

The Effects of Electronic Portfolio Application on Improving Vietnamese High School Students' Writing Ability: The Case Study of Three High Schools in Binh Duong Province

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Abstract

The research aims to investigate the effects of electronic portfolios (e-portfolios) on English as a foreign language (EFL) high school students' writing ability, students' and teachers' attitudes towards the application of e-portfolios in writing classes at three high schools in Binh Duong province. The sample included 15 teachers and 300 twelfth graders at three high schools in Binh Duong province. Facebook was chosen as an e-portfolio platform where the students created and developed their personal e-portfolios. The data were collected both quantitatively and qualitatively through a mixed-method study using the tools of a pre-test, a post-test, a questionnaire (for students), and a semi-structured interview (for teachers in charge of the experimental classes). The survey results showed that e-portfolios considerably impact EFL high school students' writing ability. The results also revealed challenges and technological drawbacks concerning the use of e-portfolios in these classes. For the optimal application of e-portfolios in writing courses, recommendations were put forward to those who are in charge of the course and to those who are taking the course as well.

Keywords: attitude, electronic portfolio, English writing ability, Vietnamese high school student

1. Introduction

1.1 Background of the Study

Learning a language is intended to facilitate communication. Listening, speaking, reading, and writing are four essential skills that a language student must master (Kurniasih, 2016). Among these skills, writing is one of the most productive skills and plays a vital role in encouraging communication because it offers learners opportunities to improve their language acquisition by the use of sentences, words, and structures to articulate their thinking, which ultimately assists learners to retain the vocabulary and grammar they have acquired (Bello, 1997). Writing also significantly generates thought, focuses attention, and organizes thoughts (Rao, 2007). Academic writing often employs formal styles which are distinct from real-world speech communication. To have effective performance in academic writing, students must acquire high precision via instruction and extensive practice.

The setting of teaching and learning English writing in high schools in Binh Duong province indicates that the majority of pre-intermediate EFL students have struggled with writing quality and are motivated to improve their writing abilities. The restricted amount of time in English classes is the primary problem affecting the writing quality among students since it hinders them from completing their work with sufficient effort. Many high school students in Vietnam struggle with writing because they lack the necessary vocabulary and grammatical structures to produce expectedly flawless writing. As a consequence, these students might commit blunders - sort of difficult-to-correct mistakes occurring in the writing performance of certain students who have just graduated from lower-secondary schools. The problems concerning learning time, instructional materials, and the mismatch between learning and testing have contributed to the difficulties encountered by Vietnamese students. The majority of EFL high school students, when exposed to English, are often restricted to two and a half studying hours per week. As a result, these students have minimal English writing experience. Within these time constraints, it is inevitable that students may struggle with their writing sessions. This problem results in both poor writing performance and negative attitudes towards English writing. A large number of writing assignments in Vietnamese upper-secondary textbooks (English 10, 11, 12) are given through the perspective of paragraph writing and controlled composition writing practice. These writing courses emphasize understanding the linguistic structures of a model text and then rewriting these structures to produce identical pieces of writing.

Regarding the conventional method of teaching writing skills, students passively learned language structures and vocabulary from the written text, which is ineffective for enhancing their long-term recall of vocabulary and language structures. As students habitually acquire this kind of writing instruction over the course of three years, their vocabulary, grammatical structures and even their ability to generate and communicate thoughts in English are restricted. This reason negatively impacts both the quality of their writing and their attitudes towards learning English writing as well.

Although certain hurdles limit students from enhancing their writing skills, the introduction and widespread use of internet technology significantly impact their education. Numerous fields of our society (e.g., education, business, tourism) are now dominated by the internet. Obviously, the quality of education has altered and improved. Internet technology has the potential to enhance education for both students and teachers if used effectively. Students may learn other languages, notably English, more effectively due to emerging technology. Students may benefit from having access to a variety of tools and learning technology, so if one option does not work for them, others may. Each student uploads and maintains his or her own writings on the class group, allowing their peers to periodically reflect on their work. Through the use of technology and online discussion forums created by their teachers, students can share their tutors, have cooperations and ask questions in real-time from both home and school. Students can also publicly give remarks on the teacher's page and pose inquiries, encouraging them to ask questions, participate in revising processes, and contact their teachers without hesitation.

The advancement of technology has accompanied the emergence of new evaluation systems, notably portfolios, and e-portfolios, which are becoming more and more widely used in the present context. The paper-based portfolios refer to systems of evaluation that require students to disclose their test scores and track their development over time. Students have, however, considered this paper-based technique "tedious" (Berimani & Mohammadi, 2013). This results in the field of writing assessment shifted to a new kind of portfolios known as electronic portfolios, which have been claimed to be more effective (Gary, 2009). As e-portfolios are similar to traditional ones, and the only distinction is its electronic characteristic, almost all activities (including writing, reading, difficulty classifying, writing assisting, and even grammar and writing checking) are computer-based.

Due to difficulties associated with teaching and learning writing skills for Vietnamese EFL high school students, the research group determined that teaching and learning writing through the application of e-portfolios might assist students in writing more successfully. It is intended that e-portfolios can offer students additional opportunities to practice their writing skills through technology and enhance their writing abilities, which had been mostly neglected. Towards this trend, the purpose of this study is to investigate the impact of e-portfolios on the writing ability of Vietnamese students and the attitudes of both students and teachers about the application of e-portfolios in developing their writing ability.

1.2 Aims of the Study

The study aims at exploring the effects of e-portfolio application on Vietnamese EFL high school students' writing ability and investigating the students' and teachers' attitudes towards the use of E-portfolios in helping students improve their writing performance.

1.3 Research Questions

The research attempts to answer the following questions: (1) How does the application of e-portfolios improve EFL high school students' writing performance? (2) What are the students' and teachers' attitudes towards the application of e-portfolios in the Vietnamese context?

1.4 Significance of the Study

Theoretically, a Facebook-based e-portfolio offers a profound and complete transformation in the way students learn. The current civilization or the knowledgable society demands the need to adapt and reform the educational system via a computer, making it a potent instrument for students' cognitive development. The research findings also add more profound insight into language teaching and learning with the application of newly-adopted technologies.

Practically, the current study is significant to a number of stakeholders, including EFL teachers and students, as well as other TESOL researchers who are studying about English writing teaching approach. The research results indicate that e-portfolios in writing lessons will encourage EFL students to produce better-written work, and they are able to compare their writing productions with others in order to evaluate their own capabilities and progress since e-portfolios can be focused on developing self-assessment abilities.

1.5 EFL Writing

Writing is often regarded as the most challenging and productive skill for language learners and EFL students (Nunan, 1999). Good writing performance requires a particular amount of linguistic understanding, writing rules, vocabulary, and grammar (Erkan & Saban, 2011). Meyers (2004) claims that writing is considered the natural means to construct language, as speaking is. Writing is a linguistic form of communication with other people. It involves the exploration, the presentation, the modification, and the revision of opinions. Writing is often time-bound in the same manner as a conversation, as shown by Harmer (2004).

Byrne (1992b) identifies five educational aims of writing for academic reasons: (i) to help students practice a variety of writing styles that enable them to accommodate diverse learning methods and demands; (ii) to inform students of their progress based on the written products they produce; (iii) to provide students with a chance to be exposed to a foreign language via two or more integrated channels; (iv) to provide students with a variety of exercises that serve as a respite from speaking responsibilities; and (v) to be applied in both official and informal examinations. The overall aim of writing is to convey a tale or to recount a sequence of events and to describe a person, a location, or an object.

As claimed by Hughey (1983), there are several essential components of writing. The first one is the message or the topic that the author wishes to convey to the audience. Without this message or topic, writing is not considered communication due to the lack of information provided by the author, and therefore no message is conveyed to the audience. The next component is the writer's purpose or intention, which must be accomplished beforehand. In order to make up a purpose for writing, the writer needs to ask himself about the specific goal of writing,

such as to entertain, inform, and describe his or her writing. This step will improve the flow and clarity of the writing. A reader who will read and comprehend the message of the writing is essential. A skilled author must be aware of the reader's needs, levels, and motivation.

Aygün and Aydın (2016) characterize writing skills as a process in which EFL students must engage in a number of metacognitive processes, including brainstorming, planning/outlining, organizing, writing, and revising. These researchers also claim that writing a well-developed paragraph or a strong essay in EFL needs clear thought and logical arrangement at each of these phases. With a sense of impatience, EFL students have the tendency to start and complete a writing process as quickly as possible by omitting steps they consider superfluous, such as planning, drafting, and rewriting, since they believe these steps are just a waste of time. Since the writing process is not straightforward, portfolios are considered a beneficial tool for helping students to develop effective writing abilities and appropriate planning techniques by keeping track of what they have done and allowing them to reflect on their own development. E-portfolios may be included in the EFL curriculum in the future due to the increased potential afforded by technology in terms of online writing (Zhu & Bu, 2009).

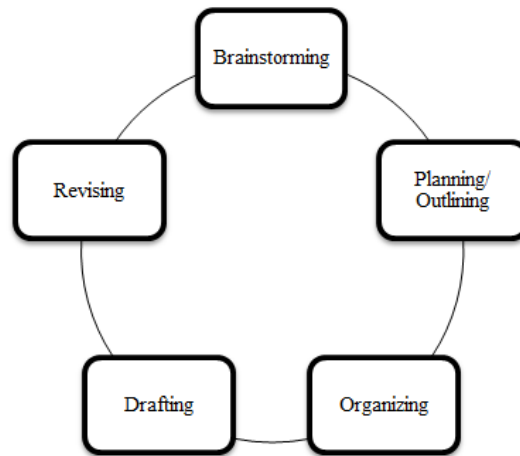


Figure 1. The writing process (Aygün & Aydın, 2016)

Writing skills may assist students in achieving higher grades, landing the job students desire, and then advancing in their careers (Reinking & Osten, 2010). Writing is a technique to develop ideas or opinions. As for writers, writing allows sufficient time for investigation and consideration of the information they want to convey. Individuals are able to alter and restructure the shared content to their liking. Consequently, communication will become more exact and efficient. Written communication gives an enduring record of ideas, acts, and conclusions. As for the readers, this mode of communication saves them time since they absorb information more quickly when they read than listen.

According to Nunan (1999), successful writing needs extensive knowledge of grammatical rules, lexical devices, and logical connections, as well as the capacity to generate ideas, construct viewpoints in sentences and paragraphs, and revise well-developed ideas and paragraphs. As stated by Nunan (1999), when language learners write drafts, they are expected to demonstrate control of a number of variables, including control of contents, formats, sentence structures, vocabularies, punctuations, spellings, and letter formations. The writer must be able to organize and combine materials into paragraphs and phrases that are cohesive and logical. In EFL lessons, students may possess grammatical and lexical information, but they may not have adequate opportunities to apply this knowledge to actual sources.

It is stated by Lap and Truc (2014) that while assessing students' works, many EFL teachers prioritize rectifying grammatical problems above communicative speech, even if these flaws do not impact the message communicated. Even if having outstanding ideas, EFL students whose works include grammatical errors may not be able to achieve higher grades. In contrast, students' compositions will obtain better grades without grammatical errors despite their lack of communication ability. Students prefer to pay greater attention to grammar because they anticipate receiving good writing grades from their teachers. Although grading student writing based purely on grammatical errors seems to be counterproductive, if not detrimental, given that there are several other criteria to determine the quality of a student's writing (Truscott, 1996). Significant considerations have been given to portfolios as a viable strategy for enhancing and evaluating the quality of writing training. From the view of Vygotsky (1978), the zone of proximal development, knowledge is best constructed when students engage in meaningful communication with their classmates and teachers. Learning to write in this manner can help students receive positive reinforcement on their knowledge of linguistics, content, and ideas in the composition of texts. With the integration of technology, especially with the use of the Facebook platform, the benefits of portfolios on the writing skills of EFL students are more promising.

As writing is regarded as one of the most challenging language skills, the teaching, and mastering of EFL writing in Vietnamese contexts encounter several obstacles. Due to the curricular requirements of the public school learning system, it is reasonable that Vietnamese students are often asked to create a written output that adheres to a specific format or examples. The writing process approach is, consequently, found challenging for both instructors and learners (Nordin & Mohammad, 2017), particularly in Vietnamese high schools. High school students and the vast majority of Vietnamese EFL students as well struggle with a lack of concepts (Tuan, 2010). Students

could not generate relevant or engaging ideas for their writing, considered it one of the most challenging phases of writing. Insufficient vocabulary and grammatical understanding can have a negative impact on English proficiency (Brown & Abeywickrama, 2019). This deficiency may result in the inability to write a paragraph, or simply a phrase since "learners engaging in productive work might get very dissatisfied when they lack the vocabulary or grammar necessary to express themselves" (Harmer, 2015, p.252). Based on the results of Nguyen (2015), this deficiency is likewise the primary factor for students' poor writing performance.

Regarding many obstacles associated with EFL writing, the lack of prewriting is also noteworthy. This step has a significant bearing on the quality of students' compositions. Following Blackburn-Brockman (2001), most EFL learners underestimate the importance of writing. Middle and high school students tended to skip this prewriting step of their writing process. Time constraints are other practical obstacles to students' writing success (Tuan, 2010). In several studies, time constraints are also primary factors stopping students from writing properly and demonstrating their writing skills (Alfaki, 2015). The native language, or Vietnamese in the case of this study, is a problem in English proficiency since it is seen as "a highly significant component in the effectiveness of a learner's writing in EFL" (Harmer, 2015, p.250).

From what have been pointed out earlier, this study aimed to investigate the impact of e-portfolios on the writing performance of Vietnamese EFL students. It is expected that e-portfolios can have beneficial effects on EFL students' writing performance and that they would have favorable views on the contribution of e-portfolios to writing teaching and learning in Vietnamese contexts.

1.6 Portfolios

1.6.1 Traditional Portfolios

There are various viewpoints regarding the definitions of portfolios or conventional portfolios. A conventional portfolio is a collection of learning products created by students whose accomplishments and growth are represented through materials gathered during or after the learning process (Stiggins, 1996). He further explains that a portfolio is "a tool of communicating about student improvement" and "not a form of evaluation". Norton and Wiburg (2003) define a portfolio as "a methodical and selected collection of student work that demonstrates the student's motivation, academic development, and level of success". Freeman and Freeman (1994) distinguish a portfolio from a somewhat different angle as "a box or folder containing various types of information accumulated over time on one student". The definition of Freeman and Freeman (1994) does not modify the insight function of a portfolio. Paulson et al. (1991, p.60) propose a more specific definition of a portfolio as follows: (i) a compilation of student work that demonstrates their efforts, their development, and their accomplishments in one or more subject areas (ii) a collection which contain evidence of student self-reflection, criteria for selection, criteria for determining merit, and student engagement in content selection. These definitions share the same characteristic that a portfolio is a collection of information about one or many students' work.

1.6.2 E-portfolios

Various names, including digital portfolios, web-based portfolios, technology-based portfolios, and e-portfolios, refer to E-portfolios. This instrument has been extensively used in several fields (Barrett, 2006; Pelliccione et al., 2005). Al Kahtani (1999) describes an e-portfolio as "a collection of a student's work accessible through the Internet or a recordable CD-ROM." Lankes (1995) proposes a similar technique to describe e-portfolios but stresses its capacity to display students' effort, progress, and success in a systematic manner inside a technological setting. As shown in Lorenzo and Ittelson's (2005) research, an e-portfolio is also considered a digital collection of artifacts consisting of materials, demonstrations, and achievements. E-portfolios are "personalized, web-based collections that comprise selected evidence from coursework, artifacts from extracurricular activities, and reflective annotations and discussion relating to these experiences," as defined by DiBiase (2002). E-portfolios are collections of the most outstanding items that may be collected, categorized, appraised, or even self-evaluated. An e-portfolio is, therefore, considered one of the most effective instruments for supporting both teachers and students in the language acquisition process, particularly in developing students' writing performance.

Alexiou and Paraskeva (2010) outline four kinds of e-portfolios that are useful in various educational settings: (i) assessment portfolios; (ii) showcase portfolios; (iii) development portfolios; and (iv) reflective portfolios. An assessment portfolio is an alternate assessment method in which students are asked to demonstrate their competency in specific academic areas. A showcase portfolio showcases the students' project work in several academic areas. A development portfolio supports students' personal development planning and offers a way of monitoring and planning the students' growth over time. A reflective portfolio is tailored to students' requirements. These types of portfolios demonstrate the student's achievements concerning the learning objectives. Due to the process-based nature of e-portfolios, according to Hartnell-Young et al. (2007), all versions of this learning and evaluation tool can potentially increase language learning.

Numerous studies have shown that e-portfolios provide significant advantages to ESL and EFL students. E-portfolios, according to Williams and Cui (2005), can give "a larger and fuller view of students' writing". In writing, the e-portfolio learning process is shown to be congruent with the process-based approach to some degree. E-portfolios have enhanced student accountability in the writing and grading processes. On the contrary, Williams and Cui (2005) claim students feel less pressure when utilizing e-portfolios and that this pressure is not usually caused by professors but rather by class time constraints.

Other studies demonstrated the benefits of e-portfolios for both students and teachers. Students can trace their learning progress, and teachers can assess student work more effectively (Al Kahtani, 1999; Lopez-Fernandez & Rodriguez-Illera, 2009). Due to the user-friendly environment provided by e-portfolios, it is easier for students and teachers to exchange ideas and get constructive comments (Lorenzo & Ittelson, 2005; Erice & Ertas, 2011). Students can update or alter the materials based on previous efforts without having to

rewrite or retype it (Aliweh, 2011; Al Kahtani, 1999). Barrot (2016) further emphasizes the freedom that e-portfolios may afford to their users, as students can complete their assignments whenever and wherever they feel at ease. Teachers, however, are not required to provide constant feedback in class.

In the context of teaching writing concerning the use of e-portfolios, several studies have shown the advantages of e-portfolios. Valdez (2010) points out that students might enhance their writing abilities by reviewing, editing, and writing on a variety of themes. As a result, both the engagement among students and the quality of their work can be improved. The study conducted by Thang et al. (2012) research shows that e-portfolios can help students improve a variety of linguistic and soft skills, including management, communication, and networking.

As for the limitations of e-portfolios, Williams and Cui (2005) identify the first one as the dependability of student work due to the flexibility of selecting when and where to complete activities. Once students may complete tasks outside of class, it is doubtful that the exercises were completed independently. The use of technology tools such as spell-checking and auto-correction is also crucial. This valuable feature becomes a detriment when students abuse these tools (Ericse & Ertas, 2011) and disregard essential grammatical elements such as spelling, subject-and-verb agreement, or word forms. Following Tezci and Dikici (2006), anxiety and hesitation are most prevalent among novice students who have not spent much time using computers and dread future technical problems. Valdez (2010) also states that students' reluctance to the adoption of e-portfolios is due to the absence of grade impacts. Other related studies have also shown the adverse effects of a sluggish internet connection on online communication, including tension, fatigue, and boredom (Aydin, 2010; Barrot, 2016).

1.6.3 Characteristics of Traditional Portfolios and E-Portfolios

Wanchid and Charoensuk (2015) provide a comparison between paper portfolios and e-portfolios as shown in Table 2.1. E-portfolios provide several advantages to both EFL teachers and students, particularly in writing classes. Such advantages will improve not only the effectiveness of teaching writing, as EFL teachers will have more space and time to implement writing teaching approaches into their lessons, but also students' performance in the composition of writing, as they will be equipped with essential language-learning skills and knowledge.

Table 1. The primary distinctions between paper-based portfolios and e-portfolios (taken from Wanchid & Charoensuk, 2015)

No.	Criteria	Paper-based portfolios	E-portfolios
1	Place for portfolio development	Assigning, evaluating, and storing the students' work in scrapbooks, paper folders, or paper binders.	Assignments, grades, and students' records are all maintained digitally.
2	Classification of communication	One-way communication	Two-way communication (without the time and place limits)
3	Audience	Instructors and class fellows	Instructors, class fellows, parents, and others A privacy function to restrict access
4	Degree of interaction	Less engagement and content discussion	More engagement and content discussion with unrestricted online involvement
5	Feedback and evaluation condition	Handwritten feedback evaluation of papers	Typewritten feedback and evaluation by posting on students' e-portfolio platforms
6	Ratio of response	Less instantaneous response from instructors and classmates	More instantaneous responses from instructors and classmates
7	Discussion environment	Less assistance and an absence of a feeling of learning community	Greater support and a sense of learning community
8	Degree of cultural barriers	Significant cultural obstacles in face-to-face discussion, the group response phase, and instructor's feedback	Fewer cultural barriers
9	Other materials	No further materials or supplies	With the support of computer technology, writing process is much easier by using the tool of cutting and pasting. Students are able to collect and organize their portfolios in many media, such as audio, videos, graphics, and texts (Barrett, 2006).
10	Content permanence	Fewer possible sentiments of lasting contentment	Greater possibility for permanent emotions of contentment A strong feeling of pleasure, pride, and achievement
11	Portability and sharing	Complex to carry and share Documents are frequently lost and difficult to recover or recreate.	Easy to carry, share, and transport to a new system (Barrett, 2006)
12	Information accessibility	Not convenient for many readers to access the content at a time	Easier to get access to the content and information for the audience/less time-consuming (Al Khatani, 1999)
13	Skills	No requirement for computer literacy skills	Multimedia technology competencies Skills in reading, communication, and problem-solving that are more universal (Abrami & Barrett, 2005)

14	Evaluation	Inconvenient for both formative and summative assessments More effort is required to revise and improve pupils' work.	Convenient for formative assessment Revise/adapt the teacher's lesson plan Revisit and refine students' work
15	Organization and Maintenance	Storage requires physical space. Uncomfortable to search, edit, and update.	Easy to organize, maintain, search, edit, link, store, reflect on, and update
16	Cost	No extra cost except for papers, files, or folders. Additional expenses, including time and transportation expenditures	Inexpensive after software installment, but no expenditure if free weblogs and social networking sites are used.

1.7 Previous Studies

Facebook's influence on teaching and learning writing has been the subject of ELT studies. The study of Shepherd (2015) on students' perceptions of composition and literacy practices on Facebook revealed a correlation between Facebook and writing classroom activities. Through composing techniques, student's understanding of their audience was heightened. Concerning the growth in students' reading abilities, the investigation of Amicucci (2017) showed the same results.

The findings of studies conducted by Tananuraksakul (2014) and Kitchakarn (2016) on students' reactions to Facebook-based writing instruction revealed that Facebook was viewed as a simple, functional, and engaging tool for learning writing and that students were motivated to participate in their learning. Dizon (2016) performed experimental research to assess the impact of Facebook-based writing on the writing abilities of second language learners in terms of fluency, lexical resource, and grammatical correctness. The findings of this research suggested that students' writing fluency increased more than the control group with the application of the Facebook platform.

A study conducted by Shih (2011) investigated the impact of integrating Facebook and peer evaluation into English writing. This educational method was supposed to improve students' writing knowledge, abilities, interest, and motivation via extensive Facebook participation and peer evaluation. Another study merging Facebook and peer feedback by Wichadee (2013) indicated that students' writing improved because a more participatory learning environment, such as Facebook, enabled students to offer feedback successfully and build a more optimistic mindset. Students also learn new phrases and writing patterns by reading the comments and postings of their classmates, according to research conducted by Ping and Maniam (2015, p.35).

Regarding the use of Facebook for portfolios, Aydin (2014) investigated the attitudes and views of students regarding this strategy, termed F-portfolio. Students' vocabulary and grammatical knowledge increased, and their reading and writing abilities and other language-learning skills produced positive outcomes. Barrett (2000) claimed that students utilizing Facebook-based portfolios outperformed traditional portfolios because of the platform's adaptability, engagement, and social pressure. Recent studies conducted by Barrot (2016) on the influence and problems of Facebook-based portfolios on ESL writing revealed that this instrument provided students with more opportunities to reflect on their work, track their development, and display more writing with higher accomplishments. Students utilizing Facebook reported a number of difficulties, including technical concerns with formatting and inputting messages, reading, and compilation. These problems were resolved in a more recent study by the same author. The notion of the audience extensively engaged the students surveyed in the writing process, resulting in a superior written output. Barrot (2020) also emphasizes the key results of this research that refuted the myths against the use of Facebook for educational reasons.

Throughout history, many ELT and EFL studies regarding the use of e-portfolios have been carried out with reference to university students, especially first-year ones. Unfortunately, there have been no specific reports on the application of e-portfolios to high school students in the Vietnamese context. As every educational context has its own characteristics concerning the teachers, the students, the curriculum, and so on, it is of utmost importance to have a closer approach by using Facebook-based e-portfolios to explore the writing performance of high schools in Binh Duong province in particular and in Viet Nam in general.

2. Method

2.1 Research Participants

The study was conducted to 300 students in grade 12 in the academic year 2022/2023 at three high schools in Binh Duong Province (Vo Minh Duc high school, Nguyen Trai high school, and Nguyen Thi Minh Khai high school). On the part of the teaching staff, there were 15 teachers of English involved in the interview (5 teachers per school). Of these 5 teachers, two teachers taught the experimental group, two teachers taught the control group, and the rest worked as the leaders of the English teaching staff at the school under investigation. From the personal profiles obtained from the school leaders, these teachers are considered to be experienced in and devoted to their English language teaching and learning in high school education, which can contribute greatly to the validity and reliability of the information obtained from the surveys.

2.2 Research Instruments

To select an acceptable research method, a variety of aspects must be taken into consideration, including the study's objectives, the availability of resources, and the number of participants (Dörnyei, 2007). This study aims to explore electronic portfolios' effects on high school students writing abilities. This experimental research employed mixed methods because these methods permit the investigation of the effect of a treatment (Creswell, 2023a). A questionnaire is supplied to obtain the attitudes of the participants towards the intervention (Krosnick, 2017), and a semi-structured interview is also employed to achieve the goal of obtaining more information, which is utilized as

supporting evidence for the results of the questionnaire (Harris & Brown, 2010). With the aim of answering the research questions, a number of instruments were used for data collection: (i) A pre-test and a post-test; (ii) A questionnaire; and (iii) A semi-structured interview.

The pre-test and the post-test: Based on Cambridge's proficiency assessments, these tests were used to evaluate students' writing performance at the beginning and at the end of the experiment. The assessments of these tests were taken from the writing section of Cambridge's Preliminary English Test (PET) and were comparable to the writing activities in the course book, requiring students to write 100 to 150 words on a variety of themes and in various formats, such as a letter, a posting, an essay, or a brochure. With respect to scoring the tests, the Cambridge English Writing Assessment Scale for level B1 according to CEFR level was deployed. The reason for choosing this scale was the fact that it was designed to test students' writing ability as well as their use of English in specific contexts given in the exam. Additionally, using this marking scale, the researcher could gain reliability and validity from the results, thus reducing inconsistency among the graders (Hughes, 2010). The marking scale consists of four main components: contents, communicative achievements, organization, and language. Students' writing will be marked based on the level of completeness for each of the abovementioned criteria.

The questionnaire: Derived from Barrot (2016), a retrospective self-report questionnaire was also delivered to collect data on students' attitudes towards the application of e-portfolios in their writing ability. This type of questionnaire appeared acceptable, given that its objective was to elicit the attitudes and emotions of learners (Spector, 1994). The rating scale includes twelve behavioral questions (see Table 3.1) picked from the study of Barrot (2016). Designed in the format of a Likert scale questionnaire, one of the effective tools to investigate the "strength of feeling or attitude" (Bell, 2010, p. 243), this section required students to respond by choosing one of the given numbers ranging from 1 to 5 for each indicator, indicating "not at all" for 1 to "to a very great extent" for 5. To ensure students' understanding, data accuracy and reliability, the questionnaire was translated into Vietnamese with the consultation of two Thu Dau Mot University Ph.D. lecturers (majoring in Contrastive Comparative Linguistics). Comprehensive instructions were also provided to the students prior to their responses. If a student had trouble understanding a question on the questionnaire, he or she was urged to request more clarification. The students got 15 minutes to complete the questionnaire following the instructions.

Table 2. Questionnaire exploring students' attitudes towards the application of e-portfolios in improving their writing abilities

Items	1	2	3	4	5
1. E-portfolio supplied me with the educational reading and writing abilities essential to become a multiliterate, independent, and active student and citizen.					
2. E-portfolio assisted me in making better-written production.					
3. E-portfolio enabled me to present my best writing.					
4. E-portfolio enabled me to digitally gather, store, and manage textual outputs.					
5. E-portfolio aided in my development of an authorial sense.					
6. E-portfolio enabled me to demonstrate my knowledge of many writing forms and procedures.					
7. E-portfolio enabled me to assess and reflect comprehensively on my writing ability.					
8. E-portfolio enabled me to track my development.					
9. E-portfolio assisted me in gaining a deeper awareness of it myself.					
10. E-portfolio assisted me in determining the deficiencies in my existing capabilities and knowledge.					
11. E-portfolio encouraged me to improve my writing ability.					
12. E-portfolio lowered my writing-related anxiety and stress.					

(Scales: 1=Not at all; 2=To a small extent; 3=To a moderate extent; 4=To a great extent; 5=To a very great extent)

The semi-structured interview: The semi-structured interview in English was also employed to explore teachers' attitudes towards the application of e-portfolios in their writing lessons. In a qualitative study, semi-structured interviews are often employed and are the most prevalent source of qualitative data in research. This technique for data collection often involves a conversation between the researcher and the participants, led by a flexible interview process and augmented by follow-up questions, probes, and comments. The technique enables the researcher to gather open-ended data, investigate participants' views, attitudes, and views about a certain subject, and dig deeply into personal and, at times, sensitive matters (DeJonckheere & Vaughn, 2019). Three open-ended questions (adapted from the research of Yastibas & Cepik (2015)) are provided for the teachers in charge of the experimental group to discover teachers' attitudes towards the application of e-portfolios and reveal challenges and technological drawbacks when students use e-portfolios to improve writing ability: (1) *What are major drawbacks of e-portfolios for students to improve writing ability?* (2) *What are the influences of the application of e-portfolios on the part of the teachers?* (3) *What are teachers' requirements when it comes to the application of e-portfolios?* As several participants who joined the interview sections had their own personal concerns and specific scheduling

difficulties, they were each questioned separately at a time that was convenient for them. In order to efficiently analyze the interview results, all of the meetings were carefully recorded with the agreement of the participants and reexamined afterward. The research group assured the respondents that their responses would not be used in any way other than for the purpose of the study, and they made it very apparent that the data would not be used for any other reason. After completing the interview, the researchers re-listened to the audio, input the data into Microsoft Excel, and then began to analyze and contrast the various participants' comments.

2.3 Data Collection Procedures

The research was conducted from the middle of October to the beginning of December 2022, including three main stages: (1) administering the placement test; (2) implementing Facebook-based-portfolios in teaching and learning English writing; (3) collecting data via the post-test and the questionnaire (see Table 3).

Table 3.2. Procedures for data collection

Week	Topic/Content	Tasks
1	Pre-test	Students in both groups did a pre-test
2	<i>Life stories</i>	Uploading a paragraph about life stories Peer and teacher feedback
3	<i>Urbanization</i>	Uploading an online posting about a personal experience in a city Peer and teacher feedback
4	<i>The green movement</i>	Uploading an article about green recycles and how they can be implemented Peer and teacher feedback
5	Progress test	Mid-term Test
6	<i>The mass media</i>	Uploading a short brochure introducing a functional mobile application Peer and teacher feedback
7	<i>Cultural identity</i>	Uploading a short introduction to the culture of a foreign country Peer and teacher feedback
8	Assessment	Students in both groups did a post-test
9	Questionnaire	Students in the experimental group responded to a questionnaire
10	Interview	Teachers in charge of the experimental group answered the interview questions

3. Results and Discussion

3.1 The Application of E-portfolios in Improving Students' Writing Ability

In response to the first research question, 'How does the application of e-portfolios improve EFL high school students' writing performance?', the results of a pre-test and post-test were analyzed and discussed. The scores of the writing tests were analyzed by a statistical software called Statistical Package for the Social Sciences 20 (SPSS-20). The results of the Descriptive Statistics Test on students' writing scores will be presented in Table 4.

Table 4. Means and standard deviations of writing scores for both groups on the pre-test

Group	Experimental group (N=150)	Control group (N=150)
Mean	31.62	31.59
SD	2.987	3.213

This scale has four marking criteria, including content, communicative achievement, organization, and language usage. Each criterion accounts for 5 marks as the maximum; therefore, the test's total score will be 40 marks for two tasks. The scores on the pre-test for both groups in Table 4 revealed that the students' scores of the experimental group were rather higher than those of the control group. The lowest score was 27 in the experimental group, compared to 25 in the other group. As the highest score of these two groups was the same, 36 out of 40, it is clear that the writing levels of the students in both groups were still similar because their scores were distributed widely, ranging from 25 to 36. Since none of the students got a score lower than 25, which means they were all in band 4 and 5 according to the writing marking rubrics.

Table 5. Means and standard deviations of writing scores for both groups on the post-test

Group	Experimental group (N=150)	Control group (N=150)
Mean	36.75	33.79
SD	1.687	1.848

The figures are in Table 5 show that the mean score of the treatment group was rather higher than that of the control group by 2.96

(M=36.75; SD=1.687 compared to M=33.79; SD=1.848). When compared to the pre-test's results (see Table 4.1), there was an increase in the mean scores of the two groups. With regard to the experimental group, the mean score of the post-test rose by 5.13 in comparison to that of the pre-test, from 31.62 (SD=2.987) to 36.75 (SD=1.687). Unfortunately, the control group saw a smaller rise in the mean score between the pre-test and post-test results (M = 31.59; SD=3.213 and M = 33.79; SD=1.848, respectively).

Table 6. Students' writing scores through the application of e-portfolios from the t-test analysis

	Pre-test – Post-test	Paired Sample Test				t	df	Sig. (2-tailed)	
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1		-5.133	3.529	.288	-5.703	-4.564	-17.817	149	.000

As shown in Table 6, the sig. value of the scores in the experimental group before and after the application of e-portfolios is about 0.000, which is smaller than 0.05. As the first hypothesis can be accepted, the application of e-portfolios has a significant impact on the students' writing ability.

The test results of both experimental and control groups after the application of e-portfolios have shown that there was a slight difference between these groups. The results from the experimental group indicated that students could increase their writing ability when being instructed with the use of e-portfolios or Facebook-based portfolios, whilst the control group experienced a minimal rise. This was understandable that, to some extent, students have gained potential advantages from studying with Facebook portfolios, known as one of the alternative assessment tools. This kind of assessment helps to foster students' intrinsic motivation, ownership, and responsibility and then enhances the interaction between teacher and students (Brown (2004). It also appreciates the uniqueness of every student as an individual, thus promoting their critical thinking skills, their self-assessment abilities, and their encouraging collaborative work during their learning. It was reasonable that the experimental group could improve their writing ability better than the other one. These results are considered to be consistent with the studies conducted by Wanchid and Charoensuk (2015) and Shih (2011).

The primary findings of the study revealed that students of multi-levels also obtained higher scores when using e-portfolios. These findings support the results of a previous study stating that students are relatively encouraged to write with higher quality on the condition that they are acknowledged their products will be published and seen by other people (Kitsis, 2008). This can be explained by the fact that students are aware of what they need and how to do for their writing; hence, more effort and time are invested in writing.

3.2 Students' and Teachers' Attitudes towards the Application of E-Portfolios

In response to the second research question, 'What are the students' and teachers' attitudes towards the application of e-portfolios in the Vietnamese context?', the results of the two research instruments (the questionnaire and the semi-structured interview) were analyzed and discussed.

3.2.1 Questionnaire Results

There were 12 items designed in the format of a Likert scale ranging from 1 for "not at all," 2 for "to a small extent," 3 for "to a moderate extent," 4 for "to a great extent" and 5 for "to a very great extent". The alpha coefficient for the 12 items in the questionnaire is 0.689 (see Table 7), indicating that these items have relatively high internal consistency.

As shown in Table 8, the mean scores and standard deviations for the e-portfolios' impact on students are clearly presented. The findings from these data reveal that the application of e-portfolios, especially on the Facebook platform, has a positive effect on the participants' writing ability to some extent.

The reliability of the questionnaire has been determined using Cronbach's Alpha. The value of this questionnaire is based on the calculation tool named Statistical Package for the Social Sciences 20 (SPSS 20). The reliability value of the questionnaire employed in this research varied from .689 to .711, suggesting that the instrument for data collection is very trustworthy and reliable. These figures can be clearly seen in Table 7.

Table 7. Reliability statistics of the clusters in the questionnaire

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.689	0.711	12

Table 8. Descriptive statistics of the clusters in the questionnaire

	N	Minimum	Maximum	Mean	SD
Item 1	150	2	4	2.87	0.72
Item 2	150	2	5	3.67	0.791
Item 3	150	2	5	3.47	0.96
Item 4	150	3	5	4.07	0.774
Item 5	150	2	5	3.53	1.028
Item 6	150	2	4	3.2	0.751
Item 7	150	1	5	3.4	1.147
Item 8	150	2	5	3.87	0.887
Item 9	150	2	4	3.07	0.575
Item 10	150	2	4	3.2	0.543
Item 11	150	2	5	3.73	0.774
Item 12	150	3	5	3.47	0.62

The figures from Table 8 showed that all of the 12 items had high mean scores, ranging from 2.87 (item 1; SD=0.72) to 4.07 (item 4; SD=0.774). Item 4 and item 8 notably had the highest mean scores, with 4.07 (SD=0.774) and 3.87 (SD=0.887), respectively. These results indicated that students found e-portfolios help them to organize their writing products electronically and monitor their progress better. Some of the other clusters also had high mean scores indicating students highly agreed that e-portfolios could help them to write better essays (item 2, M=3.67; SD=0.791) and develop a sense of authorship (item 5, M=3.53; SD=1.028). Item 11, related to the motivation that students could get from e-portfolios, also had a relatively high mean score (M=3.73; M=0.774).

The questionnaire results indicated that the experimental group students had positive attitudes towards using Facebook portfolios for their writing lessons. These students' motivation for English writing was enhanced, and their own learning progress was also appropriately monitored, which allowed them to reflect on what they had acquired during the course. These results are in line with the key findings of Tananuraksakul (2014), Wichadee (2013), Shih (2011), and Kitchakarn (2016) in the section of previous studies. Results from other research (Kummin & Rahman, 2010; Rahimi & Katal, 2012) argue that EFL learners with limited English proficiency seem not to own as adequate metacognitive strategies as those with full proficiency in English. Portfolios of any type are able to motivate them to develop a plan, organize, and self-control their own learning in a more efficient way.

Although e-portfolios used in this study were based on technology, namely the Facebook platform, it seems the atmosphere of the classroom was shifting into a more dynamic educational environment, in which students were encouraged to be active EFL learners rather than passive students in other traditional language classrooms. In responses to the questionnaire, most of the students showed their agreement about the beneficial sides of e-portfolios in terms of supporting and motivating them to produce better essays. This finding was in line with the hypothesis of affective filter suggested by Krashen (1988), claiming that EFL learners with negative attitudes, such as being uninterested, stressed, unconfident, or uninspired, are likely to gain less success in their EFL learning.

3.2.2 Interview Results

Interviews using a semi-structured format were used to acquire qualitative data for the qualitative approach. Three main open-ended questions are provided for teachers in charge of the experimental group to employ teachers' attitudes towards the use of e-portfolios and reveal challenges and technological drawbacks when students use E-portfolios to improve writing ability, as follows: (1) *What are major drawbacks of e-portfolios for students to improve writing ability?* (2) *What are the influences of the application of e-portfolios on the part of the teachers?* (3) *What are teachers' requirements when it comes to the application of e-portfolios?*

The majority of teachers' responses were about technological problems in response to the first interview question. Teacher 1 answered, "It is difficult for those students having poor internet connection or even no Internet connection. These students could not participate in the course". Teacher 2 responded, "Some students do not have any electronic devices, so it is very challenging for them to use e-portfolios". These results were consistent with those of Barrot (2016), as students started off with poor Internet connections, which made utilizing Facebook-based e-portfolios inconvenient. This problem is prevalent when using technology in English teaching and learning. The absence of smartphones is a challenge linked with technology-based instruction and learning. This finding shows that teachers have a sympathetic attitude towards students related to poor network problems.

In response to the second interview question, Teacher 3 stated, "Teachers need to have a deep understanding regarding technological knowledge, for example, the operation of a learning management system for collection of students' writing submissions." Teacher 8 claimed, "e-portfolio activities should be planned and well-organized before every lesson". In the same view as it is suggested by Goldsmith (2007), teachers should create realistic goals and criteria for implementing, assessing, and evaluating e-portfolios. It is true that students' negative attitudes, such as boredom, lack of enthusiasm while waiting for the teachers to figure out technological issues, or trying to fulfill an e-portfolio task, etc., may be expressed. It is, therefore, the initial requirements of teachers before every e-portfolio course contain an effective plan, a clear rubric to evaluate students' E-portfolios, and detailed feedback on every e-portfolio task.

In response to the final interview question, only one teacher affirmed that the application of e-portfolios to improve students' writing ability did not influence the way he or she teaches and evaluates writing skills in classes. Other teachers totally agree that the use of e-portfolios positively affected them to some extent. These educators agree that e-portfolios are beneficial extracurricular activities for language learners. The e-portfolios of students are evidence that they developed personally and grasped the target language. These

findings are in line with those suggested by Yastibas & Cepik (2015), which indicate that e-portfolios are practical activities because they motivate students to utilize the target language outside of EFL classes. By applying new terminology from their course book to an authentic writing assignment, students may have additional opportunities to learn how to use the target language. These students are also encouraged to utilize the target language both inside and outside of the classroom

4. Conclusion

4.1 Summary of the Study

The findings of this study provide evidence that the application of electronic portfolios significantly improves the writing ability of EFL students. In terms of assisting the students in the development of their writing abilities, it is beneficial to the students in certain respects. The study also revealed that both teachers and students had positive attitudes towards the use of Facebook as the e-portfolio software for their writing lessons, although there are some challenges and technological drawbacks, such as poor Internet connectivity and the absence of smartphones. It is evident that this particular teaching application is a revolutionary educational tool for EFL teachers and learners in a very small region. In light of the outcomes of the study, it is possible to hypothesize that this may be an effective tool for students to improve both their writing ability and their computer literacy abilities, both of which are recognized as being necessary for students. Although the explorations are not quite new compared to those from previous studies, this research has successfully demonstrated the effectiveness of e-portfolio application in teaching English in general and in teaching English writing skills in particular in Vietnamese contexts. The implications that are put forward in the study not only contribute to the improvement of English teaching and learning at the institutions under investigation but also help to strengthen the community's belief about the roles and effective applications of instructional technology of different types in English teaching and learning in the area of 4.0 technology.

4.2 Implications

Based on the findings of the experimental study, the following are pedagogical implications for both teachers in charge of writing courses at universities and students taking these courses as well in Vietnamese contexts. Facebook is regarded as a helpful tool for EFL teachers in language instruction. Teachers might support their students by incorporating technology into their lessons, consequently contributing to the creation of a more engaging learning environment for students and the design of more engaging language classroom activities. This is, in fact, a chance for EFL teachers to update their teaching approaches to create a more engaging, energetic, and exciting classroom atmosphere. Teachers will then serve as facilitators in their classrooms, bridging the gap between them and their language students. As writing is considered the most challenging language-learning skill, students must first master receptive abilities like reading and listening before integrating them into their writing. Students may utilize online dictionaries and Word's autocorrect software to improve their vocabulary and grammatical structures. Facebook, a social networking site where people from all over the globe can interact by sharing memories or having face-to-face calls, may now help EFL students preserve their writings online, share their works with target readers, and arrange essays into an e-portfolio. If students let classmates observe, they may get helpful comments. Facebook is a valuable tool for EFL students to improve their language skills, mainly writing.

4.3 Limitations

Despite the fact that this research provided several intriguing results, a number of limitations still remain. The most challenging problem for the researchers in undertaking a comprehensive investigation on this intriguing subject was time constraints. In order to implement this application, the researchers had to adhere to the course book's content and ensure that it would not interfere with other teaching activities. This was done to ensure that students received adequate instructions for a better learning experience and positive results on some formative and summative assessments.

The number of questions on the questionnaire was another factor that was affected by the time constraints. Due to the short time allotted for the project and the interaction between teachers and students, it was not possible to create a survey with more than 20 or 30 questions. In this survey, the writers could only use a well-designed 12-item questionnaire from a prior study.

4.4 Recommendations

Depending on the reviewed literature, the findings of comparable studies conducted in the past, and the outcomes of the empirical investigation, several suggestions are made for local institutions, and for future researchers.

For local institutions, before allowing students to practice writing on the Facebook platform, institutions have to make sure every student at least have an electronic device. Additional computer skills or technology skills training courses should also be provided, since some of the students are unfamiliar with using Facebook, particularly for writing and sharing their goods to create a portfolio. After receiving training courses, students will have the opportunity to raise any relevant concerns, so that the writing products may provide superior outcomes. Regional schools should allow students the access to school's computers with stable Internet connection in the computer lab, which can reduce the students' technological drawbacks and challenges of the application of e-portfolios in their English studies.

For future researchers, it is suggested to provide consultations on the selection of conventional and electronic portfolios for various participant groups since it is a crucial aspect that should be proposed. A comprehensive comparison could be made, and the researchers would be able to assess the effectiveness of each form and draw a conclusion about which is preferred by both students and EFL teachers. A future investigation into this topic or one that is comparable might be carried out for the whole of the academic year, in each and in every academic discipline, and in each and every grade level of high school. To investigate the roles that e-portfolios play in the

evaluation and in the growth of students' metacognitive skills, another approach would be to implement the creation of e-portfolios in all high school subjects beginning with the tenth graders, which would allow researchers to determine the extent to which e-portfolios play a role in these areas.

References

- Abrami, P. C., & Barrett, H. L. (2005). Directions for research and development on electronic portfolios. *Canadian Journal of Learning and Technology*, 31(3). <https://doi.org/10.21432/t2rk5k>
- Al Kahtani, S. (1999). Electronic portfolios in ESL writing: An alternative approach. *Computer Assisted Language Learning*, 12(3), 261-268. <https://doi.org/10.1076/call.12.3.261.5711>
- Alexiou, A., & Paraskeva, F. (2010). Enhancing self-regulated learning skills through the implementation of an e-portfolio tool. *Procedia - Social and Behavioral Sciences*, 2(2), 3048-3054. <https://doi.org/10.1016/j.sbspro.2010.03.463>
- Alfaki, I. M. (2015). University students' English writing problems: Diagnosis and remedy. *International Journal of English Language Teaching*, 3(3), 40-52.
- Aliweh, A. M. (2011). The effect of electronic portfolios on promoting Egyptian EFL college students' writing competence and autonomy. *Asian EFL Journal*, 13(2), 90-132.
- Amicucci, A. N. (2017). Rhetorical choices in Facebook discourse: Constructing voice and personal. *Computers and Composition*, 44, 36-51. <https://doi.org/10.1016/j.compcom.2017.03.006>
- Aydin, S. (2010). EFL writers' perceptions of portfolio keeping. *Assessing Writing*, 15(3), 194-203. <https://doi.org/10.1016/j.asw.2010.08.001>
- Aydin, S. (2014). EFL writers' attitudes and perceptions toward F-portfolio use. *TechTrends*, 58(2), 59-77. <https://doi.org/10.1007/s11528-014-0737-6>
- Aygün, S., & Aydın, S. (2016). The use of e-portfolios in EFL writing: A review of literature. *ELT Research Journal*, 5(3), 205-217.
- Barrett, H. C. (2000). Create your own electronic portfolio. *Learning and leading with technology*, 27(7), 14-21.
- Barrett, H. C. (2006). Using electronic portfolios for formative/classroom-based assessment. *Classroom Connect Connected Newsletter*, 13(2), 4-6.
- Barrot, J. S. (2016). Using Facebook-based e-portfolio in ESL writing classrooms: Impact and challenges. *Language, Culture and Curriculum*, 29(3), 286-301. <https://doi.org/10.1080/07908318.2016.1143481>
- Barrot, J. S. (2020). 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>
- Bell, J. (2010). *Doing Your Research Project: A Guide for First-Time Researchers in Education, Health and Social Science*. Open University Press.
- Bello, T. (1997, May 31). *ERIC - ED409746 - Improving ESL Learners' Writing Skills*. *ERIC Digest*, 1997-Jun. Retrieved from <https://eric.ed.gov/?id=ED409746>
- 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.
- Blackburn-Brockman, E. (2001). Prewriting, planning, and professional communication. *The English Journal*, 91(2), 51. <https://doi.org/10.2307/822345>
- Brown, D. H., & Abeywickrama, P. (2019). *Language Assessment: Principles and Classroom Practices* (2nd ed.). Pearson Education ESL.
- Byrne, D. (1992b). *Teaching Writing Skills (Longman Handbooks for Language Teachers)* (Revised). Addison-Wesley Longman Ltd.
- Creswell, J. W. (2023a). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (Fifth Edition). Pearson.
- DeJonckheere, M., & Vaughn, L. M. (2019). Semi-structured interviewing in primary care research: a balance of relationship and rigour. *Family Medicine and Community Health*, 7(2), e000057. <https://doi.org/10.1136/fmch-2018-000057>
- DiBiase, D. (2002). Using E-portfolios at Penn State to enhance student learning. *E-Education Institute*, 23, 2.
- Dizon, G. (2016). A comparative study of Facebook vs. paper-and-pencil writing to improve L2 writing skills. *Computer Assisted Language Learning*, 29(8), 1249-1258. <https://doi.org/10.1080/09588221.2016.1266369>
- Dörnyei, Z. (2007). *Research Methods in Applied Linguistics: Quantitative, Qualitative, and Mixed Methodologies*. Oxford University Press.
- Erice, D., & Ertas, A. (2011). The impact of e-portfolio on foreign language writing skills. *Egitim Bilimleri Fakültesi Dergisi*, 44(2), 73-94. https://doi.org/10.1501/egifak_0000001225

- Erkan, D. Y., & Saban, A. İ. (2011). Writing performance relative to writing apprehension, self-efficacy in writing, and attitudes towards writing: A correlational study in Turkish tertiary-level EFL. *The Asian EFL Journal Quarterly March 2011*, 13(1), 164-192.
- Freeman, D., & Freeman, Y. (1994). Whole language principles for bilingual learning. In A. D. Flurkey & R. J. Meyer (Eds.), *Under the Whole Language Umbrella: Many Cultures, Many Voices* (pp. 240-263). Natl Council of Teachers of English.
- Gary, C. (2009). Implementation challenges of the English language e-portfolio system from various stakeholder perspective. *Journal of Educational Technology Systems*, 37(1), 97-118. <https://doi.org/10.2190/ET.37.1.h>
- 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>
- Harmer, J. (2004). *How to Teach Writing* (1st ed.). Pearson Education ESL.
- Harmer, J. (2015). *The Practice of English Language Teaching* (5th ed.). Pearson Education ESL.
- Harris, L. R., & Brown, G. T. (2010). Mixing interview and questionnaire methods: Practical problems in aligning data. *Practical Assessment, Research, and Evaluation*, 15(1), 1-19. <https://doi.org/10.7275/959j-ky83>
- Hartnell-Young, E., Harrison, C., Crook, C., Pemberton, R., Joyes, G., Fisher, T., & Davies, L. (2007). The impact of e-portfolios on learning. *University of Nottingham*. <https://doi.org/10.13140/2.1.4484.6407>
- Hughes, A. (2010). *Testing for Language Teachers*. Cambridge University Press.
- Hughey, J. B. (1983). *Teaching ESL Composition: Principles and Techniques*. Newbury House Publishers.
- Kitchakarn, O. (2016). How students perceived social media as a learning tool in enhancing their language learning performance. *Turkish Online Journal of Educational Technology*, 15(4), 53-60. <http://files.eric.ed.gov/fulltext/EJ1117631.pdf>
- Kitsis, S. M. (2008). The Facebook generation: homework as social networking. *English Journal*, 98(2), 30-36. Retrieved from <https://eric.ed.gov/?id=EJ818269>
- Krashen, S. (1988). *Principles and practice in second language acquisition*. Prentice Hall.
- Krosnick, J. A. (2017). Questionnaire design. *The Palgrave Handbook of Survey Research*, 439-455. https://doi.org/10.1007/978-3-319-54395-6_53
- Kummin, S., & Rahman, S. (2010). The relationship between the use of metacognitive strategies and achievement in English. *Procedia - Social and Behavioral Sciences*, 7, 145-150. <https://doi.org/10.1016/j.sbspro.2010.10.021>
- Kurniasih, E. (2016). Teaching the four language skills in primary EFL classroom. *JET (Journal of English Teaching)*, 1(1), 70-81. <https://doi.org/10.33541/jet.v1i1.53>
- Lankes, M. A. D. (1995, November 30). *ERIC - ED390377 - Electronic Portfolios: A New Idea in Assessment. ERIC Digest*, 1995-Dec. Retrieved from <https://eric.ed.gov/?id=ED390377>
- Lap, T. Q., & Truc, N. T. (2014). Enhancing Vietnamese learners' ability in writing argumentative essays. *The Journal of AsiaTEFL*, 11(2), 63-91. http://www.asiatefl.org/main/download_pdf.php?i=50&c=1404136409
- Lopez-Fernandez, O., & Rodriguez-Illera, J. L. (2009). Investigating university students' adaptation to a digital learner course portfolio. *Computers & Education*, 52(3), 608-616. <https://doi.org/10.1016/j.compedu.2008.11.003>
- Lorenzo, G., & Ittelson, J. (2005). An overview of e-portfolios. *Educause learning initiative*, 1(1), 1-27.
- Meyers, A. (2004). *Gateways to Academic Writing: Effective Sentences, Paragraphs, and Essays* (1st ed.). Pearson Education ESL.
- Nguyen, T. H. (2015). Problems affecting learning writing skill of grade 11 at Thong Linh high school. *Asian Journal of Educational Research*, 3(2), 53-69.
- Nordin, S. M., & Mohammad, N. B. (2017). The best of two approaches: process/ genre- based approach to teaching writing. *The English Teacher*, 11. Retrieved from <http://www.melta.org.my/journals/index.php/tet/article/download/315/211>
- Norton, P., & Wiburg, K. M. (2003). *Teaching with Technology: Designing Opportunities to Learn*. Thompson/Wadsworth.
- Nunan, T. (1999). Exploring the concept of flexibility. In J. Garrick, & V. Jakupc (Eds.), *Flexible Learning, Human Resource and Organisational Development: Putting Theory to Work* (1st ed.). Routledge. <https://doi.org/10.4324/9780203991817>
- Pelliccione, L., Dixon, K., & Giddings, G. (2005). A pre-service teacher education initiative to enhance reflection through the development of e-portfolios. *Balance, fidelity, mobility: Maintaining the momentum in proceedings of the 22nd Annual Conference of the Australasian*.
- Ping, N. Y., & Maniam, M. (2015). The effectiveness of Facebook group discussions on writing performance: A study in Matriculation College. *International Journal of Evaluation and Research in Education*. <https://doi.org/10.11591/ijere.v4i1.4489>
- Rahimi, M., & Katal, M. (2012). Metacognitive strategies awareness and success in learning English as a foreign language: An overview. *Procedia - Social and Behavioral Sciences*, 31, 73-81. <https://doi.org/10.1016/j.sbspro.2011.12.019>

- Rao, Z. (2007). Training in brainstorming and developing writing skills. *ELT Journal*, 61(2), 100-106. <https://doi.org/10.1093/elt/ccm002>
- Reinking, J. A., & Osten, V. R. der. (2010). *Strategies for Successful Writing: A Rhetoric, Research Guide, Reader and Handbook (9th Edition)* (9th ed.). Pearson.
- Shepherd, R. (2015). FB in FYC: Facebook use among first-year composition students. *Computers and Composition*, 35, 86-107. <https://doi.org/https://doi.org/10.1016/j.compcom.2014.12.001>
- Shih, R. (2011). Can web 2.0 technology assist college students in learning English writing? Integrating Facebook and peer assessment with blended learning. *Australasian Journal of Educational Technology*, 27(5). <https://doi.org/10.14742/ajet.934>
- Spector, P. E. (1994). Using self-report questionnaires in OB research: A comment on the use of a controversial method. *Journal of Organizational Behavior*, 15(5), 385-392. <https://doi.org/10.1002/job.4030150503>
- Stiggins, R. (1996). *Student-Centered Classroom Assessment* (2nd ed.). Merrill Publishing Company.
- Tananuraksakul, N. (2014). Use of Facebook group as blended learning and learning management system in writing. *Teaching English With Technology*, 14(3), 3-15. Retrieved from <http://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.desklight-214ebeb6-0343-40e3-918b-41a2e36c8980/c/ARTICLE1.pdf>
- Tezci, E., & Dikici, A. (2006). The effects of digital portfolio assessment process on students' writing and drawing performances. *Turkish Online Journal of Educational Technology*, 5(2), 46-55. <http://files.eric.ed.gov/fulltext/EJ1102422.pdf>
- Thang, S. M., Lee, Y. S., & Zulkifli, N. F. (2012). The role of the electronic portfolio in enhancing Information and communication technology and English language skills: The voices of six Malaysian undergraduates. *Computer Assisted Language Learning*, 25(3), 277-293. <https://doi.org/10.1080/09588221.2012.655299>
- Truscott, J. (1996). The case against grammar correction in L2 writing classes. *Language Learning*, 46(2), 327-369. <https://doi.org/10.1111/j.1467-1770.1996.tb01238.x>
- Tuan, L. T. (2010). Enhancing EFL learners' writing skill via journal writing. *English Language Teaching*, 3(3), 81-88. <https://doi.org/10.5539/elt.v3n3p81>
- Valdez, P. N. (2010). Reflections on using the digital portfolio in academic writing in a Philippine university: Problems and possibilities. *Philippine ESL Journal*, 5(1), 160-170.
- Vygotsky, L. S., Cole, M., John-Steiner, V., Scribner, S., & Souberman, E. (1978). *Mind in Society: The Development of Higher Psychological Processes* (Revised ed.). Harvard University Press.
- Wanchid, R., & Charoensuk, V. (2015). The effects of paper-based portfolios and weblog-based electronic portfolios on limited English proficiency students in writing for service industry course. *English Language Teaching*, 8(9), 131-145. <https://doi.org/10.5539/elt.v8n9p131>
- Wichadee, S. (2013). Peer feedback on Facebook: The use of social networking websites to develop writing ability of undergraduate students. *Turkish Online Journal of Distance Education*, 14(4), 260-270.
- Williams, J. & Cui, G. (2005). *Teaching writing in second and foreign language classrooms*. McGraw-Hill Education.
- Yastibas, A. E., & Cepik, S. (2015). Teachers' attitudes toward the use of e-portfolios in speaking classes in English language teaching and learning. *Procedia - Social and Behavioral Sciences*, 176, 514-525. <https://doi.org/10.1016/j.sbspro.2015.01.505>
- Zhu, M., & Bu, J. (2009). Chinese EFL students' perspectives on the integration of technology. *English Language Teaching*, 2(3), 153-162. <https://doi.org/10.5539/elt.v2n3p153>

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