different stages can be identified through the student's involvement in self-evaluation and reflection on their own work in the process of dairy-keeping and portfolio assessment.

   To this end, the findings of this study may be applied to all educational fields and in all educational settings where the aim is to raise student's consciousness and awareness of their own learning strategies and to help them develop some kind of criticality and reflectivity towards what and how they are taught and how they learn. Particularly, this study may pave the way for teachers to help their students proceed towards meaningful learning away from resorting to memorization which is an inadequate technique at present.

Suggestions for Further Research

This study was conducted to university-level students. It can be fruitful if other research on the same issue is extended to pre-university level students such as high school students.

   This study was conducted to investigate the effect of portfolio assessment and reflection on writing process. It can be a good idea for the interested researchers to investigate the effect of using portfolio and reflection on the improvement of other language skills such as listening, speaking, and sub skills such as grammar and vocabulary.

   Because the students in this study were all male, a further area for research can be to investigate the relationship between gender and portfolio and self assessment to check the possible difference between male and female students' performances.

   Research can also be conducted as to the effectiveness of faculty training and participation in the portfolio process and specific components of the mentoring process. The quality of the mentoring that faculty provide to their students should also be investigated.

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Appendix A: Essay scoring criteria, adapted form S.C Weigle (2004), Assessing Writing, 9 (27-55)

Rhetoric: Content	Rhetoric: Organization	Language: Accuracy	Language: Range and complexity
9-10	**9-10**	**9-10**	**9-10**
The treatment of the assignment completely fulfills the task expectations and the topic is addressed.	Clear and appropriate organization plan.	The essay is clearly written with few errors; errors do not interfere with comprehension .	The essay uses a variety of sentence types accurately.
Fully developed range evidence for generalizations and supporting ideas is provided in a relevant and credible way.	Effective introduction and conclusion.	Includes consistently accurate word forms and verb tenses.	Uses a wide range of academic vocabulary.
Uses ideas from source text well to support thesis.	Connections between and within paragraphs are made through effective and varied use of transition and other cohesive devices.	Word choices are accurate and appropriate.	Source text language is used sparingly and accurately incorporated into writer's own words.
7-8	**7-8**	**7-8**	**7-8**
The treatment of the assignment fulfills the task expectations completely and the topic is addressed clearly.	Clear organization plan	The essay is clearly written but contains some errors which do not interfere with comprehension.	The essay uses a variety of sentence types.
Evidence for generalizations and supporting ideas is provided in a relevant and credible way.	Satisfactory introduction and conclusion	The essay may contain some errors in word choice, word form, verb tenses, and comprehension.	Good range of vocabulary used with at most a few lapses in register.
Ideas from source text used to support thesis.	Satisfactory connections between and within paragraphs using transitions and other cohesive devices.	-- ----------	Some language from the source text may be present but is generally well incorporated into writer's own words.
5-6	**5-6**	**5-6**	**5-6**
The treatment of the assignment minimally fulfills the task expectations; some of the task may be slighted.	Adequate but simplistic organizational plan	Is generally comprehensible but contains some errors that distract the reader; at most a few errors interfere with comprehension.	Somewhat limited range of sentence types; may avoid complex structures.
Some evidence for generalizations and supporting ideas is provided	Introduction and conclusion present but may be brief.	The essay may contain some errors in word choice, word form, verb tenses, and comprehension.	Somewhat limited range of vocabulary
Ideas from source text are included but may not be explicitly acknowledged as	connections between and within	-- ------------------------------------	May include extensive language from source texts with an attempt to

such.	paragraphs occasionally missing		incorporate text own language
3-4	**3-4**	**3-4**	**3-4**
The treatment of the assignment only partially fulfills the task expectations and the topic is not always addressed clearly.	Organization plan hard to follow	Contain many errors; some errors may interfere with comprehension.	Uses a limited number of sentence types.
Evidence for generalizations limited, and supporting ideas is insufficient and irrelevant.	Introduction and conclusion may be missing or inadequate.	Includes many errors in word choice, word form, verb tenses, and complementation.	------------------------------ ------------------------------
May not include ideas from source text, or may consist primarily of ideas from source text without	connections between and within paragraphs frequently missing	--- ---------	Extensive use of source text language with little integration with writer's words.
1-2	**1-2**	**1-2**	**1-2**
The treatment of the assignment fails to fulfill the task expectations and the paper lacks writing.	No apparent organization plan	Contain numerous errors that interfere with comprehension	Use simplistic and repetitive vocabulary that may not be appropriate for academic focus.
Evidence for generalizations and supporting ideas is insufficient and irrelevant.	Introduction and conclusion missing or clearly inappropriate.	Includes many errors in word choice, word form, verb tenses, and complementation.	Does not vary sentence types sufficiently.
--- ---------	Few connections between and within paragraphs	--- ---------	May rely almost exclusively on source text language