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The use of e-portfolios in EFL writing: a review of literature

Sibel Aygün¹

Yalova University, Yalova-Turkey

Selami Aydın²

Balıkesir University, Balıkesir-Turkey

Abstract

In English as a foreign language (EFL) context, writing is generally considered as a very difficult task which requires an experience to accomplish. Electronic portfolios (eportfolios) are widely used as a systematic collection of students' works that indicates their progress, effort and achievements in the EFL writing process. However, the number of studies on how e-portfolios affect the EFL writing process remained limited. Thus, the current study aims to present a review of research on how e-portfolios affect the EFL writing process to guide further research. For this purpose, after presenting the theoretical background of EFL writing and e-portfolios, the study briefly reviews the studies on the effects of e-portfolios. The review first focuses on e-portfolios and learners' motivation and their effects on academic writing. Then, the study concentrates on the e-portfolio creation process and its limitations. The study concludes that e-portfolios develop reflective learning, writing skills and increase writing motivation. It is also concluded that e-portfolios have considerable effects on academic development and the teaching and planning processes. On the other hand, findings obtained from this review reveal that e-portfolios have also some limitations and adverse effects. The study ends with some recommendations for target groups and further research in the light of the findings.

Keywords: English as a foreign language; writing; e-portfolios

¹ Yalova Üniversitesi. **Email:** sibelelibol@hotmail.com

² Balıkesir Üniversitesi. **Email:** saydin@balikesir.edu.tr

Introduction

The purpose of language learning is to gain the ability to use the language in communication. As the language ability has been divided into four separate skill areas; listening, speaking, reading and writing. Basically, learners need to comprehend a message, oral or written, so as to respond it and take part in interpersonal communication. Comprehending a message comprises listening and reading skills which are named as receptive skills, and responding it requires speaking and writing skills called as productive skills. Therefore, to learn a language to use it for communication, learners have to deal with four basic language skills (Kurniasih, 2011).

Among these four skills, writing as one of productive skills. Writing gives EFL learners the opportunity to promote their language acquisition as they have to deal with sentences, words, and chunks to communicate their ideas and to foster the vocabulary and grammar they have learned (Bello, 1997). Since it is less threatening than speaking in that learners need not be afraid of misspelling an unfamiliar word, students can have their first experiences of producing written statements in English well before they start speaking in the target language. In addition, it plays a considerable role in stimulating thinking, concentrating and organizing their ideas (Rao, 2005). By improving writing skills, EFL learners become successful not only in the English learning process, but also in their life-long learning and careers, as Glazier (1994) contends that "being able to write in English is essential in college and it probably will be an asset in your career" (p. 3). However, it should be underlined that writing is a problematic area in the context of learning English as a foreign language, as detailed below

Writing

Writing is considered the most difficult skill for all language learners, whether the language is a first, second or a foreign language (Nunan, 2000). Thus, EFL students, in particular, face many problems stemming from lack of linguistic competence or necessary writing strategies during their writing processes. Good writing requires knowledge of grammatical rules, lexical devices, and logical ties as well as the ability of generating ideas, composing the ideas in sentences and paragraphs and revising the ideas and paragraphs composed in well-developed forms (Nunan, 2000). As he states, the language learner writer is expected "to demonstrate control of a number of variables. These include control of content, format, sentence structure, vocabulary, punctuation, spelling, and letter formation. ... The writer must be able to structure and integrate information into cohesive and coherent paragraphs and texts" (p. 36). In EFL classes, students may have knowledge about grammar and vocabulary but face problems in writing (Mustague 2014). Other than the difficulties in language, learners' attitudes towards their writing tasks constitute important problems that affect success (Ismail, 2012). According to Langan (2000), students often think that "writing is a natural gift rather than a learned skill" (p. 12) in terms of learners' attitudes. That is because they are often not aware of writing strategies. In other words, they adopt, *ThinkSay* (Mustague 2014) strategy. Since correct form and accurate grammar cannot guarantee clear and coherent writing, students deal with some meta-cognitive strategies like brainstorming, planning, outlining, organizing, drafting and revising during the writing process. Writing a

well-developed paragraph or essay in EFL is generally considered as a very difficult task. However, good writing involves planning and requires clear thinking and logical ordering as it begins with ideas as well as words. With a feeling of impatience, students show a tendency to start and finish a writing process as soon as possible skipping planning as they think that they are wasting their time. On the contrary, planning the process forces them to concentrate on their ideas, and this concentration triggers their creativity leading them to generate more ideas in a shorter time (Barritt, 1981). For example, Kellogg (1988, 1994) points out that writers who engaged in initial pre-writing spend less time for reviewing and revising. Zamel (1983) also notes that the planning process and the development of planning strategies enable learners to explore and articulate their own ideas. Moreover, planning before writing can also help learners locate attentional resources between what he or she is going to say and how he or she is going to say it (Hayes, 1996). Therefore, it can be concluded that planning in the EFL writing process enables learners to lower their cognitive load during task completion. According to Greetham (2008), it helps learners give their writing a clear structure to follow and ensure that all of their arguments are clearly and consistently argued. Since the writing process is not considered linear, by keeping track of what students have done and giving them the opportunity to reflect on the progress they have made, portfolios are useful tools to help them develop good writing skills, as well as good planning strategies. Now that technology provides great opportunities for online writing, e-portfolios can eventually be integrated into foreign language teaching curricula (Zhu & Bue, 2009).

Portfolio

Portfolios are considered to help students to learn and develop such skills in a foreign language. It is specifically stated that keeping a portfolio help students acquire information about paragraphs and the use of some pre-writing strategies like brainstorming, clustering and outlining (Aydın, 2010). However, Aydın (2010) also mentions the limitations of portfolio keeping. For example, portfolios require much time from teachers and students. In addition, grading portfolios is not easy (Aydın, 2010). E-portfolios, on the other hand, are thought to be more useful and practical, but still some other problems may arise. For instance, software development is a specialized instruction. In addition, it may not always be possible to purchase e-portfolio software (Aydın, 2014).

E-portfolios

Electronic portfolios are also known as e-portfolio, e-folio, digital portfolio or web folio and are the outcomes of internet technologies. Norton and Wiburg (1998) define a portfolio as "a systematic and selective collection of student work that has been assembled to demonstrate the student's motivation, academic growth and level of achievement" (p. 237). Lankes (1995, cited in Paulson, & Meyer, 1991) defines the electronic portfolios as "a purposeful collection of student's work that systematically exhibits the students' effort, progress and achievements" in an electronic environment (p. 2). On one hand, e-portfolios are similar to traditional portfolios that consist of papers and folders; on the other hand, they differentiate from paper-based portfolios. For instance, students can store a wide range of

media files in electronic portfolios. Furthermore, they allow interaction among learners and teachers through discussion groups, online classrooms and chat rooms.

As a technological innovation rather than conceptual, e-portfolios have six major functions according to Lorenzo and Ittelson (2005). They are used "1) to plan educational programs, 2) document knowledge, skills, abilities and learning, 3) track development within a program, 4) find a job, 5) evaluate a course, 6) monitor and evaluate performance" (p. 2). Many colleges and universities are developing or using school-wide e-portfolio systems and currently, it is forecast that most schools will do the same in the future since e-portfolios are considered as "the biggest thing in technology innovation on campus and they are known to 'have a greater potential to alter higher education at its very core than any other technology application we've known thus far" (Batson, 2002, p. 14).

In summary, to be able to learn a foreign language, students need to be competent in all four skills of the language. Among these, the productive skills seem relatively difficult to acquire and the writing skill is thought to be the most challenging. Students find it challenging because they may lack either linguistic competence or the necessary writing strategies to produce a piece of writing. Sometimes they lack both. Moreover, their negative attitudes towards writing may also have a negative effect on the acquisition of writing skills, since it is considered as a natural gift by most students rather than a learned skill. That some students neglect the need for meta-cognitive strategies such as brainstorming, planning, outlining, organizing, and so forth may be another issue that makes writing appear problematic for students. Good writing requires good planning. Therefore, developing some planning strategies is required to be able to progress smoothly while writing, and this is where the portfolio evaluation comes into play. It is specifically stated in the literature that keeping portfolios helps students to acquire information about the use of some pre-writing strategies, and to track their progress through their writing processes. Being the eventual outcome of internet technologies, e-portfolios, even more than traditional portfolios, allow interaction among students and instructors, as well as flexibility in arranging the data. Therefore, though they have some limitations, e-portfolios are believed to be highly practical in EFL writing instruction. Below, some theoretical information for the issues which have been mentioned so far was presented.

Theoretical Background

Apart from the research results on the issue, this sub-section presents the theoretical framework of writing and e-portfolios. For this purpose, first, approaches used in writing instruction are introduced. Then, the theoretical background behind e-portfolios are mentioned.

Four main approaches to foreign language writing have emerged in time and each of them has focused on different aspects of writing environment. First, introduced in the late 1960s, Form-focused Approach emphasizes the accurate application of grammatical rules in writing (Raimes, 1991). In Form-focused Approach, students are responsible for not only grammatical but also rhetorical forms of their writing. Second, the focus shifts to the writer in 1970s with emerge of Process-based Approach that requires creating texts, generating ideas, writing drafts and revising before the final product. In Process-based writing, according to Raimes (1991), "in place of accuracy and patterns come process, making meaning, invention,

and multiple drafts."(p. 409). On the other hand, Shih (1986) puts emphasis on Content-based Approach believing that stressing writing from personal experience is not realistic. In other words, as Shih (1896) argues, content-based instruction improves thinking, research and writing skills as students write about the material they are currently studying in an academic course and that writing is integrated with reading, listening and discussion about the academic content. Similar to Content-based Approach, Reader/audience-dominated Approach is academically oriented. However, it considers language teaching "as socialization into the academic community- not as humanistic therapy" (Horowitz, 1986, p. 789). In Reader-dominated approach, the expectations of readers are important, while academic writing is not the only context.

Among the approaches introduced above, Process-based approach needs a special attention, as it is the most suitable one in terms of portfolio keeping, as underlined below. Process-based approach is the one which focuses on what students have done until they produce a written paper rather than dealing with just the effectiveness of the outcome. Matsuda (2003) states that "rather than the view of writing as a reproduction of previously learned syntactic or discourse structures, the process-based approach emphasized the view of writing as a process of developing organization as well as meaning" (p. 21). Tribble (1996) suggests that Process-based approach "stresses writing activities which move learners from the generation of ideas and the collection of data through to the 'publication' of a finished text" (1996; p. 37). Nunan (1991) emphasizes that the Process-based approach focuses on the steps in creating pieces of work. The writers may go through different activities before they produce their pieces of writing. Yet this is not a linear process as writers may return to prewriting activities after doing some drafting or revising. That is to say, the process approach allows writers manage their writing by giving students a chance to think (Brown, 2001).

In process -based writing, portfolios take a significant place. According to Blair and Takayoshi (1997), portfolios have gradually became a widely accepted place in writing instruction as they assess the written proficiency of the students over time. Taking advantage of the availability of digital media, e-portfolio emerged as an evolution of the traditional portfolios in 1990s (Madden, 2007), and it has gradually replaced paper-based portfolios to a large extent due to several reasons. First, compared to traditional portfolios, e-portfolios are much smaller and more compact, so it is easier to carry and share with others. Second, they require students to spend less time and effort as they provide the advantage of instant and remote access. Third, students can make use of more extensive materials such as pictures, sound, animation, graphics and videos. Fourth, e-portfolios are easier to search and it is simpler to manipulate or reorganize the records. Finally, they allow much faster feedback (Abrami & Barret 2005; Butler 2006, cited in Challis, 2005; Strudler & Wetzel, 2005).

Maher and Gerbic (2009) state three main types of e-portfolio. The first type is process or learning portfolios with the focus on the process of learning (Abrami & Barret, 2005). Process portfolios are considered as student-centered as they focus on students' progress and put emphasis on goal-setting, feedback, reflection and self-evaluation. Barrett (2007) defines a process portfolio as a systematic collection of written work. The second type is showcase portfolios with the focus on the product. The goal is to show competence and achievement. The third kind focuses on external evaluation or judgment. This mainly includes authentic assessment and involves the use of criteria and standards (Maher & Gerbic, 2009).

Research on E-portfolios

Regarding the use of technology in ELT classes to enhance learning, some researchers have had a deepened interest in the issue of e-portfolio use and its possible requirements and outcomes. Research in the literature puts emphasis on technological demands as well as benefits of e-portfolios. Considered from the students' perspective, some studies are aimed at the effects of e-portfolios, especially, on student motivation, while others intend to deal with technological issues. Apart from those, the process of creating e-portfolios and some possible drawbacks have also been the main objectives for some researchers, as reviewed below.

E-portfolios and Writing Motivation

Research shows that e-portfolios help students develop reflective learning skill and improve specifically their writing skill by motivating them intrinsically since they are to be used as a tool for students to reflect on their own learning progress and an alternative assessment. For example, drawing on experience of implementing e-portfolios in an institutional context, Doig et al. (2006) considered how best to meet the needs of learners within a system of effective e-learning support and emphasized the key role of developing reflective writing skills if the e-portfolio was to be an effective way of learning. They aimed to focus on the use of e-portfolios to support the development of the reflective, autonomous learner. The experience mentioned in the study was the piloted e-portfolio system of Dundee University in Scotland. Two main groups of students participated in the pilot study and the results were evaluated by using questionnaires and focus groups. According to Doig et al. (2006), implementation of technology confirmed its huge potential as a vehicle for helping students for their achievements, but it also highlighted the fundamental importance of developing skills in reflection if students are genuinely to take responsibility for their lifelong learning. Having focused on integrating e-portfolios as an authentic writing assessment method for process writing, Jee (2008) aimed to present a practical classroom implementation of blogs as writing e-portfolios. Jee (2008) implemented a sample plan with four basic steps for introducing and evaluating blogs as writing e-portfolios. After the students participated in peer evaluation and collaboration through interaction on blogs, the author concluded that integrating blogs in writing courses enhanced students' technology-related literacy, promoted intrinsic motivation and motivated students to be more conscientious writers. In another study, Bacabac (2012) highlighted the creation of e-portfolios in a technical writing course. In his study, he aimed to explore the professional aspect of e-portfolios to help students develop literacies. Depending on the number of students who required one-on-one instructor feedback, students usually spent six or seven weeks finishing all four assignments. As a result of the study, Bacabac (2012) found that technical writing programs in the study were strengthened and the graduates became more competitive. In another study, Denton (2012) compared portfolio metadata to writing quality scores. His study included 11 undergraduate students studying in a teacher education program. Primarily, he compared portfolio entries and calculated the correlations between writing quality and portfolio metadata. Denton (2012) found significant correlations between writing quality and the number of terms given in portfolio. He concluded that writing improved at a statistically significant level. Finally, given that empirical research of e-portfolio use in primary education was limited, Nicolaidou (2013) conducted a study in a 4th grade primary class by implementing 20 e-portfolios. The author focused on the association of e-portfolios with peer feedback and writing performance. He conducted a case study to integrate e-portfolios into the Language Art curriculum. He used a generic, open source weblog tool. He concluded that e-portfolios could support the development of writing performance and peer feedback skills.

Research indicates that e-portfolio projects conducted in schools increase learners' motivation and enhance learning. For instance, on realizing that many undergraduate students of science and engineering saw their English classes as barely relevant and a burden, Tuksinvarajarn and Todd (2009) introduced an e-portfolio project in order to improve the situation. In this study, the authors aimed to describe and evaluate this e-portfolio project and look specifically at the "e-pet" with the help of journal entries written by the teacher after each lesson. The results of the study showed that the e-pet was an effective way to initiate and maintain student interest. In another study, believing that learners, instructors, CALL researchers and developers could benefit from "Lexinote", Tanaka et al. (2015) conducted a questionnaire to assess EFL learners' perception of the use of Lexinote. The research included 63 EFL learners enrolled in a general English course. Tanaka et al. (2015) found that participants were satisfied with vocabulary learning. In another study, Acker and Halasek (2008) conducted the "ePortfolio Project," a program through which high school and university personnel conducted joint research to address k-16 English language arts alignment and student success in the post-secondary environment. They aimed to research whether or not constructive "eResponses" provided by high school and university writing instructors would improve writing and conform their output more closely to expectations. Participants in the project were 41 students from area school districts. Acker and Halasek (2008) used two distinct methods of data analysis in the project, which were numerical Likert ratings of the draft and final papers. They found that students in transition from high school to college demonstrated improvement in writing competency.

E-portfolios and Technological Issues

While some studies draw attention to the technological issues which e-portfolios bring with to the teaching-learning environment, others emphasize the development of students' computer skill as a result of e-portfolio implementation. For example, Challis (2005) focused on pedagogical and technological issues. For his report, he quoted a self-reported survey of 51 universities and colleges that currently implemented e-portfolios and found reflection to be the highest primary purpose listed. Challis (2005) noted that educators needed to be open to the promise e-portfolios. Similarly, given that a systematic inquiry into how digital video could be utilized to promote self-reflection in an e-portfolio context remained under-reported, Cheng and Chau (2009) collected data from a class of the Workplace English for the Logistics Students course and a four-component research model was used to examine the effect of digital videos on reflection in an e-portfolio environment. On analyzing the results of this small-scale exploratory case study, Cheng and Chau (2009) supported the use of videos as a reflective tool in an e-portfolio context and highlighted the need for considering pedagogical and technological issues that were of significance for teachers, educators and e-portfolio developers. Investigating the effects of the construction and development of e-portfolios on a population at a public university, Thang and Sulkily (2012) investigated the impact of such projects on students' development of computer and language skills. They conducted a qualitative case study. After analyzing the data involving six interviews and a questionnaire, Thang and Sulkily (2012) concluded that e-portfolios had positive effects on the students' both computer and writing skills. Finally, Cummins (2009) focused on the communication skills and cultural competence in an e-portfolio environment. He found that the development of effective e-portfolio projects would require better technological training.

E-portfolios for Pre-service Teachers

Research on pre-service teachers demonstrates the facilitative effects of e-portfolios on teaching processes from the teacher aspect. For instance, Kabilan and Khan (2012) aimed to identify the benefits and limitations of using an e-portfolio for learning and self-assessment tools. For the study, 55 pre-service teachers were required to create and maintain a personal e-portfolio. Kabilan and Khan (2012) noted that e-portfolios functioned as a monitoring tool that helped the teachers understand their strengths and weaknesses. In another study, as pre-service and cooperating teachers within the teacher education program were ideal resources to evaluate e-portfolio applications, Kecik et al. (2012) conducted an evaluation of the e-portfolio application in the distance teaching practice course from the perspective of these three groups. Using a survey on pre-service teachers' needs, they collected data on the feasibility of the e-portfolio application. They found that e-portfolio applications could meet the planning, teaching, and reflection needs.

E-portfolios and Academic Development

Research indicates that e-portfolios facilitate academic development. To give an example, due to the fact that social digital networking has become a way of life, Hiradhar and Gray (2008) investigated the social networking habits of students. They aimed to adopt an e-portfolio platform to explore students' attitudes towards digital identities. Hiradhar and Gray (2008) found that the establishment of a digital identity was realistic and achievable. By initiating a pilot introducing e-portfolios, Chen and Black (2010) aimed to study the nature of the advising process and the factors that influenced how students' pre-major interests evolved from when they enter Stanford to when they declared their major. They assigned all first-year students a pre-major advisor whose task was to discuss the broad purpose of the intellectual journey they were beginning and how to make the most of their time at Stanford, as opposed to rudimentary curriculum discussions. On completing the pilot, Chen and Black (2010) concluded that while each individual student's pathway was unique, the milestones that mark the undergraduate learning career were the same, and e-portfolios could play a role supporting the transitions that students would encounter.

E-portfolio Creation Process

Research indicates that the process of e-portfolio creation and successful development of it in language learning require some user-friendly e-portfolio platforms and complex learning strategies. For instance, interested in exploring the relationship between self-regulated learning ability and e-portfolio achievement, Cheng and Chau (2013) conducted a study to evaluate students' use of learning strategies. The authors asked 26 students to create several e-portfolio showcases to show their English language learning experience. They

measured participants' self-regulated learning ability. With this study, Cheng and Chau (2013) revealed that higher-order cognitive skills, meta-cognitive control strategies and collaborative learning strategies were positively correlated with the e-portfolio achievement. They concluded that e-portfolio development was a complex process and suggested that students should be equipped with self-regulated learning strategies to participate in and benefit from e-portfolio activities. Incorporation of e-portfolios into courses led Siu (2013) to focus on this innovation. His goal was to contribute to the body of e-portfolio literature by examining how teachers and students felt about the process of creating e-portfolios, as required by the e-portfolio components of their courses and whether students had improved on such higher-order thinking skills. In Semester A, e-portfolios were incorporated into three ELC courses –Written Language, Spoken Language and Foundation English. In Semester B, paper portfolios were developed by students. In summer 2010, a new e-portfolio platform – the Google Sites- was used. After this implementation, Siu (2013) concluded that the incorporation of e-portfolios were successful in that the e-portfolio platform was user-friendly through the availability of e-portfolio templates.

Some Limitations of the use of e-portfolios

Some studies demonstrate that although there are some barriers to overcome, it is realistic and achievable as well as constructive to implement some campus-wide e-portfolios both for students and staff. For example, with the purpose of presenting guidance for the ones who needed information about e-portfolio use across the campus to achieve institution-wide adoption, Schaffhauser (2010) focused on the barriers and gathered data on the experiences by shifting electronic e-portfolios. Research shows that besides their supportive effects on teaching-learning, e-portfolios have some adverse effects and limitations. In one study, given that little efforts were made to uncover washback effects in alternative assessment tools, Hung (2012) used e-portfolio project as alternative assessment tools and explored the positive and negative washback effects of e-portfolios. Data were collected through reflective journals, interviews, document analysis and observations. Hung (2012) suggested that e-portfolio assessments have facilitating washback effects on learning. On the other hand, e-portfolio assessments brought some negative washback effects such as anxiety and resistance to technology. In another study, since there had been little or no guidance on how best to use specific online resources, Shin (2013) aimed to explore the limitations of existing E-portfolios as a research and assessment tool. Shin (2013) suggested that to make E-portfolios more usable, it is necessary to revise the way language proficiency was assessed.

Conclusions and Discussion

From this review of research, several conclusions were obtained. First, research in the area of e-portfolio implementation in ELT classes has focused on the relation between e-portfolio use and student motivation and demonstrated that e-portfolios develop students' reflective learning and writing skills. Second, with the help of projects which require students to use e-portfolios, it is possible to enhance student motivation to learn. Third, with regard to technological issues, some studies emphasize the improvement in students' computer skills while some others are interested in the e-portfolio creation process which demands complex

learning strategies from students. As a result of those studies, it is pointed out that e-portfolio creation process and successful development of it in language learning require some user-friendly e-portfolio platforms. Along with student use, research on pre-service teachers' use of e-portfolios also shows the facilitative effects of e-portfolios on teaching processes and research on campus-wide use of e-portfolios illustrates the significant effects of them on academic development. However, in spite of their supportive effects on teaching-learning, some researchers conclude that e-portfolios have some limitations and adverse effects, too. For instance, e-portfolio assessment may bring about learning anxiety in some learning areas since some learners may show resistance to technology, or feel uncomfortable with large audiences. In addition, as there has been little guidance on how to apply e-portfolios as assessment and research tools, they seem to be limited in use for some users.

Considering their contributions to EFL writing, some possible recommendations can be put forward. First, now that technology is an inseparable part of life and children become digital natives in the very beginning of their lives, e-portfolios as the eventual outcomes of internet technologies should be integrated into teaching-learning environments at a very early stage of education. Second, students are required to develop some complex learning strategies as well as some computer skills during the process of creating e-portfolios. Thus, keeping e-portfolios should be also considered as an interdisciplinary implementation for EFL and IT classes. Third, given that writing is believed to be the most challenging skill and consequently demotivating for most students, encouraging especially slow learners and introverts to keep e-portfolios can increase the success in EFL writing, since they can keep track of their own progress and achievement when they feel themselves motivated enough to learn. Fourth, because they are accompanied by some technological issues, e-portfolios should be used to enhance, in particular, technical vocational school students' motivation to write, as they already feel familiar with and successful in one area of the learning process and are eager to deal with such technologies.

As a final note, further research should explore the effects of e-portfolios specifically on the development of required meta-cognitive strategies in the process writing. In addition, a comparison of pre-service teachers' perception of e-portfolio use in EFL writing with inservice teachers might be another issue which calls for further investigation. The last but not the least, e-portfolio use and its influence on success in writing classes in the institutions which adopt Common European Framework of Reference for Languages can be explored in further research.

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