Can E-portfolios Reduce Foreign Language Anxiety in Online Speaking Courses during the COVID-19 Pandemic?

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Abstract

E-portfolios have been used successfully to boost the EFL students' speaking performance for over a decade. Nevertheless, e-portfolios have never been profoundly reported to reduce foreign language anxiety (henceforth, FLA), especially in an online speaking course during the COVID-19 pandemic requiring fully online forms. We, therefore, investigated (1) the effect of e-portfolios on students' FLA and (2) the difference in FLA between male and female students given e-portfolios. This study employed a mixed-methods experimental design involving an experiment followed by interviews. The participants comprised 120 English education majors at a state university in Indonesia who took an online speaking class due to the COVID-19 pandemic. They were divided into the experiment (60 students) and control (60 students) groups. We collected the data by distributing the Foreign Language Classroom Anxiety Scale through an online survey platform as the pretest and posttest. Ten willing students were invited for interviews after the experiment was over. The results indicated that students' FLA decreased significantly when they were using e-portfolios in their online speaking courses. Additionally, no significant difference in FLA was identified between male and female students in the experiment group. According to the interview findings, activities in e-portfolios gave an equal opportunity for male and female students to reduce their FLA. We also discuss four pedagogical implications for alleviating FLA in online speaking courses during the COVID-19 pandemic.

Keywords: E-portfolios; foreign language anxiety; COVID-19 pandemic; technology-enhanced language learning, gender

Introduction

The spread of COVID-19 has dramatically changed the face of English education worldwide. The designation of COVID-19 as a pandemic in March 2020 was followed by school closures in many countries (Viner et al., 2020). These closures made it necessary to implement educational programs during the pandemic, and many countries decided to end face-to-face instruction and moved to online learning overnight (Daniel, 2020). Due to the pandemic, several possible solutions for conducting online learning have been implemented, including online libraries, online channels, TV broadcasts (Basilaia & Kvavadze, 2020; Ozguzel, 2020), e-mails, telephone, phone, radio, social media, websites, and learning applications. Moreover, technology-enhanced language learning paradigms such as e-portfolios can be an alternative way to conduct speaking courses in a fully online form. However, how e-portfolios affect students' speaking performance and foreign language anxiety, especially in online learning forms, remains unclear.

E-portfolios have been being implemented worldwide, such as in Taiwan (e.g., Huang & Hung, 2010; Hung & Huang, 2015a; Sun, 2009; Sun & Yang, 2015), Turkey (Cepik & Yastibas, 2013), Middle East (Dougherty & Coelho, 2017), Iran (Askarzadeh & Mall-Amiri, 2018; Rabbani Yekta & Kana'ni, 2020), and Indonesia (Kusuma et al., 2021). These studies have exerted positive results on speaking performance. Nevertheless, the above studies did not investigate how e-portfolios helped EFL students reduce FLA in much detail nor provided statistical results. This study, therefore, takes this gap as a starting point to expand the current discussion of e-portfolios on reducing students' FLA. The aims of this research have therefore been as follows: to investigate the effect of e-portfolios on students' FLA and the difference between male and female students' FLA after being taught by e-portfolios. We posed the following questions to guide this inquiry:

1. Was there any significant effect of e-portfolios on students' foreign language anxiety in an online speaking course during the COVID-19 pandemic?
2. Was there any significant difference between males' and females' foreign language anxiety in an online speaking course during the COVID-19 pandemic after being treated by e-portfolios?

Literature Review

Theoretical underpinnings

E-portfolios

A portfolio denotes an assessment technique to store students' collections of classwork (Efe, 2016; Johnson & Johnson, 2002; Kwak & Yin, 2018; O'Malley & Pierce, 1996). However, the term "collection" does not entirely account for the nature of a portfolio (Kwak & Yin, 2018) since a portfolio must have three important elements: collection, reflection, and selection (Hamp-Lyons & Condon, 2000). Moreover, Yastibas and Yastibas (2015) proposed ten characteristics of portfolios: authentic, controllable, communicative and interactive, dynamic, personalized, integrative, multipurpose,

multisource, motivational, and reflective. Therefore, with its characteristics, the portfolio represents an authentic assessment technique to store students' systematic collection of works to monitor their learning growth (Johnson & Johnson, 2002; O'Malley & Pierce, 1996; Srikaew et al., 2015).

The affordability of technology, especially the internet, has made it possible to carry portfolios into an electronic form called digital portfolios (Georgi & Crowe, 1998), well known as e-portfolios. An e-portfolio is the application of digital tools to collect materials, projects, experiences, and achievements (Dougherty & Coelho, 2017; Whitfield, 2011) to monitor students' learning growth (Cepik & Yastibas, 2013; Jiang et al., 2022). E-portfolios are ideal for collecting artifacts not in a paper-form file, such as audio recordings and videos (Dougherty & Coelho, 2017). Regarding speaking skills, e-portfolios enable students to record oral performances into digital file forms and store them in a blog (Huang & Hung, 2010). Even more recently, the advanced web 2.0 technology enables students to post video clips instead of voice files on YouTube (Cepik & Yastibas, 2013; Kusuma et al., 2021; Sun & Yang, 2015). Thus, e-portfolios can increase students' speaking performance while also alleviating their FLA (Cepik & Yastibas, 2013; Dougherty & Coelho, 2017; Huang & Hung, 2010; Sun & Yang, 2015).

Foreign language anxiety

Foreign language anxiety represents a distinct set of self-perceptions, beliefs, feelings, and behaviors in the classroom that derives from the particular learning process (Horwitz et al., 1986). FLA is inevitably generated when students study languages aside from their mother tongue(s) (Littlewood, 2007). This trait appears in students' performance and teachers' and preservice teachers' oral communication (Tum, 2015). When a person becomes anxious, negative cognition begins (Kondo & Ying-Ling, 2004) and can affect an individual's performance by reducing their language-learning capacity (Shao et al., 2013; Syamsuri & Bancong, 2022). Therefore, FLA contributes to individuals' inability to present their ideas in the target language (Kruk, 2018; Polat, 2022), and language teachers should be aware of the presence of FLA during the students' language-learning process.

Many studies have investigated the existence of FLA in foreign language learning using the Foreign Language Classroom Anxiety Scale (henceforth, FLCAS) developed by Horwitz et al. (1986), and have reported that students showed high and mild FLA during the language-learning process (e.g., Guo et al., 2018; Shao et al., 2013; Yayli, 2012). Many studies have also reported that FLA contributes to low student performance (Al-Khotaba et al., 2019; Subekti, 2018; Sutarsyah, 2017). In addition, several studies have explored the relationship between gender and FLA (e.g., Ali & Fei, 2016; Öztürk & Gürbüz, 2013; Park & French, 2013), and have found that females tend to have more FLA than males, especially when speaking in English. On the other hand, few studies found that gender did not play any significant role in FLA (Matsuda & Gobel, 2004; Nahavandi & Mukundan, 2013; Zorluoğlu et al., 2020).

To deal with FLA's adverse effect on students, Horwitz et al. (1986) suggested that language teachers should either actively address the existing anxiety-provoking situation or make the learning less stressful. Following this suggestion, some studies have proposed solutions to reduce students' FLA levels. For instance, Kondo and Ying-Ling (2004) identified five strategies to cope with FLA, including preparation, relaxation,

positive thinking, peer seeking, and resignation. Continuing the discussion, Uştuk and Aydın (2018) used paralinguistic cues to decrease FLA in terms of lacking confidence, fear of making errors, humiliation, and communication apprehension. With the affordances of technology, several attempts have been made to investigate the implementation of digital tools to reduce FLA. For example, Reinders (2014) introduced digital gameplay to 30 Thai EFL students and reported that they reduced their FLA and improved their willingness to communicate. Ataiefar and Sadighi (2017) employed a voice thread application to 15 Iranian EFL students and reported that these students' FLA was alleviated. Moreover, Lu et al. (2019) used videos to support textbook materials to teach 29 non-English major students and reported that these students showed a significant decrease in their communication apprehension. Finally, Xiangming et al. (2020) implemented a built-in application in WeChat, a free instant messenger, on cell phones to teach 158 students of different majors. They found that the use of technology-enhanced students' confidence while reducing FLA. In summary, the above studies support the notion that technology can reduce students' FLA, and e-portfolios may have this potential as a manifestation of teaching with technology. Therefore, this study was conducted to investigate the implementation of e-portfolios on students' FLA, especially during the COVID-19 pandemic when most schools implement online learning.

Previous studies

Some recent studies have been devoted to searching for the implementation of e-portfolios in teaching speaking courses, exerting positive results. For instance, Huang and Hung (2010) had their 51 EFL students regularly submit audio files on their blogs. Later, these students had to provide their peers with feedback and submit their reflections in audio files after reading the feedback. Huang and hung reported that the activities in e-portfolios exerted students' better-speaking performance which this result was also echoed in their other studies using e-portfolios (e.g., Hung & Huang, 2015a, 2015b). In another example, Yekta and Kana'ni (2020) divided 30 Iranian students into two groups, experiment, and control, and examined the effect of e-portfolios on students' speaking fluency. Yekta and Kana'ni found that the students who regularly recorded their speaking videos had better speaking fluency than those who did not.

Furthermore, some studies incidentally found a relationship between e-portfolios and FLA. For instance, Sun (2009), who was perhaps the early proponent of e-portfolios in teaching speaking courses, had her 46 EFL students post upload 30 voice-blog entries and ten voice responses to classmates' blog entries. Sun reported that the students perceived e-portfolios as a means of learning, self-presentation, information exchange, and social networking, even though she also found that the students felt a bit stressed with the assignments. Moreover, Huang and hung also found that the ample time provided by e-portfolios reduced students' test anxiety since they had more time to prepare before doing the speaking assignments. Cepik and Yastibas (2013) had their 17 Turkish students store their oral performances on YouTube and provide their peers with feedback. Cepik and Yastibas then discovered that through e-portfolios, the students could improve their speaking performance and reduce their communication apprehension. Later, a few other studies also reported similar findings that e-portfolios improved speaking performance and reduced shyness (e.g., Dougherty & Coelho, 2017; Sun & Yang, 2015). In addition, Kusuma et al. (2021) interviewed ten Indonesian students after implementing e-portfolios

in a fully online speaking course. Kusuma et al. found that e-portfolios facilitated students' learning engagement but potentially created stressful classroom assignments, such as mastering video content, mastering speaking skills, technical issues when recording the videos, and inevitably affected students' moods when accomplishing the assignments. Thus, with the above studies' findings, it is necessary to investigate whether e-portfolios had any potential to alleviate students' FLA or not.

Methodology

Research design

This study employed a mixed-methods experimental design to investigate the effect of e-portfolios on students' FLA. This approach requires the researchers to conduct an experiment and collect the qualitative data to capture the students' experiences during the treatments (Creswell & Creswell, 2018). Moreover, since the purposes of this study were to investigate the effect of e-portfolios on students' FLA and the difference between male and female students' FLA after being taught by e-portfolios, conducting an experiment and interviews were the best methods. To answer the research questions, a quasi-experiment was conducted where existing classes were used due to the impossibility of randomly assigning the students to new classes (Creswell & Creswell, 2018) during the COVID-19 pandemic. We investigated the implementation of e-portfolios and gender as the independent variables and students' FLA as the dependent variable. This article did not explore students' speaking performance since it is discussed in another article.

Participants

We conducted this study in the English Language Education Department at a state university of education in Indonesia in the academic year of 2020-2021. Before we approached the site, we sought IRB approval. Then, we were given access by the head of the department to use four out of seven classes on speaking for public communication. These classes were administered with online learning forms due to the COVID-19 pandemic. We then approached 120 students ranging from 18–20 years old and explained the risks and benefits of the research. All these students gave their consent to participate in the study.

All the participants had an average of eight years of experience in learning English from their primary and secondary schools. In addition, they had the same speaking proficiency. According to the American Council on the Teaching of Foreign Languages, the students' speaking level was intermediate high, which means that students can perform uncomplicated tasks and engage in social situations with ease. Two classes were designated as the experiment group (60 students), and the other two as the control group (60 students). We used a purposive sampling technique to select ten students (five males and five females) in the experiment group to participate in semi-structured interviews. To protect the participants' confidential information, they were assigned pseudonyms that combined numbers and letters, such as S (student), F (female), and M (male). Thus, the

ten participants in the interviews were S1M, S2F, S3M, S4F, S5F, S6M, S7M, S8F, S9M, and S10F.

The procedure, data collection, and instrumentation

The inquiry lasted 14 weeks, where the first and last weeks were used to measure students' FLA. During the 12 weeks after the pretest, the students in the experiment group were given interventions such as providing them with speaking materials and assigning them speaking tasks. The speaking tasks required the students to create videos talking about six topics in which one video was accomplished in two weeks and uploaded on YouTube. For the first topic, the students were asked to record 5-minute videos. For each of the remaining topics, the students had to add 2–3 minutes to their videos (see Figs. 1–3). Thus, the students created approximately 20-minute videos for their last topic. Besides getting comments from the lecturer, the students were also required to give constructive comments on their friends' videos and did self-assessment using Google Docs after receiving the comments from their lecturer and friends. On the other hand, students in the control group were given speaking materials, practice activities that were uploaded on Schoology, and lecturer's feedback without peer- and self-assessment activities, as their counterparts, received in the experiment group. The ten students from the experiment group were given schedules for interview sessions that lasted 60 minutes per session for two sessions over two weeks.

The students' FLA levels were measured using FLCAS, developed by Horwitz et al. (1986). This scale was created using a Qualtrics survey, which contained 33 items, and it was found to be reliable as the Cronbach Alpha value was 0.847. After the experiment was over, the ten students who agreed to be interviewed were interviewed using a guide containing 12 questions. Two experts in educational technology have validated the questions by implementing an inter-rater agreement model proposed by Gregory (2015). The questions focused on how the activities in e-portfolios helped the students reduce their FLA. For instance, we asked "How is your speaking anxiety now?" and "How did the activities in e-portfolios help you deal with your anxiety of using English in speech?" We conducted the interviews in Indonesian to reduce anxiety and to allow the students to express their thoughts easily. In addition, the researchers had the same university affiliation as the students, which allowed the students to be more open with the researchers during the interviews.

Figure 1
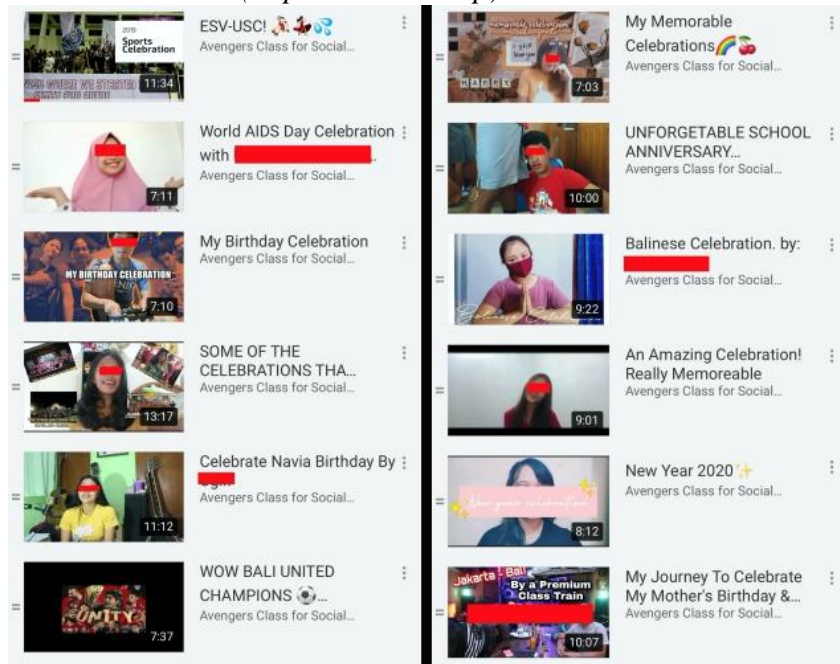*Students' videos on YouTube (Experiment Group)*

Figure 2
Students' comments on YouTube (Experiment Group)

Figure 3
A sample of a student's self-assessment activities (Experiment Group)

Topic		Introducing myself and family
Description of performance		Monolog
1	What did you prepare for your performance (e.g., watching videos/learning some expressions/practicing, etc.)	I watched some videos on YouTube about introducing self. I found some texts on the browser and I wrote the script for my videos.
2	What did you learn from your performance? (e.g., I did great/I need improvement/I need more practices/I master the materials, etc.).	I think I need to practice my pronunciation to be better. I also think that I need to learn more on grammar because I feel I lack grammar mastery.
3	What did you learn from your friends' comments?	They said that I need to improve my speaking, especially grammar. They also suggested me to speak clearly.
4	What did you learn from your lecturer's comments?	My lecturer said I need to improve my grammar and speak loudly.
5	What do you plan to improve your performance?	I need to learn more about how to speak better. I need to watch more English movies to get some examples and practice my speaking skills as well as improve my vocabulary.

The data were analyzed using quantitative and qualitative methods. An independent t-test was employed to answer the first and second research questions. The interview results were transcribed into English and analyzed using a content analysis technique (Krippendorff, 2004). In vivo coding supported this analysis to support the themes with the participants' exact words. The codes were derived from an inductive process where some possible excerpts were coded by reading the whole transcripts. Then, these codes were categorized into two main themes, such as FLA after e-portfolios implementation and how e-portfolios alleviated participants' FLA, and 82 codes.

Results

The effect of e-portfolios on students' foreign language anxiety

The descriptive statistics of students' FLA pretest as shown by Table 1 indicated that in the experiment group, *min* = 83, max =130, *M* =103.6, *std. dev* =10.3, and *var* = 106. In control group, *min* = 75, max =133, *M* =104.4, *std. dev* =12.8, and *var* = 165. Then, the independent t-test results in Table 2 showed that there was no significant difference between the students' FLA pretest, as shown by $t(118) = -3.77, p > 0.005$.

Table 1
Descriptive statistics of FLA pretest in the experiment and control groups

	N	Min	Max	Mean	Std. Dev	Var
Experiment	60	83	130	103.6	10.3	106
Control	60	75	133	104.4	12.8	165

Table 2
Independent sample t-test of FLA pretest

		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
FLA Pretest	Equal variances assumed	-.377	118	.707	-.80000	2.124
	Equal variances not assumed	-.377	112.693	.707	-.80000	2.124

The descriptive statistics of students' FLA posttest in Table 3 showed that in experiment group, *min* = 77, *max* =113, *M* =97.88, *std. dev* =9.01, and *var* = 81.16. In control group, *min* = 75, *max* =138, *M* =102.53, *std. dev* =13.55, and *var* = 183.47. Then, Table 4 showed that $t(118) = -2.535$, $p < 0.005$ and d= 11.5, which means that there was a significant difference between experiment and control groups where the students in experiment group ($M = 97.88$) had lower FLA than their counterparts had in control group ($M = 102.53$).

Table 3
Descriptive statistics of FLA posttest in experiment and control groups

	N	Min	Max	Mean	Std. Dev	Var
Experiment	60	76	113	97.88	9.01	81.16
Control	60	75	138	102.53	13.55	183.47

Table 4
Independent t-test of students' FLA in the experiment and control groups

		t	df	Sig. (2-tailed)	d
FLA	Equal variances assumed	-2.214	118	0.029	11.5
	Equal variances not assumed	-2.214	102.654	0.029	

The interviews supported the above statistical results. After taking the online speaking course taught by e-portfolios, all students reported that they could alleviate their FLA levels. They also claimed that even though they were still apprehensive about communication, they were more confident speaking English after the course. For example,

S3M said, "I am not afraid anymore when I speak in English because I can improve my confidence" In addition, S4F claimed, "In general, my anxiety is getting lower even though I still have a little apprehension about communicating. But overall, I think I am getting better at speaking now" Interestingly, S6M confessed that he is not afraid of speaking in English anymore because of doing speaking tasks regularly.

Nevertheless, a few students said they were not very anxious when completing the speaking tasks because they did not have to speak in English in front of a live audience. For example, S10F said, "I was not so worried anymore because I did not have to meet my friends when I had to speak in English" Similarly, S2F echoed, "I was not anxious anymore since I only had to speak in front of the camera without an audience and did not see my friends' expressions"

The difference between males' and females' FLA in the experiment group

Table 5 showed that male students ($N = 17$) in the experiment group had $M = 95.71$, *std. dev* = 8.08, and *var* = 65.22 while female students ($N = 43$) had $M = 98.74$, and *std dev* = 9.30, and *var* = 86.48. However, through an independent t-test as shown by Table 6, there was no significant difference found in students' FLA between male and female students in the experiment group as $t(58) = 1.181$, $p > 0.005$, $d = 8.98$.

Table 5
Descriptive statistics of males' and females' FLA in the experiment group

	N	Min	Max	Mean	Std. Dev	Var
Male	17	77	108	95.71	8.08	65.22
Female	43	84	119	98.74	9.30	86.48

Table 6
Independent sample t-test of males' and females' FLA in the experiment group

		t	df	Sig. (2-tailed)	d
FLA_Gender	Equal variances assumed	1.181	58	0.242	8.98
	Equal variances not assumed	1.256	33.649	0.218	

To support the above findings, the interview results revealed that all the students reported that they liked the speaking tasks in the online course very much. For example, S9M said, "I like the tasks because I could channel my creativity into creating interesting videos" Moreover, the students were given more time to finish the speaking activities, which reduced the stress of learning. For example, S7M said, "Creating videos in this class was a very interesting activity, and we had ample time to finish them. So, we could also do other activities from different classes"

The e-portfolios also gave the students ample opportunities to watch their videos and their friends' videos online. Some of them said that watching their videos helped them build their motivation to speak in English. For instance, S3M confessed, "When I watched my videos, I found that I could speak in English well. It was not like what I used to think about my performance. So, I am confident now to speak with anybody else using English" In addition, some of them also compared their performance with their friends. For example, S4F said, "I often watched my videos and realized that I could perform well in English. So, why would I think that I am bad when speaking in English?"

The regular speaking tasks required the students to practice their English communication. All of the students confessed that the tasks and regular practice activities helped improve their speaking skills while reducing their FLA. For instance, S2F said, "Even though I made mistakes, I could retake the videos. It helped me a lot to get over my anxiety." In addition, S7M said, "E-portfolios helped me to prepare my performance well. I could find some content before giving a speech, and I had time to practice before recording the videos because they were watched by my friends and people worldwide"

Peer assessment also played a role in reducing the students' FLA, as their friends regularly gave them constructively and motivating comments to improve their performance. The students also reported that they became more confident in speaking English. For example, S10F said, "My friends' comments often corrected my speech and gave motivations at the same time. Thus, I felt so motivated"

Moreover, the self-assessment activities also helped the participants notice their strengths and weaknesses, as they could replay the videos to see their performance. Thus, the participants knew what to improve in their next speaking videos. For example, S8F said, "As I got the same questions every time I did self-assessment, I gradually understood my strengths and weaknesses. Therefore, I knew what to improve for my next performance" In addition, S5F said, "Self-assessment helped me to know my potential, including my strengths and weaknesses. I also noticed that I could create videos in English, and I was very happy."

Discussion

Given the lack of relevant literature, we conducted this study to examine the effect of e-portfolios on the FLA of students in an online speaking course during the COVID-19 pandemic, and determine whether the effect varied by gender. The first research question examined the effect of e-portfolios on students' FLA, and we found a negative relationship. Even though no study previously statistically reported that e-portfolios reduced students' FLA, the findings in this study supported the qualitative findings of the prior studies that e-portfolios reduced students' FLA (e.g., Cepik & Yastibas, 2013; Dougherty & Coelho, 2017; Huang & Hung, 2010; Sun & Yang, 2015).

Supporting the statistical finding, the interview results suggest that the exciting activities of e-portfolios were responsible for the significant results found in this study. Thus, we surmised that interesting e-portfolios tasks made students feel relaxed even though language classrooms are a threatening environment (Dörnyei, 2001). In addition, Guo et al. (2018) claimed that language instructors should implement approaches that can help mitigate students' emotional conditions. Interesting tasks in e-portfolios might therefore be one way to mitigate students' stress levels. For instance, Sun and Yang

(2015) found that the interesting activities in e-portfolios helped students alleviate their anxiety about speaking tasks. Teaching English as a foreign language is often a challenging task (Tang, 2020), and it certainly needs interesting activities (Vijayaraghavan & Chattaraj, 2020). Thus, e-portfolios could be an alternative to provide the students with interesting activities.

We also predicted that watching our videos and those of friends would help encourage students to speak English. As revealed in the interviews, the students revised their opinions about their perceived lack of English ability after reviewing the videos. In another study, Hsu (2016) found that students frequently review their speaking clips on their blogs to identify language errors, improving speaking development. Thus, through this activity, Hsu found that the students felt more motivated to speak English.

Furthermore, we surmised that the elements of the e-portfolios, such as regular practices, peer, and self-assessment, played important roles in reducing the students' FLA. The regular practice provided by the e-portfolios seems to have developed the students' confidence while reducing their anxiety. This finding replicated the previous research revealing that e-portfolios increased students' self-confidence (Cepik & Yastibas, 2013; Hsu, 2016; Sun & Yang, 2015). One plausible explanation is, as the interview results in this study revealed, the students became accustomed to speaking English by doing the practice activities before recording the videos. In the same vein, Tsiplakides and Keramida (2009) found that regular practices in speaking projects could help the students to alleviate their FLA, as the students gained ample opportunities to practice the language in a natural setting, to negotiate for meaning, and to establish strategies to convey their messages in English. As also revealed in the interviews, we speculated that peer assessment helped the students to reduce their FLA, as they became used to getting comments from their peers. Consistently with this observation, Askarzadeh and Mall-Amiri (2018) found that students taught using peer assessment had lower anxiety. It may also be the case that self-assessment allowed the students to understand their strengths and weaknesses and make improvements for their next videos.

The second research question examined if there was any difference between males' and females' FLA after teaching using e-portfolios. We found no significant difference, which is consistent with previous studies which discovered that males and females had no difference in FLA (e.g., Matsuda & Gobel, 2004; Nahavandi & Mukundan, 2013). However, one possible explanation of this phenomenon is that the regular practices afforded by the e-portfolios provided both males and females with equal opportunities to speak English frequently. Moreover, both genders completed regular peer- and self-assessment, which may have led participants of both genders to perceive that they were good at speaking English, their friends were supportive, the speaking activities were fun, and they were not afraid of using English anymore, especially in public. This notion is supported by the claim made by Guo et al. (2018) that students tend to regulate their perceptions of self, others, foreign language learning, and performance. In addition, in the interview results, there was no difference in the discussions of male and female participants about e-portfolios and FLA. Therefore, with the same opportunities and inputs, we predicted that the students could alleviate their FLA, resulting in no significant difference between gender.

Somewhat surprisingly, two participants in the interviews said that they were not afraid of speaking in English using the e-portfolios because they did it virtually without live audiences. This finding, therefore, repeated the one found by previous studies (Huang

& Hung, 2010; Kwak & Yin, 2018) that the asynchronous mode of speaking assignment has led students to feel less nervous. In addition, the findings in this study also confronted the ones found by Kusuma et al. (2021) that e-portfolios could potentially create stressful assignments. Even though we initially speculated that the students might have only developed the confidence to talk to a camera rather than other people, they also showed higher confidence and lower anxiety during speaking tests that required them to talk to a live audience. Therefore, it is important to note that gaining the confidence to talk in front of the camera might also build the confidence necessary to speak in public. Sun and Yang (2015) also reported similar results where the students found that speaking in front of a camera helped them develop the confidence to speak in public. Interestingly, some participants mentioned that they had to show their best because their videos would be watched not only by their friends on YouTube but also by people worldwide. Thus, their pressure in talking to an online audience might be similar to the pressure they would feel when talking in public. As supported by Kwak and Yin's (2018) finding, students felt a similar atmosphere in both virtual and real communication. Perhaps, because of the same pressure, Huang and Hung (2010) found their students were very serious when creating their audio clips and developing blogs.

The above discussion has four pedagogical implications for English language teaching, especially for studying at home during the COVID-19 pandemic. First, interesting speaking activities seem to reduce students' stress levels. All language teachers should recognize that during the COVID-19 pandemic, students may experience detrimental levels of fear and anxiety (Price, 1991). Therefore, providing interesting tasks is essential to reduce students' anxiety during this pandemic.

Second, given the significant effect of e-portfolios on reducing the students' FLA in this study, this assessment technique should be embraced by language instructors to help reduce students' FLA. E-portfolios provide males and females equal opportunities to improve their speaking skills and build confidence through regular practices. Therefore, regular practices help to alleviate FLA when speaking in English. Moreover, for schools implementing study-from-home orders during the COVID-19 pandemic, fully online e-portfolios can facilitate students' learning and reduce their FLA levels.

Third, regular practices and self-assessment should also be accompanied by peer assessment in e-portfolios. Besides providing students with feedback that can help them to make improvements (Cepik & Yastibas, 2013; Huang & Hung, 2010), peer assessment can also reduce the students' fear of negative evaluation, as shown in this study. The more the students receive comments from their peers, the more they are used to handling their fears and feelings. As Guo et al. (2018) commented, most students lack social interaction during the language learning process. This lack of social interaction could be one of the sources of students' perception that their peers will evaluate their performance negatively since they do not have close relationships with their peers. Therefore, it is important to provide the students with commenting activities to increase their social interactions and reduce their negative emotions, especially their fear of negative evaluations.

Fourth, language instructors should advise the students to provide constructive and motivating comments instead of giving critiques. As shown by the participants of this study, constructive and motivating comments can help students improve their speaking skills and confidence while reducing their anxiety.

Conclusion

This study investigated the effect of e-portfolios on students' FLA and the difference between male and female students' FLA after being taught by e-portfolios in an online speaking course during the COVID-19 pandemic. The statistical results found in this study showed that e-portfolios significantly reduced students' FLA in their online speaking courses. We suggest that interesting tasks, regular practices, peer-, and self-assessment are responsible for this result. In addition, we found that males and females had no difference in FLA after being taught using e-portfolios. Therefore, we suggest that the equal opportunities that e-portfolios provide to both males and females could give the same experiences and inputs for speaking improvements while reducing FLA.

Although this study has shown fascinating characteristics of e-portfolios and their effect on students' FLA, it has two limitations that should be addressed by future research. First, this study did not examine the effect of e-portfolios on students' motivation and confidence. As found in the interview results, the students often mentioned motivation and confidence. Thus, it should be questioned whether the reduced FLA levels observed in this study were due to the direct effect of the activities in e-portfolios, or whether unidentified variables such as motivation and confidence also played a role. Second, the e-portfolios in this study were implemented in the English Language Department only. Future research should involve non-English majors. Therefore, future studies should address the above limitations to enhance the literature on e-portfolios and their role in reducing students' FLA in English learning.

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Appendix

Interview Questions

1. How was your anxiety before the implementation of e-portfolios?
2. How did the tasks in e-portfolio help you to practice speaking?
3. How did you prepare yourself before doing the speaking tasks?
4. What do you think about the activities in e-portfolios?
5. How did the regular practices help you to be more confident when doing oral performance?
6. How did the activities in e-portfolios help you deal with your anxiety of using English in speech?
7. How do you think regular comments from your teacher on your performance ease your tension for the speaking test?
8. Did your friends' comments make you used to having comments? Please explain!
9. Did your friends' comments always make you down? Please explain!
10. Did you still feel that you are afraid of having negative comments when doing oral performance? Please explain!
11. What do you think about doing self-assessment in relationship with alleviating your anxiety?
12. How was your anxiety after the implementation of e-portfolio?