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E-portfolios in EFL Writing: Benefits and Challenges



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Abstract

While the benefits of portfolio assessment are well documented in second language (L2) writing literature, educators still face challenges as they seek to incorporate it in their classrooms. This study explored English as a Foreign Language (EFL) college writers' perceived benefits and challenges of e-portfolio creation and evaluation by following two classes of sophomore students for two academic years. Through the analyses of a questionnaire, students' reflections, and interviews, five themes emerged regarding the perceived benefits: 1) allowing students to review and reflect, 2) developing ownership and authorship, 3) seeing improvement and feeling empowered for writing, 4) cultivating digital literacies skills, and 5) enhancing scaffolded learning. Moreover, three challenges were found regarding students' utilization of e-portfolios: technical difficulties, time taken to edit their posts, and learner issues. Overall, most students valued the practices of creating and evaluating their own *Wix*-based e-portfolios which displayed their development and growth as writers and learners over time. Although some students reported challenges to constructing the *Wix*-based e-portfolios, they considered the e-portfolio approach innovative, integrated, and reflective. This study concludes with implications for educators who wish to integrate the portfolio approach through web-based platforms.

Keywords: portfolio assessment, EFL writing, e-portfolio, feedback

Introduction

Electronic portfolios, also known as e-portfolios, have gained increasing attention in education assessment. In English as a Foreign Language (EFL) writing, e-portfolios refer to purposeful digitalized collection of multimodal artifacts, which can be used to document students' writing process

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and formatively assess their progress regarding their production and performance (Burner, 2014; Lam, 2020). They have been found to enhance students' writing performance (Barrot, 2020), promote feedback interaction (Lee, 2017), as well as increase learner autonomy (Tham, 2021). According to Lam (2019; 2020), unlike conventional paper-based portfolios, e-portfolios are more effective options for several reasons. First, they can raise learners' awareness of audience while making their works published and accessible to the public. Second, owing to the unique features provided by different platforms, e-portfolios can provide stimulating audiovisual styles for today's learners. Lastly, they are portable, interactive, and permanent. Taken together, the convenient and customized characteristics of e-portfolios allow learners to have an authentic audience and explore technical flexibility in displaying their written works. At the same time, they can provide teachers opportunities to innovate writing curriculum and enrich students' learning experiences (Lam, 2017).

While the benefits of portfolio assessment have been widely discussed in the literature, writing educators often face challenges as they seek to incorporate it in their classrooms (Mak & Wong, 2018). Some teachers may lack sufficient training to increase their skills and knowledge to apply portfolio assessment, while others may be impeded by heavy teaching workload to develop innovative forms of assessment. In addition, although many second language (L2) writing studies have promoted the use of e-portfolios as alternative assessment, the use of e-portfolios in EFL writing is considered relatively new (Lam, 2019). Despite growing interest in the application of e-portfolios in EFL writing in countries such as Hong Kong (Sultana, Lim, & Liang, 2020) and Iran (Biglari, Izadpanah, & Namaziandost, 2021), few attempts had been made to investigate the impact of e-portfolio assessment in Taiwan where most writing teachers adopt conventional assessment by assigning students a topic and then grade their papers (Chen, 2005; Lo, 2010). Applying traditional methods of teaching and assessment in writing classes cannot satisfy the needs of learners in the twenty-first century. How it can be realized in Taiwan's college writing classrooms remains under-researched. Addressing these gaps, this study attempts to explore Taiwanese EFL college students' benefits and challenges while creating and evaluating their writing e-portfolios in a web platform, *Wix.com*.

Literature Review

E-portfolios for Teaching and Learning of Writing

The use of e-portfolios is an approach that combines learning, teaching and assessment of writing together (Hung, 2012). Compared to traditional assessment, such as timed essay writing, e-portfolios are process-oriented, which can encourage students to demonstrate their learning achievements, reflect on their learning over time, as well as to revise and improve their work (Kongsuebchart & Suppasetsee, 2018). E-portfolio assessment often involves feedback activities, such as self-assessment, peer assessment, and teacher/tutor assessment (Lam, 2013). When e-portfolios are used for self-assessment, they can assist students in taking control of their learning and becoming more autonomous and self-regulated (Al-Hawamleh, Alazemi, & Al-Jamal, 2022; Karami, Sadighi, Bagheri, & Riasati, 2019). During peer assessment, students can learn from their classmates through giving and receiving feedback on their work (Nhi & Mai, 2018). Instructor or tutor assessment, however, can provide learners opportunities to discuss and receive feedback from more competent others as scaffolding (Namaziandost, Alekasir, Sawalmeh, & Miftah, 2020). Thus, e-portfolio assessment is considered more student-centered, interactive, and contextualized in comparison with traditional assessment (Lam, 2020).

There are two common types of e-portfolios: learning portfolios and showcase portfolios (Burner, 2014). *Learning portfolios* can be used to keep track of students' learning and comprise all the writing samples produced by students throughout the course, as well as self-/peer feedback and written

reflections. *Showcase portfolios*, on the other hand, contain representative writing samples selected by students based on course instructions or some stated criteria. Thus far, different conclusions have been drawn regarding the impact of these portfolio systems on students' attitudes and learning of writing. Barrot (2020) examined how Filipino L2 university students utilized Facebook-based e-portfolios as learning portfolios and found that students were able to raise awareness of audience because Facebook provides a flexible, interactive, and accessible platform to the public. Lee (2018) explored how L2 students developed a sense of ownership, authorship, and scholarship that were motivated to construct and maintain their showcase e-portfolios. Comparing the two portfolio systems, Lam (2013) found that Hong Kong EFL students who worked with learning portfolios favored the approach because they could benefit from peer and instructor feedback for revisions while those who were from the showcase portfolio group felt less positive about the effectiveness of portfolio assessment because they focused on selecting and revising the two best drafts for showcasing. The impact of different e-portfolio systems on student perceptions remains inconsistent and requires further investigation. Considering the fact that a school-based learning management system was used for uploading process texts (e.g., Draft 1, peer editing sheet, Draft 2), this study focused on students' use of *showcase e-portfolios* to demonstrate their written works in a web platform that was different from the school-based learning management system.

Platforms Used for Writing E-portfolios

With the rapid development of Web 2.0 technologies, a variety of web-based platforms have been proposed for creating e-portfolios. For example, *Edmodo* (Karami et al., 2019), *Facebook* (Barrot, 2016; 2020; Nhi & Mai, 2018), *Google Docs* (Tonogbanua, 2018), *Mahara* (Chui & Dias, 2017), *wiki* (Akbari & Erfani, 2018), *Wix.com* and *weebly.com* (Lee, 2018), as well as *WordPress* (Paiz, 2018). Potentials of using these sites as e-portfolio platforms include accessibility to the public, permanent storage, and improvement of information and communication technology skills. Moreover, many have shown how e-portfolios can be used to help learners critically reflect on their writing processes (Farahian, Avarzamani, & Rajabi, 2021), increase learner autonomy (Lo, 2010), improve writing performance (Tonogbanua, 2018), and promote feedback interaction (Al-Hidabi, Kabilan, & Shakfa, 2020). While technologies will continue to change and thrive, educators who wish to integrate e-portfolios may face challenges related to selection of platforms, training procedures, infrastructure, and users' privacy. Some researchers such as Barrot (2020) suggest that different online platforms should be explored to see how they can offer more "technical flexibilities and audiovisual manipulations" (p. 14) in writing classes. Thus, it is imperative to gain insight into how a certain platform can be integrated as writing e-portfolios.

Use of E-portfolios in Taiwan

In Taiwan, learners do not have many opportunities to build up their e-portfolios and practice self- and peer assessment when writing assignments are often regarded as final drafts. In this kind of situation, assessment and learning are considered separate which does not allow students to take on teachers' feedback and participate in revisions and reflections actively. Rather than making students become demotivated when they deal with the daunting writing task, e-portfolios have the potential to engage students in the writing process.

To date, there is a dearth of research on formatively assessing the implementation of writing e-portfolios in Taiwan's tertiary level. Existing studies are associated with using portfolios across disciplines. Lo (2010) examined whether portfolios enhanced students' autonomous learning in a journalistic English course. Su (2011) explored students' intercultural understanding through creating cultural portfolios. Hung (2012) focused on e-portfolio assessment among EFL pre-service teachers. Only one was conducted in an EFL

writing class (Chen, 2005). Although Chen's study contributed to our understanding, the platform adopted was based on a school learning management system and not accessible to the public. Due to the limited studies of e-portfolios in EFL writing in Taiwan, more research should be conducted to better understand how e-portfolio assessment can be integrated with recent innovative web-based platforms.

Research Questions

To fill the gaps in knowledge, the present study aims to explore how Taiwanese EFL students perceive the benefits and challenges to constructing their showcase e-portfolios. In this study, due to its user-friendliness and popular use in Taiwan, a freely available platform, *Wix.com*, was adopted for e-portfolio development. Three research questions guided the current study:

1. What are the students' overall perceptions towards constructing the *Wix*-based e-portfolios in the writing class?
2. In what way does the *Wix*-based writing e-portfolios benefit the students?
3. What challenges do they encounter while creating and maintaining the *Wix*-based writing e-portfolios?

Methodology

Setting and Participants

This study followed two classes of sophomore students ($n = 29$) for two academic years (i.e., one class for one academic year). The participants were English-major students who were required to take English composition courses for two consecutive years (freshmen and sophomores). The students all signed the informed consent form and voluntarily participated in this study. At the beginning of the study, the students were asked to fill out a background survey. Ten students indicated that they had experiences creating Chinese blogs in high schools, but no one had ever constructed e-portfolios in English and had never used *Wix.com* before.

Over each academic year, the students practiced five kinds of genre-based essay writing, with a total of seven essay drafts: two process essays, two comparison essays, a cause-effect essay, an argumentative essay, and a problem-solution research paper. For these genre-based essay writing, the students were asked to revise twice, once based on peer feedback and the other based on teacher feedback. Evaluation rubrics were provided for these feedback practices (e.g., content, organization, language use, and mechanics). For journal writing, however, they did not need to go through the same feedback process such as the essay revision process. Instead, every time they posted their journals on their e-portfolios, they only received feedback from the teaching assistant or the instructor regarding accessibility and visual effectiveness of their journal posts. Also, they were arranged to read their peers' journals and leave comments.

In terms of assignment submissions, the *Wix*-based e-portfolio aims to collect students' final drafts of essays and journals, while the university learning management system was used for students to upload the first two essay drafts and other process-oriented worksheets, such as outlines and peer feedback. All the writing, except the problem-solution research paper, was performed individually.

Wix.com

The e-portfolio website, *Wix.com*, was chosen based on three reasons: (1) ease of use, (2) popularity, and (3) lack of research. First, *Wix.com* is a ready-made site that allows users to upload artifacts

in different formats, such as texts, graphics, audio and video files. It is user-friendly and does not require any professional computer skills. *Wix.com* is equipped with design features (e.g., templates, menus, fonts, styles) not only for users to select and apply but also for visitors to post responses for asynchronous communication with the website owner. Most importantly, it can be used on both the computer and mobile devices that allow learners to edit anytime and anywhere. Second, *Wix.com* is commonly used in Taiwan in various areas, such as company websites, personal blogs, educational promotion, and conferences. Users in Taiwan can easily find *Youtube*¹ tutorial videos concerning how to build up a personal website through *Wix.com* before they get started. Last, a few studies have explored *Wix.com* as a tool for teaching writing. The only study conducted by Lee (2018) investigated L2 students' utilization of *Wix.com* as writing e-portfolios. Based on these reasons, this study adopted *Wix.com* as the platform for e-portfolio development.

Procedure

Adapted from Barrot's (2016) research, the instructional procedure in the present study consisted of three stages: (1) Orientation, (2) implementation, and (3) assessment. See detailed descriptions below.

Stage 1: Orientation

For each class, the *Wix*-based e-portfolio project was implemented for two consecutive semesters. At the beginning of the first semester, two training sessions were provided in a computer lab. A graduate teaching assistant, majoring in Teaching-English-as-a-Foreign-Language (TEFL), was recruited to assist these sessions. To prepare students to set up their e-portfolios on *Wix.com*, guidelines regarding how students should organize their e-portfolio and arrange its content were offered. Components of the e-portfolio consisted of four parts: (1) *About*: introduces the student him/herself and highlights the e-portfolio, (2) *Writing Projects*: include five types of essay genres practiced in this course (Semester 1: process essays and comparison essays; Semester 2: cause-effect, argument, and problem-solution essays), (3) *Journal Writing/My Journals*: consist of three journals produced each semester, (4) *Reflective Essays*: present students' reflection of their learning processes at the end of each semester. These details were provided in the syllabus and PowerPoint slides for students to refer to. The students were informed of the purposes of creating this e-portfolio, the procedure needed to complete the e-portfolio on *Wix.com* was listed as follows. (Refer to Figure 1 for a student's *Wix* webpage design.)

1. sign up with *Google* or *Facebook* account
2. pick the "category" they like to create (i.e., portfolio)
3. pick the "template" they like (which can be just a blank template)
4. click on "Edit"
5. add "Pages" to the website (i.e., *Home*, *About*, *Writing Project*, etc.)
6. save and publish their works.

Stage 2: Implementation

From Weeks 3 to 16 of the two semesters, students uploaded their final essay drafts on their *Wix*-based e-portfolios. Figure 2 is an argument essay posted by Student 22.

In addition to completing the essay assignments, the students had to write three journals and respond to their peers' journals each semester. The topics of the journal entries were not limited. Those could be a reflection on a book or a movie, how they survived a busy week, or travelling experiences that

¹ Wix tutorial: https://www.youtube.com/watch?v=JTdK9q_iuE0



Figure 1 A screenshot of a student's Wix webpage.

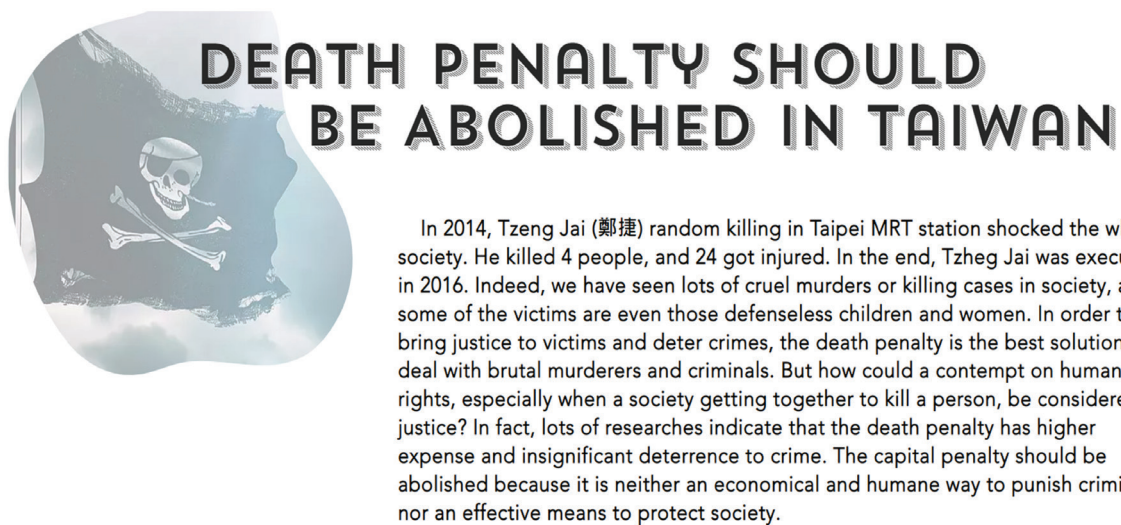


Figure 2 A screenshot of Student 22's argumentative essay.

they felt like sharing with the class. For their peers to respond to journals, the students were guided to set up a comment box under each journal post on *Wix.com*. See Figure 3 below for a journal entry posted by Student 15. In this post, the student wrote about a thriller drama which includes supernatural creatures and describes how oppression in a dystopian society can happen in the possible future. Under the journal post, three students read and responded to the post in the comment box.

Near the end of each semester, the students had to write a reflective essay, focusing on what they had learned from creating and managing their e-portfolios as well as problems encountered and strategies used to deal with these problems. Their reflective essays were all written in English and posted on their *Wix*-based e-portfolios.

The Handmaid's Tale



This is not a show that will leave you in a good mood after watching, but you will probably get addicted to it anyway. Considering this is a thriller drama, terror would be a normal reaction to some of the plots. However, this is a psychological thriller so if you like the kind of horror films that have jump scares, buckets and buckets of blood, and supernatural creatures, you will probably be disappointed. The terror in this drama stems from the oppression in a dystopian society that can happen in the possible future.

i think a good drama or novel can heal one's feeling. i like watching horror movie when i am down. when i am frightened out by the plots, it is extremely relaxing and i will forget my worries. it seems that this drama is an excellent work, no wonder you like it so much. yet, i havent watched it, so i dontreally know how it works on me, but i believe i will not be failed

a year ago · Reply



I like dystopian novel too! I remember the first time seeing dystopian novel is Hunger Game at the age of 15. At that time, I couldn't help but read the kind of novel again and again. Even though the plot is fictional, but for me, sometimes it is inspired by the real world, which is the reason why I love dystopian novel so much. ❤️

a year ago · Reply



I did not watch this drama before, but it looks quite appealing to me. From your description, I can see how women in this drama are suppressed and controlled by men. Thus, I am somewhat sympathetic for their status and suffering. Also, I think the theme is special and realistic because women are at a disadvantage for a long time. Maybe I will watch this drama when I have free time.

a year ago · Reply

Figure 3 A screenshot of Student 15's journal 3 post and peer comments.

Stage 3: Assessment

In order to implement the *Wix*-based e-portfolio effectively, this study followed Lee's (2018) assessment criteria—process, product, and post-process (see Table 1). *Process* was evaluated through teaching assistant (TA) assessment, self-assessment, and peer assessment. After each feedback, the students needed to revise their work. *Product* was assessed through completeness and accessibility of writing products, quality of writing, as well as visual effectiveness. Finally, *post-process* was related to students' self-reflection on the learning processes and final products displayed.

Regarding *process*, three kinds of assessments² were conducted: TA assessment³, self-assessment, and peer assessment. First, concerning TA assessment, since most students had little experience in constructing e-portfolios, the researcher worked with the teaching assistant to identify problems after the students posted their work on their e-portfolios. These problems included inappropriate color contrast, inaccessible URL links, missing items on the menu, overlapped texts and pictures, etc. During each semester, a few rounds of TA feedback were carried out in whole class meetings to help students notice these problems so that they could learn to improve their e-portfolios. Moreover, the students were guided to conduct self-assessment and peer assessment near the end of each semester. Self-assessment was carried out first, followed by peer assessment. During these two assessments, forms that included

² The terms, *assessment* and *evaluation*, are used interchangeably in this paper.

³ TA assessment was not included in Lee's (2018) study. However, it is considered crucial in the current study since it serves as a scaffolding to learners.

Table 1 *E-portfolio Assessment Criteria*

Units	Aspects	Descriptions
Process	TA assessment	Suggestions on design and visual effectiveness of students' works on Wix during the two semesters
	Self-assessment	Critical assessment conducted by the student near the end of each semester
	Peer assessment	Constructive comments on the peer's entire writing e-portfolio near the end of each semester
Product	Completeness & accessibility	Collection of all the writing products (7 final essay drafts, 6 journals, 2 reflective essays)
	Visual effectiveness	Accessible URL links, effective color contrast or combinations, fonts, styles, alignments, as well as user-friendly placement and construction
	Quality of writing	Grammatically accurate and formal language use with appropriate punctuations and spacing
Post-process	Self-reflection	Reflection on learning processes (perceptions & problems); Critical evaluation of the products displayed;

three indicators (i.e., completeness and accessibility, visual effectiveness, and quality of writing) were used as guidance for students to check and evaluate. In response to TA and peer feedback, the students needed to revise and edit their texts posted on the website.

Since the *Wix*-based writing e-portfolio serves as a showcase portfolio which features students' best work, displaying their growth and development as learners and writers. In other words, it does not aim to evaluate students' writing assignments a second time and it focuses on how students create their space and visualize their works with different multimodal components such as texts and images. That means, delayed evaluation was used, and so grades were not given to any of students' written work until their e-portfolio was completed. Unlike previous studies (Lee, 2018), the students in this study were not asked to choose their best writings for final evaluation. Instead, they were told to post all the final drafts of each essay together with their journals and reflective essays.

Data Collection and Analysis

Multiple data sources were collected, including the detailed accounts throughout the e-portfolio assessment process (i.e., through TA feedback, self-assessment records, and peer feedback) and the post-process (i.e., through a questionnaire, interviews and reflective essays). Near the end of the course (the 2nd semester), the students were interviewed individually to understand their thoughts about the use of e-portfolios. Each interview was conducted in Mandarin Chinese and lasted about 15 to 20 minutes. All the interviews were audio-recorded, fully transcribed and translated into English. During the interviews, students' works displayed on their e-portfolios were used to elicit responses. In addition to the qualitative data, an end-of-course questionnaire written in English was used to gather students' feedback on the e-portfolio creation and assessment (12 items) with a 5-point Likert scale of agreement (see Table 2 for the questionnaire items presented in the Findings and Discussion section).

To answer the first research question, questionnaire data were analyzed, including both closed-ended and open-ended items. Regarding the second and third research questions, students' reflective essays and interview data were analyzed with content analysis and then compared with the questionnaire responses to understand students' perceived benefits and challenges to using the *Wix*-based e-portfolios.

Content analysis involves identifying, coding, categorizing, classifying and labeling the primary patterns/occurring themes in the data (Miles & Huberman, 1994; Patton, 2002).

Findings and Discussion

Research question 1: What are the students' overall perceptions towards constructing the *Wix*-based e-portfolios in the EFL writing class?

In this section, results based on two aspects of the questionnaire are reported: (1) closed-ended items, and (2) open-ended items. From the closed-ended items (5-point Likert scales), many students indicated that they benefited from creating and maintaining the *Wix*-based showcase e-portfolios. Items 1 to 8 received relatively high ratings from the participants, mentioning that the *Wix*-based e-portfolios allowed them to collect and showcase their work in a creative way (Item 1; $M = 4.4$) and that they felt a sense of achievement after the e-portfolio was completed (Item 2; $M = 4.4$). They noted that they were able to reflect on what they had practiced over one year (Item 4; $M = 4.2$). They found the portfolio-keeping experience worthwhile and liked to share their *Wix* e-portfolios with others (Item 5; $M = 4.2$). Items 3 and 7 also revealed that the students enjoyed reading and commenting on their peers' journals on *Wix* ($M = 4.3$ and 4.2 respectively). Overall, the participants felt that they owned a space that allowed them to collect and present their written works (Item 8; $M = 4.1$). See Table 2 for details.

In terms of feedback practices, the students gave higher ratings to TA feedback (Item 6; $M = 4.2$), followed by peer feedback (Item 9; $M = 4.1$) and self-assessment (Item 10; $M = 3.8$). These corresponded with many students' reflective essays, indicating how TA feedback and peer feedback helped them to improve the quality of their e-portfolios (see examples in the section of *Enhancing Scaffolded Learning* under Research question 2). Aligned with the questionnaire response, five students noted the benefits of conducting self-assessment in their reflective essays. For example, Student 18 noted that

Table 2 Results of Closed-ended Items

Items (based on ranks)	Mean	S.D.
1. Compared to the school's learning management system, <i>Wix</i> allows me to collect, store, and showcase all the written work in a more creative and personalized way.	4.4	0.56
2. I felt a sense of achievement after the <i>Wix</i> e-portfolio was created.	4.4	0.72
3. I like to read my peers' journal posts on <i>Wix</i> .	4.3	0.83
4. The <i>Wix</i> e-portfolio allows me to reflect on all of my written work over the past year.	4.2	0.7
5. Overall, the <i>Wix</i> e-portfolio was a good learning experience and I'd like to share my e-portfolio with others.	4.2	0.66
6. Feedback from the teaching assistant was helpful in improving the quality of my <i>Wix</i> e-portfolio.	4.2	0.62
7. I like to read my peers' comments on my journal posts.	4.2	0.82
8. The <i>Wix</i> writing e-portfolio helps me to develop a sense of ownership (i.e., owning my space for collecting and showcasing all the written work I have created).	4.1	0.66
9. Conducting evaluation with my peer helps to improve the quality of my <i>Wix</i> e-portfolio.	4.1	0.69
10. Conducting self-assessment was useful because it could improve the quality of my <i>Wix</i> e-portfolio.	3.8	0.82
11. Publishing all the written work on <i>Wix</i> motivates me to write better.	3.6	0.93
12. In the future, I will continue to write posts on my <i>Wix</i> web page.	3.2	0.97

self-assessment allowed her “to check word fonts, sizes, colors, and so on”, and Student 19 mentioned, “I will go back to my Wix e-portfolio to see if there’s any part that I can improve or edit.”

Regarding the open-ended questions in the questionnaire (i.e., *How do you like the Wix e-portfolio project in this course?*), most of the students were satisfied with the e-portfolio creation experience and suggested that the e-portfolio project can be implemented in future writing classes. See the excerpts below for example:

Student 5: *I think it would be great to continue this activity in the future because Wix provides space to show one’s personality through the layout, choice of background and picture demonstration, I really enjoy viewing others’ work on their sites.*

Student 11: *I really like to use Wix to present my works. So I think the instructor can encourage the class to use it in the future.*

Student 12: *It’s a good experience. Knowing how to create a website can be useful in our career.*

Students responded favorably regarding constructing their e-portfolios to present their work. This result was also reported in prior studies (Kongsuebchart & Suppasetseree, 2018). They felt positive that they could showcase their work in a creative and personalized way and also value the opportunities to view their peers’ websites and appreciate their e-portfolios. Furthermore, as was noted by Student 12, the e-portfolio can demonstrate their webpage editing skills which can be an advantage for their future careers.

Regarding the students’ responses to feedback practices, they seemed to benefit more from TA feedback compared to peer feedback and self-assessment. This finding is consistent with Namaziandost *et al.*’s (2020) result regarding the effectiveness of tutor feedback. This can also be discussed with Lam’s (2013) finding which revealed that students who used showcase portfolios had concerns about the quality of peer feedback because they considered teacher as an authoritative figure who is more capable of giving fair judgement on their writing than their peers. These might indicate that EFL students tend to incorporate feedback from the more capable ones rather than their peers when conducting portfolio assessment. Lam and Lee (2010) advocate that students should develop metacognitive skills (e.g., self-assessment and awareness-raising tasks) since these skills can help them evaluate linguistic features of a piece of good writing and enhance their rhetorical awareness during portfolio assessment.

Research question 2: In what way does the Wix-based writing e-portfolios benefit the students?

To answer this question, I analyzed the reflective essays written by the 29 students as primary data and referred to the interview responses as secondary data. Aligned with the questionnaire responses presented above, the analysis of reflective essays and interviews revealed that the majority felt positive about the e-portfolio experience. Different kinds of positive adjectives were used to describe this learning experience, such as “cool”, “fun”, “interesting”, “special”, and “unforgettable.” In the following, five themes related to how the e-portfolio project benefited students in learning of writing will be revealed.

1. Allowing students to review and reflect upon their works

Similar to the questionnaire results, several students ($n = 18$) indicated in their reflective essays that creating the Wix-based e-portfolio could improve their writing. The students constantly compared

Wix.com with the school learning management system and they preferred to use *Wix.com* as a site to construct their e-portfolios because they could design their own webpages, review what they had created, reflected on how different feedback helped them to revise and improve their works. See the excerpts below:

*...the establishment of my own website has given me an **alternative access** to review my previous essays...* (Student 6, reflective essay 2)

*Wix is like a portfolio. It allows me to **review** what I have done, and what I have written. After revisions, the works that are displayed on Wix **look complete**.* (Student 9, interview)

*...completing this Wix e-portfolio does provide me a chance to **review my work thoroughly**...Through conducting self-assessment, I finally could **go through all of my website page by page in detail and check if there is any problem**... Besides, **peer assessment** provides different aspects to look over the website. My peers could find some flaws that I may never find by myself. Overall, creating a Wix e-portfolio is quite different from just uploading my assignments on ecourse2 as this provides me chances to **revise and record my writing process** for this one-year course.* (Student 23, reflective essay 1)

From the above, we can learn that developing *Wix*-based e-portfolios allowed the students to practice metacognitive strategies such as self-reflection and self-assessment, which were also noted by prior studies (Farahian *et al.*, 2021; Kongsuebchart & Suppasetseree, 2018; Lam, 2019). As Student 6 indicated, the *Wix* e-portfolio was like an alternative access to revisit her written works. Student 23 mentioned the benefits of conducting self-assessment and peer assessment which offered her chances to assess and make changes on her posted works. These practices are also aligned with Chen's (2005) findings, indicating that e-portfolios involve frequent re-visiting and revising which are distinct from simply uploading assignments on the school learning management system.

2. Developing ownership and authorship

While reading and re-reading the students' reflective essays and the interview transcripts, I noticed that almost all the students ($n = 27$) commented that they felt that they owned a space to post their writings and felt a sense of achievement after completing their e-portfolios. They referred to their own Web spaces with terms, such as "my space", or "a secret garden", "a corner", which allowed them to showcase their final essay drafts and journals. Excerpts which reveal students' excitement and responsibilities as authors of their e-portfolios are presented below:

*I'm absolutely excited that I **possess a corner for my writings** which make me feel incredible...* (Student 11, reflective essay 1)

*I really enjoy every time when I finish my writing and post it on Wix. The sense of achievement is incredible. I **feel like a blogger or a journalist** whenever I post something on it...* (Student 28, reflective essay 2)

Students 11 and 28 revealed their aspiration as authors of their *Wix*-based e-portfolios and that they were satisfied with their own writing space. Due to the sense of ownership, some also mentioned that owning a public space made them become more aware of readers and they needed to take responsibility for what they posted and often tried to improve the quality of their writing:

*It also reminds **our responsibilities of our works** because we have posted them publically. (Student 29, reflective essay 1)*

*When it comes to writing on the Wix e-portfolio, I will try to be more aware of the **word choice and sentence structure** because it is an open space that everyone could see my essay works here. (Student 22, reflective essay 2)*

*...in order to be as professional as possible, I would particularly **check the spelling error** in the articles. (Student 28, reflective essay 2)*

The findings show that creating e-portfolio can raise learners' awareness of audience while making their written works published and accessible to the public (Barrot, 2020; Lam, 2019). As shown in the above excerpts, with the increase of audience awareness, students paid more attention to word choices or spelling errors while posting their work, which was also revealed by Mak and Wong (2018).

3. Seeing improvement and feeling empowered for writing

Numerous students ($n = 23$) noted in their reflective essays that by presenting their final essay drafts on e-portfolios, they were able to see their writing improvement. See the following excerpts:

*I can **see my progress in academic writing** from the first essay to the last paper. (Student 15, reflective essay 2)*

*I think my writing skill in the aspect of **word choices is improved** if compared to the ones I wrote in the last semester... (Student 20, reflective essay 2)*

Consistent with the aforementioned findings, these responses indicate that *Wix* e-portfolios allowed the students to keep track of their progress and reflect on what they had learned, consistent with previous studies (Namaziandost *et al.*, 2020; Nhi & Mai, 2018).

Moreover, all the students reported that they felt empowered for writing while engaging in journal writing and commenting activities. They mentioned that they enjoyed journal writing on *Wix* since it was less formal compared to essay writing, and it gave them freedom to choose their topics and decide what and how they wanted to share their life experiences with others. Also, journal commenting allowed them to have more interactions with their peers and understand how others tackled real-life issues. They regarded journal posting and commenting on *Wix.com* more interesting and interactive than uploading their journals on the school learning management system:

*I think **journal writing is fun** not only to work on but also to read. It's fun to write them because I get to choose whatever topic I want, and it's less formal. **Reading and commenting on the journals** of my classmates are quite interesting, too. It allows me to know more about a few classmates who I am not familiar with. For example, what kind of dramas or movies they have watched or where they have traveled to. (Student 15, reflective essay 2)*

The excerpt shows that Student 15 was engaged in journal writing, reading, and commenting. She knew more about her classmates through reading their journals (e.g., dramas or movies they recently watched). The majority also noted that they would continue to write journals on their e-portfolios since *Wix* provides a space for them to practice English writing by keeping a diary. This was also

consistent with the finding of Chu and Dias (2017) regarding an EFL student's cross-culture-related reflective writing practice through posting journals on her e-portfolio.

4. Cultivating digital literacies skills

Almost all the students ($n = 28$) indicated that they felt empowered not only as writers but also as designers of their Web spaces. They commented that they developed digital literacy skills other than writing. The students were impressed by the features on *Wix* which prompted them to incorporate texts, images, music, pictures, videos, and comment boxes. Bearing the audience in mind, the students were engaged in designing their webpages with different layouts, styles, and colors that fit their essay topics. The following excerpts show how students managed to improve their web design to make their essays more appealing to readers:

*I learned how to present the essay well by using the **contrast colors** wisely and how to **make the webpage more appealing** for the readers (Student 16, reflective essay 1)*

*When designing each page, I prefer to use **different types** [of design] to present it. I'll think **which design is more related to my topic**. It's fun to create my own Web page because it is **personalized** and it brings all the essays **back to life**. (Student 12, interview)*

*In my first essay, "How to Do Snorkeling", I want to **present it as a page of travel guide**. ...in my second essay, "How Do Chimpanzees Grow Up?" **I designed it as a type of magazine**. (Student 13, reflective essay 1)*

Due to the features on *Wix*, these students were able to visualize their essay drafts in a creative way. They were proud that they acquired digital literacies skills by turning their essays into something unique and personalized. For example, Student 13 mentioned how she designed her process essay in a magazine style that depicts three stages of chimpanzees' growing process: childhood, adolescence, and adulthood (see Figure 4).

Childhood



Picture 1

In the early age of chimpanzees, they show the strong bond to their mother chimpanzee. For 3 to 6 months, baby chimpanzees are carried on her mother's front side. As chimpanzees grow up, they ride on mother's back. As a result, each of the baby chimpanzees usually has the strong physical contact with their mother in their development. Besides, baby chimps rely on their mother's milk until they have been weaned. Once chimpanzees are weaned, they have to find meals on their own. When baby chimpanzees are about 3 and 4 years old, the mother chimpanzee no longer provides milk to their kids. Baby chimps begin to eat fruits and plants as same as the older chimpanzees. In addition, young chimps learn what plants are able to eat by observing their mother. In chimpanzees' childhood, their activities are usually accompanied by their mother.

Figure 4 A screenshot of Student 13's process essay.

5. Enhancing scaffolded learning

Several students ($n = 22$) indicated that they benefited tremendously from the feedback processes, particularly TA feedback and peer feedback. Through feedback provision, the students not only learned about how to make their e-portfolios more appealing and readable to the audience, but also appreciated that the feedback helped them to notice problems and errors.

I made several revisions with the layout. The feedback from the TA and my classmates were extremely helpful with the final version I settled on. (Student 15, reflective essay 1)

...conducting peer assessment is helpful... Sometimes I have a blind spot that I may not be aware of that in the creating process, but my classmates can point out the problems immediately and share their opinions via peer-assessment. (Student 24, reflective essay 2)

Conducting TA assessment and peer assessment could be considered as a community of practice. While TA assessment allowed the students to receive feedback from a more experienced other (i.e., teaching assistant), peer assessment provided the opportunities for students to learn from their peers and critically evaluate their work. As Student 24 mentioned, doing peer assessment was like having another pair of eyes to detect your “blind spots.” He appreciated that his peers gave him practical suggestions that allowed him to strengthen his e-portfolio.

Consistent with the questionnaire results presented under research question one, students’ reflective essays and the interview data showed five aspects of benefits: (1) allowing students to collect, review and share their works with others, (2) developing ownership and authorship, (3) seeing improvement and feeling empowered for writing, (4) cultivating digital literacies skills, and (5) enhancing scaffolded learning. Similar to Barrot’s (2020) finding, *Wix*-based e-portfolios function as an “enhanced rhetorical space” because it allows learners to increase their awareness of the audience, the feedback process, and the writer’s responsibility through creating e-portfolios. This platform also allows the students to take multiple roles: a designer, an evaluator, a decision-maker, and a reflector, shifting them from individual to interactive writing process. For example, Student 22 mentioned that “I will try to make sure my essays are clear, proper, and logical. Otherwise, my readers may get confused...By comparing my *Wix* and others, I can discover lots of brilliant ideas from my classmates.”

Research question 3: What challenges do they encounter while creating and maintaining the *Wix*-based writing e-portfolios?

Synthesizing multiple data sets for analysis (reflective essays, questionnaire responses, and interviews), three aspects of challenges were found: (1) technical difficulties, (2) time taken to edit their posts, and (3) learner issues. Details regarding these three issues were described in Table 3.

Technical difficulties

16 out of 29 students reported technological difficulties during the implementation of *Wix*-based e-portfolio. The majority of problems revolved around unfamiliarity with *Wix* features ($n = 7$) regarding how to get the post published, or how to add a comment box below the journal post. However, after consulting their peers or the teaching assistant, these were no longer their problems. Other minor issues reported include editing and typesetting ($n = 5$):

Table 3 Challenges Encountered During Wix-based E-portfolio Implementation

Aspects	Descriptions	Frequency
1. Technical issues	– Unfamiliarity with Wix features	7
	– Editing & typesetting	5
	– Appropriateness of Wix as an e-portfolio platform	2
	– Lag or sudden shut down	1
	– Display on Wix changes across different devices	1
		16
2. Time issues	– Time taken to edit posts and develop the e-portfolio	9
3. Learner issues	– Lack of confidence and anxiety publishing their works	7

I don't like to do the editing on Wix because it does not allow me to display the full text properly and I often need to align the texts over and over again. (Student 1, interview)

Because Wix can't automatically adjust the typesetting when we insert a picture, the content will be obstructed by the picture. Therefore, I have to adjust the typesetting manually to ensure it is comfortable and tidy enough for readers. (Student 27, reflective essay 2)

Two students mentioned their concerns related to the appropriateness of using Wix as an e-portfolio platform. One student expressed problems such as sudden shut down and lag caused by uploading. Another student indicated that Wix pages are missing from Google search and lamented inconvenience for editing with Chinese characters that were used as translation for some English words or phrases.

Last, one student complained that the display on Wix often changes across different devices (e.g., from a laptop to a desktop) which makes editing difficult:

*What I think is the most inconvenient is that **the website is displayed differently on different devices**. For example, the screen of my computer is much narrower than that of the computer in school, so when I use the computer in school, I cannot see anything on the broadsides because they are directly cut. Therefore, I should remember to adjust the layout of the website. (Student 3, reflective essay 1)*

Time issues

Time taken to develop the e-portfolio was also reported by a few students ($n = 9$). They indicated that in the first semester, it took them a while to explore the functions and learn how to edit on Wix.

It took me some time to learn how to use the functions to achieve the effects I wanted. (Student 15, reflective essay 1)

I spent a lot of time editing it at first. (Student 18, Interview)

Some even noted that the entire editing process was time-consuming, and they made a lot of efforts to become familiar with the features on Wix.

The editing process was very time-consuming and a little complicated. (Student 16, Interview)

Sometimes, I spent a lot of time on it such as typesetting, color, background, etc.
(Student 1, reflective essay 1)

Learner issues

A few participants ($n = 7$) noted that publishing their works online made them constantly think about their design and worried if their design was not good enough or incomplete. One student noted her lack of confidence in webpage design, while the other one showed her fear of missing any elements in her post:

*I am pretty **unconfident in virtual design**, and I always think my designs look weird.*
(Student 22, reflective essay 2)

*...in the process of creation, I need to consider a lot. For example, whether the **pictures** are proper or not? Are the **fonts** too big or too small? Or, did I put all the **references** and the sources in the end of my essay? During this process, I think I am **more careful about this kind of issue**, which I don't care in the past at all.* (Student 20, reflective essay 2)

Altogether, three aspects of challenges were revealed in the current study: technical issues, time issues, and learner issues, which were also reported in prior studies (Hung, 2012; Dunn, Luke, & Nassar, 2013). The technical issues found in this study resonate with the findings of Barrot's studies (2016, 2020) which also showed learners' challenges in formatting and compiling their posts as well as their concern regarding the appropriateness of *Facebook* as a platform. Compared with *Facebook*, *Wix.com* can be more complicated since students in this study had to learn how to construct their webpages from scratch and adjust their webpages so that the display can fit different devices. However, creating e-portfolios on *Wix.com* can allow readers to stay fixed on a certain webpage and focus on what they want to read. This is a feature which makes it distinct from *Facebook*, where readers may be distracted by news feeds due to the scrolling function.

From the given data, it seems that developing a *Wix*-based e-portfolio requires time and involvement. To tackle with this issue, studies suggest that time management and self-regulation skills are needed since these can prevent students from being overwhelmed during the editing and revising process and sustain their writing development over time (Al-Hidabi *et al.*, 2020; Karami *et al.*, 2019; Lam, 2013).

In addition, learner factors such as lack of confidence and anxiety of publishing work reflect students' apprehension (Hung, 2012). Similar to Barrot's (2016, 2020) research, the participants in this study experienced social pressure which pushed them to produce quality output for their peers, friends, family, and classmates. As Student 9 noted, "Because I want to show my work to others, I really work hard on writing my essays and journals." Students like Student 9 knew that their works would be published online, viewed, and commented on, and so they were willing to spend time editing and revising their posts. From the qualitative data, most students noted that they felt positive about the pressure since it could motivate them to be more cautious of the content and language they used. In Barrot's research, though *Facebook* has higher visibility, some students hesitated about using it for writing purposes. Despite the fact that *Wix* webpages are missing from *Google* search as noted by one of the participants, *Wix.com* allows users to decide who they want to share the web link with. This can somehow reduce their anxiety when they have control over who can read their work.

In sum, although technology plays a role in the e-portfolio development and assessment processes, it could demotivate some students when they face problems caused by technology. But these findings also

suggest that the use of *Wix*-based e-portfolios had additive values according to the benefits reported by the students. Most students noted that though creating the e-portfolio was time-consuming, they felt empowered and had a sense of achievement. Thus, in order to make e-portfolio creation and evaluation effective, educators need to offer opportunities for students to discuss technical difficulties they encounter and provide timely assistance.

Conclusions and Implications

This study aimed to investigate EFL college students' perceptions of constructing writing e-portfolios. The findings showed that most students benefited from the experience of e-portfolio creation and evaluation. *Wix*-based e-portfolios motivated the students to write better when they became aware of the target audience. Having a sense of audience makes the students more reflective to the interests and needs of their target audience. Through the feedback process, the students learned to notice weaknesses, revise writing, and make their posts more appealing to the audience. The customized and shareable features of *Wix*-based e-portfolios enhanced students' linguistic (e.g., fluency and language use) as well as metacognitive strategies (i.e., self-regulation, self-reflection). Students in this study showed positive attitudes toward owning a Web space to showcase quality output that represents their writing achievement with personal styles. This study also identified three challenges related to *Wix*-based e-portfolio creation: technical issues, time issues, and learner issues. These suggest a need to be aware of learners' difficulties and to provide assistance when a new platform is selected and implemented.

Based on the findings, pedagogical implications are proposed to maximize the utilization of e-portfolio assessment in L2/EFL writing classes. First, the e-portfolio approach is recommended since it can allow students opportunities to create, reflect, and cultivate multiliteracies skills. Second, to avoid learner anxiety, explicit assessment criteria or rubric can be prepared to help students how to improve their e-portfolios. Last, to reduce students' frustration with technology, guidance should be provided to increase collaboration and consultation throughout the course. Students can be encouraged to screen record technical difficulties they encounter and discuss their problems with their peers or the instructor.

This study has some research limitations. First, the findings were based on a small number of participants which might not be generalizable in other L2/EFL teaching contexts. Hence, larger sample sizes are needed for further investigation. Second, the current study might be limited due to the compulsory nature of the e-portfolio project. In this study, all the participants were required to construct their e-portfolios by posting all of their final essay drafts and journals in order to fulfill the requirements of the course. The pre-determined e-portfolio contents might be too restrictive to understand whether the assessment was valid or not. The findings may be different if the project becomes voluntary and allows students to select what they want to post. Last, since this study mainly focused on the benefits and challenges of the *Wix*-based e-portfolios, the joint effects of the learning management system and the *Wix* e-portfolios were not explored. The participants in this study were required to upload process documents (e.g., Draft 1, peer editing sheet, Draft 2) on the school-based learning management system, and were asked to showcase their products (e.g., final drafts) on the *Wix*-based e-portfolios. Students' views toward using these two web platforms might provide a new insight into the combined use of writing portfolios for different purposes.

E-portfolio implementation, as shown in this study, can develop students' sense of authorship and become responsible writers. In addition, it can enrich students' writing experiences by having a venue to showcase and share their works with others. Although some educators may not consider *Wix.com* as an appropriate e-portfolio platform, the convenient characteristics of this website tool can be used to innovate writing curriculum and integrate teaching and assessment of writing.

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