

## The effect of e-portfolio assessment on EFL vocabulary learning and retention

Nava Nourdad\* and Mohammad Amin Banagozar

English Department, Persian Literature and Foreign Languages Faculty, University of Tabriz, Tabriz, Iran

### ABSTRACT

Vocabulary is one of the main components in learning a new language which provides the ground for language learners to learn and use the language. In this regard e-portfolio, as a recent and novel assessment technique, can have the potential for vocabulary development. This study aimed at investigating the effect of portfolio assessment on Iranian EFL guidance school learners' vocabulary learning and retention. To this end, 92 guidance school students in the seventh, eighth, and ninth grades, were selected as the participants of the study. They were randomly assigned into two experimental and control groups. While the control group followed the conventional class quizzes the experimental group practiced e-portfolio assessment. The participants in the experimental group were asked to create their e-portfolios and keep a record of what they learned during and after the online sessions. They were also asked to include the reflection sheets in their e-portfolios. Three parallel tests as a pre-test, an immediate post-test, and a delayed post-post were used to gather data about the effect of portfolio assessment in each grade (a total of nine tests). The results of a one-way ANCOVA revealed that the participants of the experimental group outperformed the participants of the control group in terms of EFL vocabulary learning and retention. Considering the outcomes, the study presents some implications for practitioners including language teachers, curriculum and course developers, and language learners.

**Keywords:** EFL vocabulary; e-portfolio; portfolio assessment; vocabulary learning; vocabulary retention

**First Received:**

29 June 2021

**Revised:**

25 July 2022

**Accepted:**

20 September 2022

**Final Proof Received:**

27 September 2022

**Published:**

30 September 2022

### How to cite (in APA style):

Nourdad, N. & Banagozar, M. A. (2022). The effect of e-portfolio assessment on EFL vocabulary learning and retention. *Indonesian Journal of Applied Linguistics*, 12(2), 466-475. <https://doi.org/10.17509/ijal.v12i2.44232>

### INTRODUCTION

Vocabulary plays a more pivotal role in communication than other language components (Chastain, 1998) because the knowledge of words is directly related to communicative competence and the development of a second language (Schmitt, 2000). Knowledge of vocabulary enables learners to use language and on the contrary, language use results in an increase in vocabulary knowledge (Nation, 2001). Many researchers and linguists have referred to the significance of vocabulary knowledge in their studies (Hindman et al., 2008; Laufer & Nation, 1999; Maximo & Sadowki, 2008; Nation, 2008; Read, 2000).

On the other hand, one of the primary features of any language program is assessment. In the past, the assessment was more considered a way of testing and grading the processes which were often summative such as final exams. Hence learners were informed simply and merely of their scores, usually left with no or little information about their real performance in the classroom. Nevertheless, new ways of assessing learners' performance have been introduced and developed recently, which focus more on informing learners about their knowledge and performance. These new ways of assessment are called alternative or authentic assessments.

\* Corresponding Author  
Email: [nourdad@tabrizu.ac.ir](mailto:nourdad@tabrizu.ac.ir)

Focusing simultaneously on the process and product of learning alternative assessments require learners to create, do or produce something in authentic contexts while being assessed according to that performance (Brown & Abeywickrama, 2019). Recently, in response to the shortcomings of traditional assessment, different kinds of alternative assessments such as portfolios, journals, interviews, observations, self-assessments, and peer assessments have been used. Among all the alternatives in assessment, portfolio and e-portfolio assessment have gained considerable attention and popularity among teachers, course developers, and other stakeholders.

As Moya and O'Malley (1994, p. 2) mention, "a portfolio is a collection of student's work, experiences, exhibitions, self-ratings", while "portfolio assessment is the procedure used to plan, collect and analyze the multiple sources of data exist in the portfolio" (p. 2). Different kinds of portfolios have been introduced and used in educational contexts. The typical paper-based portfolios focusing on the outcomes seem to be the most applied one; however, e-portfolio is the most recent and novel technique with immense potential.

An e-portfolio is defined as "a digitized collection of artifacts including demonstrations, resources, and accomplishments that represent an individual, group, or institution" (Lorenzo & Ittelson, 2005, p. 2) which reflects "accomplishments and learning" and proves "an individual's learning and additionally capacity" (Gray, 2008, pp. 6-7). The key features in the definition of an e-portfolio are "being digital, organized, searchable, and transportable" (Yastibas & Yastibas, 2015, p. 5).

E-portfolios as one of the main developments of technology in education help learners gather their work in an organized, accessible, and transferrable way (Rhodes, 2011). They improve both the learners' development and their active roles in learning (Goldsmith, 2007). E-portfolios improve learners' understanding and awareness of the learning processes and help recognition of the idea that learning has to also occur outside of the classroom, which can promote their autonomy (Gonzalez, 2009). E-portfolios demand learners to carry out some self-evaluation. Therefore, they provide learners with helpful and guiding feedback (Reese & Levy, 2009). They improve the reflection of learners by helping them understand the development they have had and record the "evidence of their capacity for critical thinking, analytic reasoning, and integrative learning" (Rhodes, 2011, p. 5).

Teachers and course developers of language programs have utilized portfolios and e-portfolios in various academic contexts. Researchers have also paid particular attention to these two assessment techniques in recent years (e.g., Afrianto, 2017;

Barrot, 2021; Gan & Lam, 2020; Halim & Lestari, 2019; Hyland & Hyland 2019; Ismailov & Laurier, 2021; Kusuma, et al., 2021; Lam, 2018; Lam, 2019; Mphahlele, 2022; Ngui, et al., 2020). Therefore, there are a number of empirical studies on the effect of portfolio in general and e-portfolio in particular on vocabulary learning. Berimani and Mohammadi (2013), and Nassirdoost and Mall-Amiri (2015) found the positive effect of the portfolio on vocabulary learning of EFL learners. Further, Zarei and Baftani (2014) compared the effects of different techniques of vocabulary portfolio including word map, word wizard, concept wheel, visual thesaurus, and word rose on L2 vocabulary comprehension and production. The findings revealed no significant differences among them in the vocabulary production rate of the learners. Sharifi et al. (2017) found the positive effect of e-portfolio on the vocabulary learning of their EFL participants. Their findings reflected that the e-portfolio motivated the learners to learn new vocabulary items because the participants reported that they enjoyed keeping the e-portfolio and benefited from integrating technology with their educational activities. Their study does not follow up on the retention of the developed vocabulary items, but the authors share some practical guidelines on having e-portfolios in the EFL curriculum.

It seems that EFL learners in Iran sometimes face difficulties in using appropriate and sufficient lexical items in different situations. This problem is usually worse among Iranian EFL school students. This can be due to several reasons but following old and traditional ways and methods of teaching and assessing seems to be the biggest one. English language instruction in Iranian schools is a permanent object of criticism, and most of the stakeholders of education, including teachers, students, and even parents are dissatisfied with the nature and quality of the English language teaching-learning process in schools, which is under the influence of traditional methods and approaches. Following the present curriculum, which gives little or no attention to the real performance of learners and often leaves them with no information or guidance about how to use what they learn, can demotivate them and lead to an ultimate disappointment which, in turn, may slow or stop their language development. Therefore, it is time to practice new and confirmed ways of fostering and assessing learners' performance and development. Portfolio assessment seems to be one of the most popular and effective techniques in this regard. It should be mentioned that no studies (up to this date) were found to investigate the effect of e-portfolio assessment on vocabulary learning and retention of Iranian EFL learners in the context of school. Therefore, the present study will be carried out to investigate this potential effect. Based on the intentions of this study and the problems mentioned,

the following questions and hypotheses are presented:

RQ1: Does e-portfolio assessment have any significant effect on EFL vocabulary learning of Iranian guidance school students?

RQ2: Does e-portfolio assessment have any significant effect on EFL vocabulary retention of Iranian guidance school students?

**METHOD**

**Design of the Study**

The study applied an experimental design with control and experimental groups following pre-test, treatment, immediate post-test, and delayed post-test format. To ascertain the effects of e-portfolio assessment on the learners’ vocabulary learning and retention, the participants were tested before and after the instruction. There was a delayed post-test as well to investigate the retention of the vocabulary items. The dependent variables were EFL vocabulary learning and retention, and the independent variable of the study was e-portfolio assessment.

**Participants**

The twelve-year educational system of schools in Iran is divided into three major parts of a six-year elementary school, a three-year junior high school, and a three-year senior high school. The elementary school does not entail any English language courses and students have their first English course in the seventh grade at junior high school. Therefore, the focus of the present study was on junior high school students. The participants of this study were 93 EFL learners studying English as a foreign language at seventh, eighth and ninth grades of junior high school in Iran. To form the control and experimental groups the participants were randomly assigned to two study groups.

**Data Collection Instruments**

To gather data from the participants of the study, the researcher used three parallel tests for each grade (seventh, eighth, and ninth). The first test was a teacher-made pre-test including three parts with 15 matching items, 10 multiple-choice items, and 10 cloze items. Then two parallel tests were designed and used as the immediate and delayed post-tests.

The vocabulary items presented to the participants during the treatment phase were selected from the Prospect series the English course books of guidance schools in Iran designed and published by the Ministry of Education. Prospect One was the course book for the seventh grade, Prospect Two for the eighth grade, and Prospect Three for the ninth grade.

This study gathered the data using nine tests based on the educational grades. There were three parallel vocabulary tests of pre-test, immediate post-test, and

delayed post-test for each grade (the seventh, eighth, and ninth). Three experts checked the validity of the tests and approved validity after the required modifications were applied. A pilot study was conducted to estimate the reliability of the tests. The reliability indices of all the nine vocabulary tests fall within the acceptable range, the results of which are presented in Table 1.

**Table 1**  
*Reliability Indices of the Tests*

Grade	Test	Cronbach's Alpha
7	Pre-test	.988
	Immediate Post-test	.994
	Delayed Post-test	.977
8	Pre-test	.972
	Immediate Post-test	.946
	Delayed Post-test	.886
9	Pre-test	.961
	Immediate Post-test	.924
	Delayed Post-test	.915

Since the study was conducted to assess learners’ performance using e-portfolio, the researcher used “WhatsApp” and “Shad” messengers to receive and share the work of participant students. The learners created, edited, and stored their e-portfolios using computer and mobile platforms.

**Data Collection Procedures**

At the outset of the study, the participants were randomly assigned to control and experimental groups. Each group included three levels of seventh, eighth, and ninth grade students following the syllabus particular to their grade.

A vocabulary pre-test was used to confirm the homogeneity of the paired groups. The study was conducted during the Pandemic and the educational system of the whole globe including Iran had turned to virtual online classes. The participants of the control and experimental pairs had the same course books for each grade and were provided with the same content and vocabulary items presented in the books. The experimental group, however, was fully introduced to the concept of portfolio and was informed on the assessment procedure using their course portfolios. The control group received the same instruction but did not practice keeping a portfolio and for assessing their learning the typical and traditional method short quiz prevalent in the educational system of Iran was used. As the instruction initiated, each online session learners received new vocabulary items from their course books (*Prospect 1, 2, and 3*). The teacher, who was one of the researchers, provided the students with extra and authentic materials (videos, audios, pictures, etc.). Each session learners reviewed whatever they learned in the class, and the teacher explained to them how they could use the instructed items in real communication contexts.

At the end of each online session, the teacher asked the experimental group to find or create any related materials or items (video or audio files, pictures, flashcards, shapes, objects, newspapers, magazines, etc.) on the instructed items of the day. In the next session, students presented their found or created materials and received comments from the class members. Then the teacher provided them with feedback. Later the teacher reviewed some of the portfolios to supervise the quality of the ongoing process. The participants in the experimental groups were asked to include any material they had created, found, or learned in their e-portfolios. Later they were also asked to review their e-portfolio entries, select the appropriate ones, and edit them if required. They also included their own reflections or any feedback they received from their parents, classmates, and the teacher. The treatment lasted for 10 online sessions.

After the treatment, the learners took the immediate post-test to measure the effectiveness of the instruction. After a three-week time interval, the delayed post-test was used to measure the retention of the instructed items.

#### Data Analysis

Version 25 of Statistical Package for Social Science (SPSS) software was applied to analyze the gathered data. To investigate the effect of e-portfolio

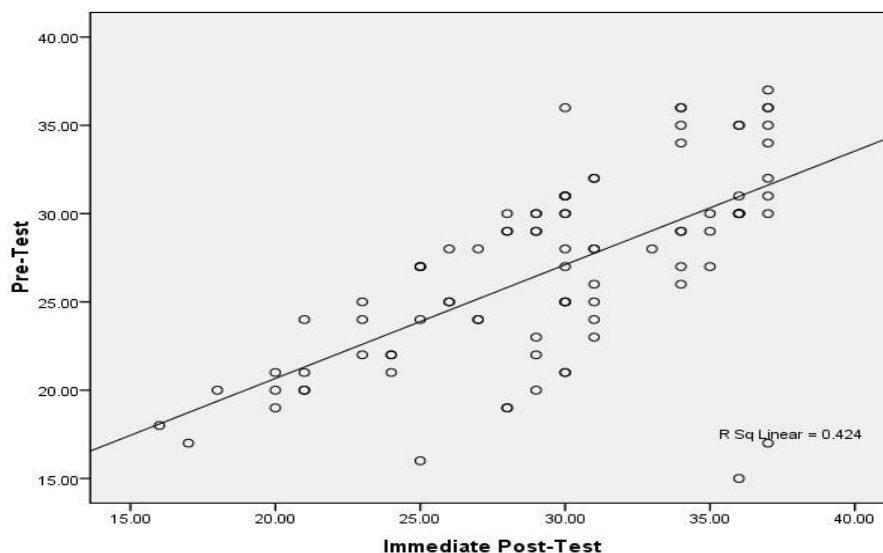
assessment on EFL learners' learning of vocabulary items a one-way ANCOVA was conducted. Moreover, a second one-way ANOVA was run to find out the effect of e-portfolio assessment on EFL learners' vocabulary retention over time.

#### FINDINGS

The present study was undertaken in order to explore whether e-portfolio assessment has a significant effect on Iranian junior high school students' vocabulary learning and retention. It used one-way ANCOVA for analyzing the results of the tests. According to Mackey and Gass (2005), there are times when a preexisting difference (covariate) could be seen in the groups of a study, and it should be controlled. The adjustment depends on the greatness of the difference between groups and the change between the pre and post-tests. The pre-tests and immediate post-tests of groups at each level were compared to investigate the effectiveness of the e-portfolio assessment process. Therefore, the results of the immediate post-test and delayed post-tests of groups were compared to examine the retention of the items which were taught.

Before conducting one-way ANCOVA for the first question, the assumption of a linear relationship between the dependent variable and the covariate was checked by the scatterplots (Figure 1):

**Figure 1**  
*Relationship between Pre-Test Scores and Vocabulary Learning Scores*



Finally, the assumption concerns the relationship between the covariate and the dependent variable which was checked by the homogeneity of the regression slopes. The related results are presented in Table 2.

Table 2 shows the significance value or probability value (.06) as safely above the cut-off. Since the significance value for the interaction is greater than .05, the interaction is not statistically significant, indicating that the assumption is not violated.

**Table 2**  
*Tests of Between-Subjects Effects for E-Portfolio Assessment of Vocabulary Learning*

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2477.29	37	66.95	31.27	.000	.957
Intercept	50690.02	1	50690.02	2.368	.000	.998
Groups	651.00	1	651.00	304.06	.000	.854
Pre-Test	1129.30	21	53.78	25.12	.000	.910
Groups * Pre-Test	146.700	15	9.78	4.57	.066	.569
Error	111.33	52	2.14			
Total	81680.00	90				
Corrected Total	2588.62	89				

a. R Squared = .957 (Adjusted R Squared = .926)

The actual difference in the mean scores of the immediate post-test between the control group in comparison with the experimental group is quite large. Descriptive statistics of the immediate post-test are presented in Table 3.

**Table 3**  
*Descriptive Statistics of the Immediate Post-test*

Groups	Mean	Std. Deviation	N
Control	26.18	4.82	45
Experimental	33.11	3.32	45

Table 3 reflects that the mean score for the control group (M=26.18, SD=4.82) was higher than that of the experimental group (M=33.11, SD=3.32). As previously mentioned, after checking out the assumptions a one-way between-groups analysis of covariance (ANCOVA) was conducted to find out whether the difference in the mean scores was significant or not and to investigate the effectiveness of e-portfolio assessment on EFL learners'

**Table 5**  
*Tests of Between-Subjects Effects of E-Portfolio Assessment on Vocabulary Learning*

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1924.60a	2	962.30	126.08	.000	.74
Intercept	650.92	1	650.92	85.28	.000	.495
Pre-Test	843.00	1	843.00	110.45	.000	.56
Groups	827.69	1	827.69	108.44	.000	.55
Error	664.02	87	7.63			
Total	81680.00	90				
Corrected Total	2588.62	89				

a. R Squared = .743 (Adjusted R Squared = .738)

As Table 5 reflects the difference in post-test scores of the experiment group (M= 33.11, SD=3.32) and control group (M=26.18, SD=4.82) is statistically significant (F=108.44, p<0.05) indicating that e-portfolio assessment had a positive effect on vocabulary learning of the participating EFL learners.

vocabulary learning. The independent variable was the effect of e-portfolio assessment, and the dependent variable consisted of scores on the test after the intervention was completed. Participants' scores on the pre-invention administration were used as the covariate in the analysis.

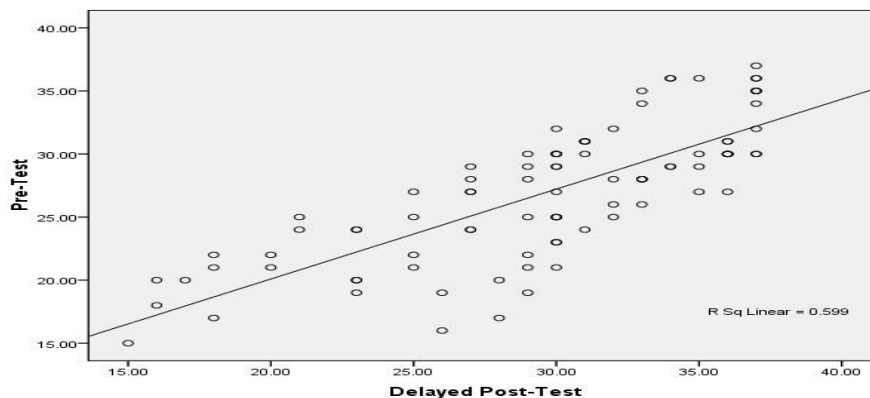
Table 4 shows a significance value of .28, which is much larger than the cut-off of .05. Therefore, the assumption of the equality of variance is assumed. As a result, the error variance of the dependent variable (immediate post-test) is equal across groups.

**Table 4**  
*Levene's Test of Equality of Error Variance of Portfolio Assessment on Vocabulary Learning*

F	df1	df2	Sig.
1.297	1	8	.28

The second ANCOVA was run to investigate the effect of e-portfolio assessment on vocabulary retention. But before carrying out one-way ANCOVA for the second question, the assumption of a linear relationship between the dependent variable and the covariate was checked by the scatterplots. The related results are presented in Figure 2.

**Figure 2**  
Relationship between Pre-Test Scores and Vocabulary Retention Scores



Furthermore, the assumption concerns the relationship between the covariate and the dependent variable which was checked by the homogeneity of the regression slopes, the results of which are shown in Table 6.

Table 6 shows the significance or probability value as .06, being above the cut-off. And since the significance value for the interaction is greater than .509, the interaction is not statistically significant, indicating that the assumption is not violated.

**Table 6**  
Tests of Between-Subjects Effects for E-Portfolio Assessment of Vocabulary Retention

Source	Type III Squares	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2759.632a		37	74.585	17.099	.000
Intercept	47980.344		1	47980.344	1.100E4	.000
Groups	485.377		1	485.377	111.274	.000
Pre-Test	1337.431		21	63.687	14.600	.000
Groups * Pre-Test	62.75		15	4.18	.959	.509
Error	226.82		52	4.36		
Total	81427.00		90			
Corrected Total	2986.46		89			

a. R Squared = .924 (Adjusted R Squared = .870)

A one-way between-groups analysis of covariance (ANCOVA) was conducted to investigate the effectiveness of e-portfolio assessment on Iranian advanced EFL learners' vocabulary retention by comparing the delayed post-test scores of the experimental and control groups. The independent variable was the effect of e-portfolio assessment, and the dependent variable consisted of scores on the test after about a three-week intervention. Participants' scores on the pre-intervention administration were used as the covariate in the analysis. Descriptive statistics of the delayed post-test are presented in Table 7.

**Table 7**  
Descriptive Statistics of the Delayed Post-test

Groups	Mean	Std. Deviation	N
Control	25.95	5.49	45
Experimental	33.08	3.41	45

As Table 7 indicates the mean score for the control group (M=25.95, SD=5.49) was higher than that of the experimental group (M=33.08, SD=3.41). The results of the ANCOVA test would reveal whether the difference in the mean scores of the

delayed post-tests in the two study groups was significant or not. Participants' scores on the immediate post-test were used as the covariate in the analysis.

Table 8 shows a significant value of .39, which is much larger than the cut-off of .05, indicating that the assumption of the equality of variance is assumed. Therefore, the error variance of the dependent variable (immediate post-test) is equal across groups.

**Table 8**  
Levene's Test of Equality of Error Variance of Portfolio Assessment on Vocabulary Retention

F	df1	df2	Sig.
4.381	1	88	.39

Table 9 below reflects the difference in delayed post-test scores of the experiment group (M=33.08, SD=3.41) and control group (M=25.95, SD=5.49) is statistically significant (F=183.47, p<0.05) indicating that e-portfolio assessment had a positive effect on vocabulary retention of the participating EFL learners.

**Table 9**

*Tests of Between-Subjects Effects of E-Portfolio Assessment on Vocabulary Retention*

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
<b>Corrected Model</b>	2601.14a	1	2	1300.57	.293.653	.000
<b>Intercept</b>	266.80	1	266.80	60.24	.000	.409
<b>Pre-Test</b>	1456.24	1	1456.24	328.80	.000	.791
<b>Groups</b>	812.595	1	812.595	183.47	.000	.678
<b>Error</b>	664.02	87	4.43			
<b>Total</b>	81427.00	90				
<b>Corrected Total</b>	2986.46	89				

a. R Squared = .871 (Adjusted R Squared = .868)

**DISCUSSION**

In spite of the difficulties in implementing e-portfolios (Poole et al., 2018), they have been gaining increasing attention and are being widely used in EFL contexts (Hinojosa-Pareja et al., 2020; Oh et al., 2020). The positive effect of using e-portfolio assessment has been mentioned in some works. As Goldsmith (2007) notes, e-portfolios can improve the learning process and develop an authentic assessment. He also states that practitioners can benefit from e-portfolios because they help them to understand “how well they are educating their students” and they are able to evaluate “their language program’s experiences and accomplishments, and their relationship with educational objectives” (p. 31). E-portfolios can also improve learners’ understanding and awareness of the learning processes and help the recognition of the idea that learning has to also occur outside the classroom which in turn can encourage learners’ autonomy and make them more responsible for their learning (Gonzalez, 2009). According to Pardo (2021), the digital nature of the e-portfolios makes storing the students’ work samples in different contexts and analyzing them in time periods possible, which makes the nature of the work much more learner-centered and motivating.

Considering the treatment procedure in the present study, learners in the experimental group were provided with acceptable practices, feedback, and learning reflections. They were, furthermore, asked to collect their work and write reports on their performances which in turn demanded an active engagement of learners in the process. All of this made the retention process easier for them because they were actively involved in their learning and turned to be more autonomous in their development. The learner-centered nature of the portfolios can promote learner autonomy (Torabi & Safdari, 2020). Furthermore, e-portfolios are effective in improving learners’ goal-setting, planning, monitoring, as well as their development (Pardo, 2021) because learners become managers of their learning environment (Namaziandost & Çakmak, 2020). As Rhodes (2011) mentions, e-portfolios can motivate learners

since they present and represent their work, which in turn can make them more active learners. Accordingly, the participants who received the e-portfolio assessment displayed better performance in recalling the vocabulary items than the learners who received the traditional quizzes which can be, in part, related to the self-reflection nature (Namaziandost, Sawalmeh, et al., 2020; Yastibas & Yastibas, 2015) of the e-portfolios. Reflecting on one’s own learning and being more engaged in it improves learning to a considerable extent (Ahn, 2004; Schmitz et al., 2010).

Therefore, it can be said that assessing learners by e-portfolios had a positive effect on EFL vocabulary retention of learners.

The results of this study are in line with the study of Berimani and Mohammadi (2013), Nassirdoost and Mall-Amiri (2015), Sharifi et al. (2017) and Pardo (2021) confirming the positive effect of portfolio assessment and e-portfolio assessment on vocabulary learning of EFL learners which can be attributed to the active, yet self-paced autonomous learning occurring while developing and holding academic portfolios. There are, however, no similar studies concerning the effect of e-portfolio or even portfolio assessment on EFL vocabulary retention of the learners.

There are several factors influencing vocabulary retention in learners. As Mayor (2014) mentions the information which is put in storage in the sensory memory, is transmitted from the short-term to the long-term memory when sufficient attention and time are provided. The new information is learned in an association progression (Mayer, 2005). If the information is treated actively being used in meaningful interactions, it is precisely transmitted from working memory to long-term memory (Schmitt, 2000). Keeping an e-portfolio made the participants of this study responsible for their own learning by making them pay extra attention to the vocabulary items. This happened in meaningful use of the words in archived portfolio samples by easily updating the multiple media (Namaziandost, Hosseini, et al., 2020), and spending sufficient time to collect, prepare, and present the

gathered samples due to the self-based assessment nature of the e-portfolios which lead to learner development (Namaziandost, Razmi, et al., 2020). Welsh (2012) asserts that learners' active participation in their assessment process enhances their higher-order skills such as analysis, synthesis, and evaluation. All of these helped in storing the vocabulary items in long-term memory and fostering retention.

Using e-portfolio assessment as an ongoing assessment process was an effort to assess learners' real performances, expand their vocabulary domain, extend the retention time, make them more autonomous in learning and self-assessment, inform them about what they have learned and how they can use them in different situations, and eventually motivate them while making learning a fun and satisfying experience for them. Considering the beneficial effects of e-portfolios, introducing them to Iranian EFL context with a long history of traditional educational system depending mainly on summative assessment (Firoozi et al., 2019; Namaziandost, Rezvani, et al., 2020) seems highly crucial.

## CONCLUSION

The present study attempted to answer two research questions on the effect of e-portfolio assessment on EFL vocabulary learning and retention of those learners. The findings of the study revealed a significant difference between the immediate post-test results of the two study groups indicating that the e-portfolio assessment had a significant positive effect on vocabulary learning of EFL learners. Furthermore, the participants of the experimental group outperformed the control group in the delayed post-test proving the significant positive effect of the e-portfolio assessment on vocabulary retention of EFL learners as well.

The study may have beneficial contributions since it made learners aware of what they have learned and how they can improve their learning by extending their vocabulary knowledge and making them more responsible for their education. Keeping an e-portfolio also helps learners expand the acquired items to other situations, and gives them opportunities for further learning. The study may also be helpful because e-portfolio assessment potentially increases learners' motivation and autonomy, and eventually encourages them to learn more and better in the ongoing development process and even later.

The findings can have some pedagogical implications for various academic practitioners. First of all, the researcher observed a great enthusiasm and a positive reaction toward using e-portfolios as a way of learning lexical items on the side of the learners. They were willing to gather their work samples, give and receive feedback and

share them with other students. Since several studies, including the present study, have proven the positive impact of using this technique, teachers can put more creativity into their work and use e-portfolios as an alternative way of assessing learners' vocabulary development.

Furthermore, material writers, curriculum developers, and syllabus designers can take the advantage of this assessment as a movement from the traditional ways of teaching and assessing the English language at schools to more novel and confirmed ways. E-portfolio assessment undoubtedly is one of the most useful and practical teaching and assessment techniques, and decision-makers can give teachers more freedom to use effective and modern methods of teaching in their classrooms, including portfolios and e-portfolios. This study benefited from e-portfolios involving a lot of interaction and communication between learners and teachers with no need for much in-person interaction. Considering the present limited educational conditions resulted by the Covid-19 pandemic, a drastic schedule shift is required in academic contexts to meet the requirements of this condition. In this line, policy-makers can come up with more ideas for cyber education, including e-portfolio.

Language learners can also benefit from the findings of this study. Since the new generation embraces technology and innovation more than ever before, implementing these elements in their education can strongly encourage them to adopt an active role and develop their learning. E-portfolio and more recent types of it, such as chat portfolio or online portfolio can be beneficial for learners in case of collecting, saving, sharing, and assessing their work samples.

## REFERENCES

- Afrianto, A. (2017). Challenges of using portfolio assessment as an alternative assessment method for teaching English in Indonesian schools. *International Journal of Educational Best Practices, 1*(2), 106–114. <https://doi.org/10.31258/ijebp.v1n2.p106-114>
- Ahn, J. (2004). Electronic portfolios: Blending technology, accountability & assessment. *The Journal, 31*(9), 1-19.
- Barrot, J. S. (2021). Effects of Facebook-based e-portfolio on ESL learners' writing performance. *Language, Culture and Curriculum, 34*(1), 95–111. <https://doi.org/10.1080/07908318.2020.1745822>
- Berimani, S. & Mohammadi, M. (2013). Investigating the effect of portfolio assessment on vocabulary learning of Iranian EFL learners. *ELT Voices. India International Journal of English, 3*(3), 29-39.



- Brown, H. D., & Abeywickrama, P. (2019). *Language assessment: Principles and classroom practices* (3rd ed.). Pearson Education.
- Chastain, K. (1988). *Developing second language skills: Theory and practice* (3rd ed.). Harcourt Brace Jovanovich.
- Firoozi, T., Razavipour, K., & Ahmadi, A. (2019). The language assessment literacy needs of Iranian EFL teachers with a focus on reformed assessment policies. *Language Testing in Asia*, 9(1), 1–14. <https://doi.org/10.1186/s40468-019-0078-7>
- Gan, L., & Lam, R. (2020). Understanding university English instructors' assessment training needs in the Chinese context. *Language Testing in Asia*, 10(11). <https://doi.org/10.1186/s40468-020-00109-y>
- Goldsmith, D. J. (2007). Enhancing learning and assessment through e-portfolios: A collaborative effort in Connecticut. *New Directions for Student Services*, 2007(119), 31–42. <https://doi.org/10.1002/ss.247>
- Gonzalez, J. A. (2009). Promoting students autonomy through the use of the European Language Portfolio. *ELT Journal*, 63(4), 373–382. <https://doi.org/10.1093/elt/ccn059>
- Gray, L. (2008). *Effective practice with e-portfolios* (pp. 5–40). JISC.
- Halim, I. A., & Lestari, Z. W. (2019). The use of portfolio assessment of writing skill in descriptive text. *Journal and Applied Linguistics and Literacy*, 3(2), 75–85. <https://doi.org/10.25157/jall.v3i2.2420>
- Hindman, A. H., Connor, C. M., Jewkes, A. M., & Morrison, F. J. (2008). Untangling the effects of shared book reading: Multiple factors and their associations with preschool literacy outcomes. *Early Childhood Research Quarterly*, 23(3), 330–350. <https://doi.org/10.1016/j.ecresq.2008.01.005>
- Hinojosa-Pareja, E. F., Gutiérrez-Santiuste, E., & Gámiz-Sánchez, V. (2020). Construction and validation of a questionnaire on E-portfolios in higher education (QEPHE). *International Journal of Research & Method in Education*, 43(1), 1–14. <https://doi.org/10.1080/1743727X.2020.1735335>
- Hyland, K., & Hyland, F. (Eds.). (2019). *Feedback in second language writing: Contexts and issues* (pp. 1–22). Cambridge University Press. <https://doi.org/10.1017/9781108635547.003>
- Ismailov, M., & Laurier, J. (2021). We are in the breakout room. Now what? An e-portfolio study of virtual team processes involving undergraduate online learners. *E-Learning and Digital Media*, 19(2), 120–143. <https://doi.org/10.1177/20427530211039710>
- Kusuma, I., Mahayanti, N. W. S., Adnyani, L. D. S., & Budiarta, L. G. R. (2021). Incorporating E-Portfolio with flipped classrooms: An in-depth analysis of students' speaking performance and learning engagement. *JALT CALL Journal*, 17(2), 93–111. <https://doi.org/10.29140/jaltcall.v17n2.378>
- Lam, R. (2018). Promoting self-reflection in writing: a showcase portfolio approach. In A. Burns, & J. Siegel (Eds.), *International perspectives on teaching skills in ELT*, (pp. 219–231). Palgrave MacMillan.
- Lam, R. (2019). Writing portfolio assessment in practice: Individual, institutional, and systemic issues. *Pedagogies: An International Journal*, 15(3), 169–182. <https://doi.org/10.1080/1554480X.2019.1696197>
- Laufer, B., & Nation, I.S.P. (1999). A vocabulary-size test of controlled productive ability. *Language Testing*, 16(1), 36–55. <https://doi.org/10.1177/026553229901600>
- Lorenzo, G., & Ittelson, J. (2005). *An overview of e-portfolios*. Educause Learning Initiative.
- Mackey, A., & Gass, S. M. (2005). *Second language research: Methodology and design*. Lawrence Erlbaum Associates Publishers.
- Maximo, R., & Sadowki, M. (2008). Effects of rote, context, keyword, and context/ keyword method on retention of vocabulary in EFL classroom. *Language Learning*, 50(2), 385–412. <https://doi.org/10.1111/0023-8333.00121>
- Mayer, R. E. (2005). Cognitive theory of multimedia learning. In R. E. Mayer (Ed.), *The Cambridge handbook of multimedia learning* (pp. 31–48). Cambridge University Press.
- Moya, S., & O' Malley, J. M. (1994). A portfolio assessment model for ESL. *The Journal of Educational Issues of Language Minority Students*, 13, 13–36.
- Mphahlele, R. S. (2022). Digital assessment literacy in online courses (formative/summative): Rethinking assessment strategies in the open distance and e-learning institutions. In G. Durak & S. Çankaya (Eds.), *Handbook of research on managing and designing online courses in synchronous and asynchronous environments*, (pp. 404–417). IGI Global.
- Namaziandost, E., & Çakmak, F. (2020). An account of EFL learners' self-efficacy and gender in the flipped classroom model. *Education and Information Technologies*, 25(2), 4041–4055. <https://doi.org/10.1007/s10639-020-10167-7>
- Namaziandost, E., Hosseini, E., & Utomo, D. W. (2020). A comparative effect of high involvement load versus lack of involvement load on vocabulary learning among Iranian sophomore EFL learners. *Cogent Arts and Humanities*, 7(1), 1–15.

- <https://doi.org/10.1080/23311983.2020.1715525>
- Namaziandost, E., Razmi, M. H., Heidari, S., & Tilwani, S. A. (2020). A contrastive analysis of emotional terms in bed-night stories across two languages: does it affect learners' pragmatic knowledge of controlling emotions? Seeking implications to teach English to EFL learners. *Journal of Psycholinguistic Research*, 50(2021), 645–662. <https://doi.org/10.1007/s10936-020-09739-y>
- Namaziandost, E., Rezvani, E., & Polemikou, A. (2020). The impacts of visual input enhancement, semantic input enhancement, and input flooding on L2 vocabulary among Iranian intermediate EFL learners. *Cogent Education*, 7(1), 1-14. <https://doi.org/10.1080/2331186X.2020.1726606>
- Namaziandost, E., Sawalmeh, M. H. M., & Izadpanah Soltanabadi, M. (2020). The effects of spaced versus massed distribution instruction on EFL learners' vocabulary recall and retention. *Cogent Education*, 7(1), 1–13. <https://doi.org/10.1080/2331186X.2020.1792261>
- Nassirdoost, P. & Mall-Amiri, B. (2015). The Impact of portfolio assessment on EFL learners' vocabulary achievement and motivation. *Journal for the Study of English Linguistics*, 3(1), 38-50.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge University Press.
- Nation, I.S.P. (2008). *Teaching vocabulary*. Heinle.
- Ngui, W., Pang, V., Hiew, W., & Lee, K. W. (2020). Exploring the impact of e-portfolio on ESL students' writing skills through the lenses of Malaysian undergraduates. *Computer-Assisted Language Learning Electronic Journal*, 21(3), 105–121.
- Oh, J.-E., Chan, Y. K., & Kim, K. V. (2020). Social media and E-portfolios: impacting design students' motivation through project-based learning. *IAFOR Journal of Education*, 8(3), 41–58. <https://doi.org/10.22492/ije.8.3.03>
- Pardo, M. A. R. (2021). Fostering language and vocabulary in international business students thorough an e portfolio. *South Florida Journal of Development*, 2(2), 3068-3085. <https://doi.org/10.46932/sfjdv2n2-147>
- Poole, P., Brown, M., McNamara, G., O'Hara, J., O'Brien, S., & Burns, D. (2018). Challenges and supports towards the integration of ePortfolios in education. *Lessons to be learned from Ireland. Heliyon*, 4(11), e00899. <https://doi.org/10.1016/j.heliyon.2018.e00899>
- Read, J. (2000). *Assessing vocabulary*. Cambridge University Press.
- Reese, M., & Levy, R. (2009). Assessing the future: E-portfolio trends, uses, and options in higher education. *ECAR Research Bulletin*, 2009(4), 1-12.
- Rhodes, T. L. (2011). Making learning visible and meaningful through electronic portfolios. *Change: The Magazine of Higher Learning*, 43(1), 6-13. <https://doi.org/10.1080/00091383.2011.538636>
- Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge University Press.
- Schmitz, C. C., Whitson, B. A., Van Heest, A., & Maddaus, M. A. (2010). Establishing a usable electronic portfolio for surgical residents: Trying to keep it simple. *Journal of Surgical Education*, 67(1), 14–18. <https://doi.org/10.1016/j.jsurg.2010.01.001>
- Sharifi, M., Soleimani, H., & Jafarigozar, M. (2016). E-portfolio evaluation and vocabulary learning: Moving from pedagogy to andragogy: E-portfolio evaluation and vocabulary learning. *British Journal of Educational Technology*, 48(6), 1441-1450. <https://doi.org/10.1111/bjet.12479>
- Torabi, S., & Safdari, M. (2020). The effects of electronic portfolio assessment and dynamic assessment on writing performance. *Computer-Assisted Language Learning Electronic Journal*, 21(2), 51–69.
- Welsh, M. (2012). Student perceptions of using the Pebble Pad e-portfolio system to support self- and peer-based formative assessment. *Technology, Pedagogy and Education*, 21(1), 57–83. <https://doi.org/10.1080/1475939X.2012.659884>
- Yastibas, A., & Yastibas, C. G. (2015). The use of e-portfolio-based assessment to develop students' self-regulated learning in English language teaching. *Social and Behavioral Sciences*. 176, 3-13. <https://doi.org/10.1016/j.sbspro.2015.01.437>
- Zarei, A. A., & Baftani, F. N. (2014). The effects of techniques of vocabulary portfolio on L2 vocabulary learning. *I-manager's Journal on English Language Teaching*, 4(3), 38-47.