

Using E-portfolios and ESL Learners

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This study examines the use of e-portfolios for ESL (English as a second language) learners. The data were collected by reviewing 11 empirical studies from 2010–2012 in order to synthesize meaningful information about e-portfolios for ESL/EFL (English as a foreign language) acquisition. The studies were coded into two main categories: learning gains, including language proficiency and assessment, and technical skills. The findings showed that using e-portfolios motivated and enhanced students' writing, language learning, assessment, and technical skills. The findings also revealed that there was a questionable attitude among educators about the differences between using paper-based portfolios and e-portfolios for writing development. Finally, the review suggested e-portfolios for ecological issues and educational purposes.

Keywords: e-portfolios, writing development, oral performance, assessment

Introduction

Learning and teaching approaches, such as behaviorism and constructivism which are intertwined into pedagogy, take into consideration cognitive and social development of learners. This development necessitates the need for using tools and methods that exceed the traditional paper-pencil tests for assessment and learning (Jones & Shelton, 2006). For this need, paper-based portfolios become the alternative method to enhance learning in a social context. Vygotsky (1978; as cited in Jones & Shelton, 2006) explained that constructivism has an effective role in the widely spread use of paper-based portfolios in education, believing that knowledge exists within “social relationship” (p. 7). In other words, learning occurs in a close social context in a classroom or institution, where learners view their learning and personal knowledge within understanding their surroundings.

With the wide use of Internet, learners are exposed to the wider world. This exposure permits learners to discover new information and combine a variety of media in order to reach in-depth and broader understanding of their literacy and the world (Cole, Ryan, Kick, & Mathies, 2000). Therefore, the paper-based portfolio needs an equivalent of alternative electronic tool to cope with the development of the digital age in nowadays technological classrooms.

Educational e-portfolios are one of the alternative electronic tools that are used in teaching and learning. The e-portfolios, by its nature, motivate students to learn and become actively independent learners (Chau & Cheng, 2010; Gebric, Lewis, & Amin, 2011; Stefani, Mason, & Pegler, 2007). It also provides learners with opportunities to reinforce their learning skills, self-assessment, and their communication with the world. Finally, it helps learners develop their goals throughout their learning process (Barrett, 2006). Thus, this study defines

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e-portfolios and highlights more purposes of their utilization in L2 (second language) literacy.

What Is an E-portfolio?

Electronic portfolio, e-portfolios, Web-based portfolios, technology-based portfolio, and digital portfolio are names for the same tool, which rises from e-learning and becomes widely used in different disciplines (Cole et al., 2000; Pelliccione, Dixon, & Giddings, 2005; Butler, 2006; Barrett, 2006). Butler (2006) indicated that an e-portfolio is used for students while studying, for teachers and institutions while assessing their work, and for graduates while searching for a job. Hence, using e-portfolios is a lifelong learning that accompanies the individual for many years.

DiBiase (2002) from Penn State University and one of the pioneers in using e-portfolios defined them as being “personalized, Web-based collections that include selective evidence from coursework, artifacts from extra-curricular activities, and reflective annotations and commentary related to these experiences” (p. 2). In other words, e-portfolios depend on gathering, organizing, and evaluating the best works as well as mastering learning skills and self-assessment. A more in depth definition is by Barrett (2000) and Abrami and Barrett (2005), who describe the e-portfolios as “a digital container (that is) capable of storing visual and auditory content including text, images, video, and sound” (p. 2). In this sense, e-portfolios contain structured contexts for learners to access and present evidence for their learning for future use. Finally, Cambridge (2010) stated that an e-portfolio “presents a theory, story, or map that articulates the relationships between the different material included and synthesizes their meaning” (p. 136). He also described an e-portfolio as a genre and defined it “as fundamentally a type of composition, an emerging genre” (p. 8). This may give the notion that e-portfolios may create a paradigm shift in assessment and self-reflection for lifelong ESL/EFL learning, because they may become a form of genre, such as an autobiography, story, or a journal. From these definitions, one can grasp that the purpose of e-portfolios is to allow students to collect their works and organize their portfolios in different formats. Vygotsky (1978; as cited in Jones & Shelton, 2006) said that, “The construction of knowledge always exists within the context of past and present social relationships” (p. 9).

Purpose of the Study and Research Questions

The purpose of this significant synthesis, therefore, is to investigate the influence of e-portfolios on L2 literacy by exploring the relationship between e-portfolios, L2 literacy, and technical skills, as shown in Figure 1.

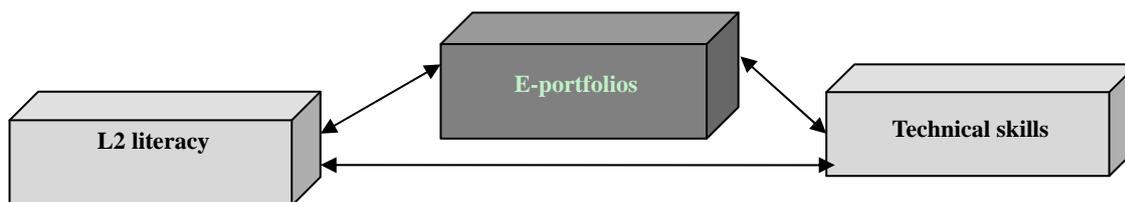


Figure 1. Model of research questions.

Upon further exploration, this study seeks to answer the following question: What effects do e-portfolios have on students’ learning, writing, and teacher assessment? To answer this main question, the following minor questions are used to specify and guide the study:

- (1) Does the use of e-portfolios have an influence on students’ academic performance?
- (2) Do technical skills impact L2 learning and academic performance while using e-portfolios?

To conclude this introductory part, the author attempts to answer the research questions from the selected data. In doing so, the author will synthesize the empirical studies which are coded according to thematic categories. The author will also discuss the findings, in terms of constructivism approach, in an attempt to answer the research questions and explore the potential influence and challenges of using e-portfolios for ESL/EFL.

Theoretical Framework

Using e-portfolios in ESL classroom enhances learning within social context where students cooperation and work together. Vygotsky's (1978) notion of learning through social development is one theory that reinforces using e-portfolios. Vygotsky (1978) explained that constructivism has an effective role in the widely spread use of paper-based portfolios in education, believing that knowledge exists within "social relationship" (p. 7). In other words, learning occurs in a close social context in a classroom or an institution, where learners view their learning and personal knowledge within their surroundings. Social constructivist theory values collaborative learning and discussion that construct new knowledge among learners within social and cultural context. Although it does not view student learning as a direct result of the teacher actions in the classroom, it views students as partners in teaching-learning process and who are capable of adopting new ideas and methods (Levin, 1999). Using e-portfolios and new technologies foster social interaction, meaningful context, and interpersonal support with teachers and students' peers. This social constructivist approach helps teachers to build new bridges through constructivist experiences (Jacobsen, 2002; Levin & Wadmany, 2006). Thus, changes in the learning environment expand and enrich classroom practices and influence students' view of integrating learning and technology.

Synthesis of Research-Based Studies

This study, which is part of a larger project that investigates the use of e-portfolios as alternative to paper-based portfolios, introduces e-portfolios in 11 empirical studies that are ranged from 2010–2012, as summarized in Table 1. It also provides a meaningful synthesis of using e-portfolios in ESL classroom.

In the theoretical framework of this study, the following pages review 11 studies that are theoretically distributed among three thematic categories. The first discusses the use of e-portfolios to promote L2 literacy; The second category compares between paper-based portfolios and e-portfolios; and the third investigates the use of e-portfolios for assessment.

Using E-portfolios Promotes L2 Learning

The purpose of this section is to answer the research question: Does the use of e-portfolios have an influence on students' academic performance? The analysis indicates that using e-portfolios has questionable affects on writing, oral performance, and assessment. This category includes four qualitative studies and two blended qualitative and quantitative studies that investigate the use of e-portfolios for learning gains. The plan is to address the studies first, and then provide analysis and discussion of the studies in terms of using e-portfolios to promote L2 learning in ESL classrooms.

First, Genc and Tinmaz (2010) conducted a qualitative study on 42 preservice teachers at Computer Education and Instructional Technology at the University of Firat in Turkey. The study showed that e-portfolios were more suitable for project-based courses and higher education. The study also showed that e-portfolios

were more personal, planned, and educational without any type of commercial concerns compared to regular websites. Eventually, the learners developed different skills, such as portfolio preparation and presentation.

Table 1

Summary of the Studies From 2010–2012

Study	Year	Country	Type	St/Tr #	Aim	Group	Time	Pb/EP	Data collection	Data analysis	Results
Chang, Tseng, and Lou	2012	Taiwan	Quant	72 St	Assess	Online	1 sem	Ep	Ep analysis	ANOVA	Positive/unreliable assess
Chang, Tseng, Chou, and Chen	2011	Taiwan	Quant	72 St	Assess	Online	1 sem	Ep	Ep/pre-post test	Rubric	Unreliable/lack of skills
Gebic, Lewis, and Amin	2011	New Zealand	Qual Quant	268 St	Learn	Online	3 years	Ep	Ep analysis	-----	Positive
Mustafa	2011	Egypt	Quant	50 Tr	Assess	Con/Exp.	1 sem	Ep	Ep/essays	ANOVA/Rubric	Positive
Aliweh	2011	Egypt	Qual Quant	60 St	Learn write	eP PBP	1 sem	Pb + Ep	Ep/pre-post test/survey	ANCOVA Pearson	No difference
Shepherd and Bolliger	2011	USA	Qual	43 St	Learn	Online Dis/L	2 sem	Pb + Ep	Ep/survey	-----	Positive/collaborative learning
Baturay and Daloglu	2010	Turkey	Quant	58 St	Assess learn	Con/Exp	1 sem	Pb + Ep	Ep pre-post test	Checklist	Positive/Ep writing and language
Genc and Tinmaz	2010	Turkey	Qual	42 Tr	Learn	Online	1 sem	Ep	Ep analysis	-----	No difference
Valdez	2010	Philippine	Qual	43 St	Write	Online	1 year	Ep	Ep/F2F & interview	Rubric	Positive/writing skills/
Chau and Cheng	2010	Hong Kong	Qual	63 St	Learn	Online	1 sem	Ep	Ep interview	-----	Independent learning
Huang and Hung	2010	Taiwan	Qual Quant	30 St	Oral	Con/Exp	1 sem	Ep/CD	Ep/pre-post test	ANCOVA	Positive some problems

Notes. St = student; Tr = teacher; sem = semester; con = control; exp = experimental; assess. = assessment; learn = learning; pb = paper-based; Ep = Eportfolio; Qual = Qualitative; Quant = Quantitative; Dis/L = distance learning; and sem = semester.

However, four teachers reported that they did not develop any skills or abilities during the course. In an attempt to defend a possible threat of validity, the researchers suggested to implement the study in different departments in order to reach accurate results about using e-portfolios for instructional assessment.

In the second study, Valdez (2010) conducted a study on 43 students who enrolled in ENGLCOM (English communication) course in De La Salle University to investigate literacy development and workload. The study showed that students documented their growth as writers throughout the course by starting from personal interests towards society issues. Because of this, they varied their writing styles to suit various audiences. However, some learners resisted using e-portfolios because of time-consuming, additional effort, and the small percentage that they contributed to their grades. Another problem was the students' concern of separating their personal online activities and school works. Valdez (2010) reported that students did not want to get criticism from friends and families.

The third study is different from the initial ones in that it is a longitudinal study. Gebic, Lewis, and Amin (2011) conducted a three-year quantitative, qualitative longitudinal study on 68 students in Auckland University of Technology at New Zealand. The study examined the influence of e-portfolios on students' L2 learning experiences and the potential challenges while using them. The findings showed positive development

and changes in students' perception of using e-portfolios. It also showed that e-portfolios helped students to be more independent, track their development, and consider their weaknesses. Gerbic et al. (2011) suggested more longitudinal studies to investigate students' perceptions on learning with e-portfolios.

Fourthly, Chau and Cheng (2010) conducted a qualitative study on an e-portfolios competition to investigate the use of e-portfolios for enhancing independent learning and the challenges associated with them. They conducted the study on 63 undergraduate Chinese students, who were from different academic disciplines and who had no previous experience with e-portfolios. Although the study showed some barrier of design and implementation, many benefits had emerged. First, a sense of ownership was increased among learners; Second, using e-portfolios supported independent learning through commitment, purpose, and strategies; and Third, using e-portfolios made students control their learning goals and personal planning. Like Gerbic et al. (2011), they suggested more longitudinal studies to examine the time issue on e-portfolios.

Fifthly, Huang and Hung (2010) conducted an exceptional quantitative and qualitative study that investigated the impact of e-portfolios on speaking skills in Taiwan. They conducted the study on 30 English major Chinese students, who were selected into either control or e-portfolios group. The researchers examined the effects of e-portfolios by asking two questions:

- (1) Do electronic portfolios enhance the language quantity, lexical richness, and syntactic complexity of EFL students' speaking performance?
- (2) What are students' attitudes towards the employment of electronic portfolios in promoting their speaking skills? (p. 195).

The data collection took the form of recording orally the required tasks and electronically submitting them to their instructor. The results showed that the e-portfolios group revealed significant oral and language learning. Using e-portfolios improved learners' oral performance in terms of language quantity, lexical richness, but not for syntactic complexity. Huang and Hung (2010) added that using e-portfolios motivated learners to strengthen their learning outcome. However, the findings revealed two. The first was "the absence of real-time interactions" and the second was problems of uploading and website breakdown, which created a sense of frustration (pp. 205-206). Yet, the researchers suggested using oral assessment rubrics, more participants, and long-term studies for future researches.

The last study in this category is different from the rest of the studies, because it was an online distance course. Shepherd and Bolliger (2011) conducted the study on 43 graduate students in USA during two semesters to examine how e-portfolios influenced cognitive load over time. Most of the students were females ($n = 25$), had master degree ($n = 30$), and aged between 23-60 years old with little or no Web publishing experience. The results showed that using e-portfolios did not increase cognitive demands and did not influence learning outcomes. Shepherd and Bolliger (2011) also found that technical knowledge was needed for using e-portfolios as tools. This need was decreased with time while developing and working with e-portfolios during the course. However, students had some difficulties that varied among unfamiliarity in developing content and getting fonts, images, document locations, and navigation bars. Shepherd and Bolliger (2011) found out that participants also helped each other and created collaborative learning. This showed that "distance settings did not interfere with peer communication, despite limited access to synchronous interaction" (p. 147). The researchers suggested other studies with general U.S. students to see if they would have similar results. As the review shows in this part, there are positive effects of using e-portfolios to promote learning skills. Yet, some

problems emerge while using e-portfolios for ESL, as will be discussed.

These studies contribute to investigate the connection between using e-portfolios and L2 learning gains. The first contribution of e-portfolios is that L2 learners improve their reading and writing while preparing for their online writing. Valdez (2010) found that students construct their writing by reading and selecting suitable sentences and words to write their essays. He indicated that using e-portfolios for writing in a structured format helps students follow their personal growth and writing development. Similarly, Chau and Cheng (2010) found that using e-portfolios promotes goal setting and personal planning for independent learning through assigning purposes and strategies. One may argue that these skills are also acquired while using paper-based portfolios. Theoretically, according to constructivism, as Jones and Shelton (2006) argued, a portfolio “provokes adult learners to look at education differently—as integrative and ongoing—reaching far beyond the confines of the classroom and continuing throughout life” (p. 23). The author does agree with this claim, because within the technology, in the epoch students need to brainstorm their ideas by using internet search engines and Websites when they look at education differently. Using e-portfolios, for example, helps Kai-Yu to use electronic dictionaries when she “cannot write the word in English” (Hung, 2009, p. 136). Using paper-based portfolios, therefore, may not aid her because she needs more time compared to using electronic facilities.

The second contribution of using e-portfolios for learning gains is the improvement of oral performance and language learning, such as grammar, vocabulary, and structure. Huang and Hung (2010) examined the impact of e-portfolios on speaking skills. The study reveals significant improvement within the e-portfolios group, whose language quantity and lexical richness are developed. They add that e-portfolios motivate students and improve their oral performance. In addition, Chau and Cheng (2010), Baturay and Daloğlu (2010), and Gebric et al. (2011) stated that L2 students become independent learners and gain positive self-confidence that permits learners to trace their learning strengths and weaknesses more than a test. In this sense, the author believes that using e-portfolios with longitudinal study, which is conducted by Gebric et al. (2011), helps learners revise their previous writings throughout their learning process. Cole et al. (2000) stated that, “A longitudinal benefit of portfolio is for students to examine their approach to learning as well as their strengths and liabilities; teachers should guide students in including entries that permit the benefits to happen” (p. 15). In other words, long-term studies permit validity of the results because learning development need longer time for different learners. Stefani, Mason, and Pegler (2007) also asserted that using e-portfolios for learning is “used to document, guide, and advance learning over time” (p. 13). Thus, it is proved from the studies that using e-portfolios promotes learning and motivates learners. Learners become responsible and monitor their literacy and personal planning for lifelong learning.

Comparing Paper-Based Portfolios to E-portfolios to Promote L2 Learning

The second category of this synthesis compares paper-based portfolios to e-portfolios to examine their influence on ESL/EFL. The first study is by Baturay and Daloğlu (2010), who conducted a study on e-portfolios and traditional paper-based assessment group in Middle East Technical University in Turkey. The study aimed to answer the following questions: (1) What are the learning gains of students who keep an e-portfolios as part of an elementary-level English course? (2) What are students’ perceptions about the online course, using an e-portfolio and their learning gains? (3) What are the similarities and differences in the grammar and vocabulary development of elementary-level EFL students who keep an e-portfolio and those who do not? and (4) How do elementary-level EFL students who keep e-portfolios develop their writing skills?

To answer these questions, Baturay and Daloğlu (2010) adopted data collection and analysis methods from North Carolina State University, Georgetown University, and George Washington University, as shown in Table 1. The results showed that both groups scored higher in the post-test than in pre-test and there were significant learning gains. However, writing and reading skills were higher for the e-portfolios group. Yet, they found out that traditional assessment of grammar, vocabulary, and achievement test were higher than e-portfolios group. They concluded that the e-portfolios group knew their strengths and weaknesses while tracing their academic progress more than a test. They suggested conducting their study with larger groups and different courses to enable generalization.

Similar to Baturay and Daloğlu (2010), the second study in this category was conducted by Aliweh (2011) on 60 students majoring in EFL at a College of Education in Egypt. The aim of the study was to enhance students' writing and learning autonomy by using e-portfolios into F2F (face-to-face) learning environment. The findings showed that there was no significant differences between traditional paper-based and e-portfolios on students' writing competence or learning autonomy. The researcher suggested using e-portfolios for students' self-assessment and sharing authority with teachers to become more responsible for their learning. However, some external obstacles, such as lack of technical skills and time limitations hindered students' writing and limited the benefits of using e-portfolios. The researcher cautiously concluded that short-term studies would not create validity and reliability to generalize the findings. He also suggested long-term studies that would combine qualitative and quantitative methods to reach deeper understanding of strategies interfered in e-portfolios implementation. Thus, comparing paper-based portfolios and e-portfolios shows that both tools have similar results. Yet, e-portfolios have more benefits than paper-based portfolios.

Thus, these empirical studies compare e-portfolios with paper-based portfolios in order to reach valid results and accurate findings of the impact of using e-portfolios on L2 literacy. It is found that e-portfolios are easier to store, access, manage, and present. In addition, they permit organizing content and adding hyperlinks, videos, and audios in any time. These characteristics, as shown in Figure 2, also permit combining the content of e-portfolios with other materials, records, ideas, and publications on the Web (Barrett, 2006; Stefani, Mason, & Pegler, 2007; Cambridge, 2010). At the same time, learners have the chance for self-renewal by using e-portfolios.

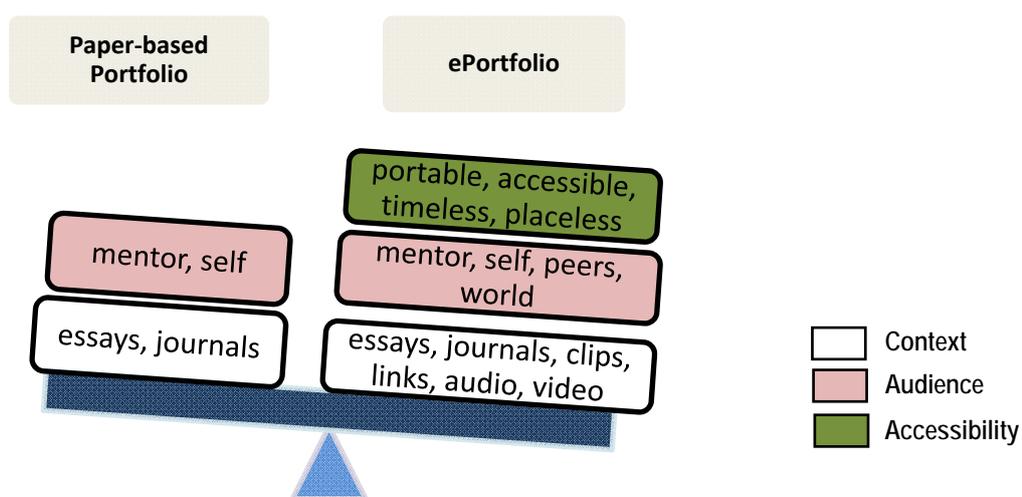


Figure 2. A comparison between paper-based portfolios and e-portfolios.

The empirical studies of this paper also find that using e-portfolios improves writing skills and academic progress. Stefani, Mason, and Pegler (2007) asserted that the educational e-portfolios are “used to document, guide, and advance learning over time” (p. 13). However, these benefits are not conclusively proven in the studies of this section.

On the one hand, some studies reveal that there are no differences between paper-based portfolio and e-portfolios. Aliweh (2011) used e-portfolios and paper-based portfolio to compare the validity of both on writing. His findings show that e-portfolios “had no significant effects on students’ overall writing competence” (p. 113) compared to paper-based portfolio. Similarly, Shepherd and Bolliger (2011) found that there is no significant difference between the requirements of paper-based portfolio and e-portfolios. They also add that there is no workload or special cognitive demands while using e-portfolios. Seldin and Miller (2009) stated that “For purposes of improvement, both electronic and paper format work well” (p. 27). In other words, both paper-based portfolio and e-portfolios reach similar outcomes and have the same learning process, such as outlining, writing, and revising.

On the other hand, Shepherd and Bolliger (2011) found differences between paper-based portfolio and e-portfolios. They find that using e-portfolios promotes collaborative learning among students compared to paper-based portfolio. This collaboration emerges from learners who lack of technical skills, which encourages them to help each other despite their enrollment in a distance-learning course. Abrami and Barrett (2005) stated that “digital portfolios have communication advantages” (p. 7). In other words, using e-portfolios promotes interaction and cooperation among students. Baturay and Daloğlu (2010) also proved that using e-portfolios improves writing skills compared to paper-based portfolio. Their study shows that students’ language proficiency and writing competence have improved. Yet, there is a slight difference between the groups. This distinction occurs from grammar and vocabulary proficiency, which is higher for paper-based users in the post-test performance because of the multiple-choice test that the paper-based group has.

In these studies, therefore, it is proved that writing development does occur, but it is not significantly differentiated between paper-based portfolio and e-portfolios. In other words, using e-portfolios comparing to paper-based portfolio has positive outcomes, such as writing development, collaborative learning, and language proficiency. Yet, the studies show inconclusive data to answer the research question about the effect of e-portfolios compared to paper-based portfolios on ESL/EFL.

Using E-portfolios to Assess Learners’ Performance

The third thematic category includes quantitative studies that mostly focus on using e-portfolios as an alternative assessment tool for paper-based portfolios and traditional tests. The first study in this category is by Mustafa (2011) who conducted a one-year quantitative study on 400 pre-service EFL teachers from whom 50 were randomly selected for the control group in Egypt. The main premise of this quantitative study was to investigate to what extent formal training in electronic assessment could positively develop EFL teachers’ knowledge, skills, and use of e-portfolios as an assessment tool. The findings indicated that the training program for using e-portfolios was effective in a sense that the learners kept developing and using e-portfolios after ending the program. The results also showed high quality of design, organization, and content of e-portfolios. Mustafa (2011) concluded that training programs provided new teachers with skills and knowledge about integrating e-portfolios as assessment tools in their classes. Finally, Mustafa (2011) suggested more researches and future extension of her study with more subjects to determine if they would have the same or

different results.

Chang, Tseng, Chou, and Chen (2011) conducted a 12-week study on 72 senior high school students, who enrolled in a computer course in Taiwan. This study was different from the other studies that are reviewed in this paper, because the participants were not aware that they were in an experimental study in order to “gain more accurate information and to avoid the Hawthorne and John Henry effects” (p. 1308). The aim of the study was to examine the validity and reliability of using e-portfolios for peer-assessment. The findings showed that students lacked evaluation skills and this caused unreliable results. The researchers indicated that peer-assessment was not also reliable to examine students’ learning achievements or attitudes. In addition, the findings showed inconsistency between peer, teachers, and exam scores, which was not correlated or significant. The researchers suggested that adding more raters and larger groups with different setting, levels, and field of study could be used for future researches. They also suggested training programs for students to assess e-portfolios.

Similar to Chang et al. (2011), Chang, Tseng, and Lou (2012) followed the same duration and number of participants in the third study of this category. The study explored the consistency and differences of teacher assessment, self-assessment, and peer-assessment in e-portfolios context. Chang et al. (2012) asked students to perform self-assessment of their e-portfolios twice, peer-assessment for six other e-portfolios, and at the same time, teachers assessed students’ e-portfolios. The findings showed that there were significant differences between the three assessment methods. The study showed that there were various differences among the rubric aspects, and “the results were not significantly correlated” (p. 309). Learning goal and e-portfolios creation, for example, were the highest aspects compared to artifact and attitude. The study concluded that peer-assessment was not reliable and valid. It also concluded that validity was connected to a number of elements, such as assessment tools, learning environment, and students’ capabilities and skills. Chang et al. (2012) suggested using assessment rubrics so that reliability would be ensured as well as training courses for raters’ consistency and improvement. Thus, using e-portfolios for assessment is not sufficient for self-assessment among learners. This unreliability is connected to a number of factors such as lack of experience.

The empirical studies in this section show that there is a questionable evidence about the reliability of using e-portfolios for assessment. On the one hand, e-portfolios have the potential of being an effective assessment tool among learners. Mustafa (2011) found that training programs guarantee effective results of using e-portfolios. In her study, teachers develop their assessment skills while using e-portfolios as alternative assessment tools. According to constructivism, “When a learner is confronted with new ways of doing things, (he/she is) often confounding the possibility of change” (Vygotsky, 1978; as cited in Jones & Shelton, 2006, p. 13). Similarly, Aliweh (2011) found that learners use self-assessment as a strategy while writing because e-portfolios help them to become more responsible for their learning. Becoming self-assessors makes learners aware of their literacy and abilities while using e-portfolios. Accordingly, Cambridge (2010) pointed out, “Both authentic assessment and learning through assessment are likely to yield a more accurate account of how well learners can apply their knowledge and skills in the academic and professional settings” (p. 88). In other words, learners evaluate the quality of their work and trace their strengths and weaknesses when they change and utilize a new tool in assessment.

On the other hand, Chang et al. (2012) found that peer-assessment is unreliable. The evidence shows that self- and teacher- assessment are correlated and not different while peer-assessment and teacher-assessment are different and cause unreliability. Similarly, Chang et al. (2011) had the same results of unreliable peer-assessment

when they conduct their study on participants who are not aware that they are in an experiment. They find out that “peer-assessment lacked inter-rater reliability” and that “students lack appropriate evaluation skills, which tends to make the assessment results dubious and ineffective” (p. 1311). In this sense, students need training in order to assess their peers accurately and effectively while using e-portfolios. However, Chang et al. (2011) asserted that e-portfolios are more reliable for learning goals than for self- or peer- assessment. From here, one may argue that using e-portfolios as assessment tools proves their effectiveness among teachers, whose jobs are to evaluate and assess learners’ outcomes. One may also argue that using e-portfolios for assessment among students is ineffective because students are not trained to assess their works or the works of others.

Major Findings From the Studies

The findings from 2010-2012 empirical studies reinforce the definition of e-portfolios as a collection of learning evidence (DiBiase, 2002; Sutherland & Powell, 2007; Abrami & Barrett, 2005) and as a type of composition and genre (Cambridge, 2010). The findings are based on L2 academic performance. Based on this major finding, as shown in Figure 3, it includes learning gains and assessment, and this demands technical skills to guarantee the success of using e-portfolios in L2 classrooms.

These categories embrace answers to the research questions, which investigates the influence of using e-portfolios on ESL learning and their connection to technical skills. The data show that three studies use qualitative and quantitative methods while eight studies are equally divided between quantitative and qualitative research methods, as previously shown in Table 1.

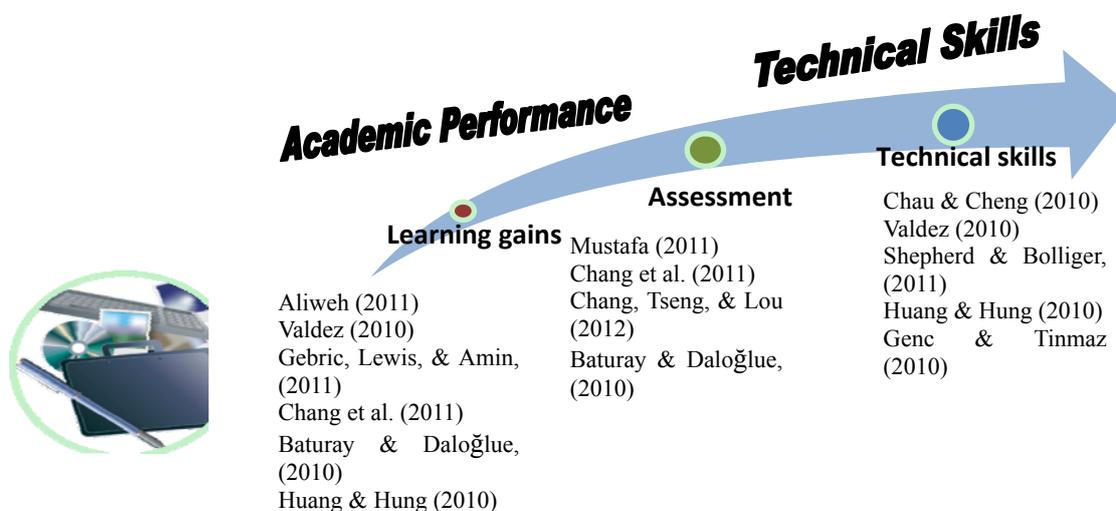


Figure 3. Two main points discussed in the studies. It also categorizes the studies according to their purposes.

The Connection Between Using E-portfolios and Technical Skill

The second concern of this paper is to answer the research question of whether technical skills influence L2 learning and academic performance while using e-portfolios. The literature in the field shows that there is no definite answer and the connection is inconclusive.

On the one hand, using e-portfolios develops learners’ technical skills and provides them with

technological knowledge (Abrami & Barrett, 2005). For example, Mustafa (2011) proved that there is a significant relationship between using e-portfolios and technical skills. While Mustafa's findings are positive, Genc and Tinmaz (2010), on the other hand, report inconclusive results. According to Genc and Tinmaz (2010), some learners develop technical skills, which positively affects their performance, because e-portfolios focus on the process of learning and outcomes. The researchers also report that other L2 learners did not develop any skills while using e-portfolios.

In addition, Shepherd and Bolliger (2011) who conducted a study on students with little or no previous knowledge with the Web found that technical skills and knowledge are needed for using e-portfolios. They find out that this lack of technical literacy hinders the progress of learning while using e-portfolios. Thus, the research question about the relationship between technical skills and academic performance is not explicitly answered. This is because the findings are not definite about the relationship between using e-portfolios for learning development and technological skills. This result may become a basis for future research studies.

The studies also show that some challenges and barriers emerge while using e-portfolios. Huang and Hung (2010) reported that real time oral performance is a problem emerged while using e-portfolios. This problem appears while uploading learners' previously recorded tasks. Another serious problem is learners' resistance of using e-portfolios. For example, Valdez (2010) reported that some learners in his study are against using e-portfolios, because it is time-consuming, requires additional work, and does not equal the minimal percentage added to their grades. Other learners resist using e-portfolios, because they are concerned about the issue of privacy. They do not want friends, families, and other potential audiences to criticize their academic work believing that it is only between them and their teachers. A third problem is unfamiliarity and lack of technical knowledge that hinder utilizing e-portfolios. Shepherd and Bolliger (2011) and Aliweh (2011), for example, found that it is important to have technical skills and knowledge of using electronic tools. This need simplifies utilizing e-portfolios and accelerates the pace of language development and learning gains.

Conclusions and Implications for Future Research

This study is mostly confined to the influence of e-portfolios on academic performance and their relationship to technical skills. The related literature in this paper, from 2010–2012, is intended for a broad audience of learners, researchers, and curriculum designers involved in researching or contemplating the use of e-portfolios for ESL/EFL learning and assessment. Mainly, the empirical studies show that using e-portfolios develops L2 learners' reading, writing, oral performance, and technical skills. Using e-portfolios also enhances language development, increases learning gains, and teaches assessment for both learners and teachers. However, some researchers are not yet certain about the benefits of using e-portfolios claiming that more studies are needed to gain validity and reliability for using e-portfolios. Clearly, educational technology is still ongoing and educators need to understand how e-portfolios can be integrated in learning and teaching.

Another important issue is that using e-portfolios is more ecologically sound reducing the need to use paper-based portfolios. This means that there will not be printing out of useless papers, whenever there is a revision for any document. Thinking towards using e-portfolios, editing, and modifications can be done easily by changing font or layout to suit different purposes and audiences. Therefore, one way to become an eco-friendly person is by encouraging everyone to become eco-friendly themselves and utilize e-portfolios to save natural resources that remain on planet Earth.

To this end, academically thinking, the author would suggest a future empirical study that investigates

using e-portfolios to trace writing development and English language literacy. The author also suggests using longitudinal method with such type of future studies, because, first, writing development needs enough time to be accomplished, and second, using e-portfolios needs equivalent time to perceive the learning process and learning outcomes in a blending e-learning.

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