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Enacting E-portfolios in Online English-Speaking Courses: Speaking Performance and Self-efficacy

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ABSTRACT

Due to the spread of COVID-19, all face-to-face speaking courses were discontinued for a while, which inevitably impaired assessment results. E-portfolios are typically an appropriate evaluation technique for universities that implement fully synchronous online learning in pandemic situations. However, little is known about how this alternative assessment technique influences student speaking performance and self-efficacy. As a response, this study explored the impacts of e-portfolios on students' speaking performance and self-efficacy when studying from home, owing to the COVID-19 pandemic. A mixed-methods experimental design was used, with 55 university students (experimental = 28, control = 27) aged 18–20 years. Data were gathered via pre- and post-speaking tests, pre- and post-self-efficacy questionnaires, and an interview guide. The statistical analysis revealed that the experimental group outperformed the control group regarding speaking performance and self-efficacy. Furthermore, the interview findings indicated that the activities in e-portfolios were crucial for these improvements. This article suggests innovative approaches for teaching online speaking courses with e-portfolios.

Keywords: e-portfolios; online learning during COVID-19; self-efficacy; technology-enhanced language learning; technology-enhanced assessment

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Introduction

COVID-19's spread has profoundly affected a range of academic disciplines (Murphy, 2020), including university-level English Language Teaching (henceforth, ELT). This unique coronavirus was labeled a pandemic in March 2020, forcing the closure of multiple universities (Viner et al., 2020). As a result, most countries were forced to adopt online learning modes in their higher education institutions (Daniel, 2020). One of the implications of ELT was the practice of entirely online speaking assessments. Inevitably, this affected how speaking assessments are conducted.

Implementing e-portfolios appears to be one of the possible alternatives to evaluating speaking performance in online learning modes, as this assessment technique can be completed entirely online with the affordances of contemporary technology. Furthermore, an e-portfolio demonstrates the use of technology to collect student artifacts to track student learning progress (Cepik & Yastibas, 2013; Dougherty & Coelho, 2017). Among the early proponents of e-portfolios, Huang and Hung (2010) successfully used this evaluation technique and claimed that it improved students' speaking performances. According to Huang and Hung's research, students can boost their confidence by practicing on a regular basis. Multiple studies have since indicated that e-portfolios provide a variety of experiences for increasing self-efficacy (Cepik & Yastibas, 2013; Hung, 2011; Lee, 2014; Sun & Yang, 2015). Furthermore, Kusuma (2021), during the COVID-19 pandemic, adopted this assessment technique and reported that it improved student involvement. Implementing e-portfolios in online speaking courses is thus worth a chance for universities to augment online learning modes.

However, little is known about how the integration of e-portfolios into online English-speaking courses influences students' self-efficacy. Moreover, there is a paucity of empirical evidence on this subject, and neither of the aforementioned studies explored the direct effects of e-portfolios on self-efficacy. Thus, the purpose of this study was to determine the effect of e-portfolios on students' speaking performances and self-efficacy in an online speaking course conducted during the online learning period in Indonesia. The following research questions were posed to guide the investigation:

1. Is there any effect of e-portfolio assessment on students' online speaking performance?

2. Is there any effect of e-portfolio assessment on students' self-efficacy in an online course?

Literature Review

E-Portfolios

A portfolio is one of the authentic assessment techniques that denotes an organized collection of evidence (Efe, 2016; Johnson & Johnson, 2002; Johnson et al., 2010; O'Malley & Pierce, 1996), which also contains reflections (Cutrone & Beh, 2018; Hamp-Lyons & Condon, 2000; Johnson & Johnson, 2002; O'Malley & Pierce, 1996). The collections comprise homework, in-class assignments, presentations, visual artworks, reports, and essays of students or groups for a semester, a year, or several years (Johnson & Johnson, 2002). In addition, the proof may be chosen either by the student or by the instructor (O'Malley & Pierce, 1996) to represent the student's learning progress (Johnson & Johnson, 2002; O'Malley & Pierce, 1996; Srikaew et al., 2015). Moreover, students use portfolios to detail and reflect upon experiences that have been meaningful to them (Woodinm et al., 2022). Apart from collections, reflections, and selections of works, portfolios exhibit additional characteristics such as authenticity, controllability (students' control over what to put in their e-portfolios), communication and engagement, dynamic nature, customization,

integration, and multipurpose nature (Yastibas & Yastibas, 2015). With that said, portfolios have evolved into an authentic assessment technique that serves as not only a repository for students' artifacts and a monitoring tool for students' learning progress, but also a multipurpose assessment technique with a number of beneficial characteristics for students' learning success.

Recently, technology has made it possible to convert a portfolio into an e-portfolio. E-portfolios are now supported by modern technological platforms like Facebook, websites, blogs, and Wikis (Babaee, 2012). E-portfolios are defined as the use of digital tools to collect students' digital work using these technology resources (Dougherty & Coelho, 2017) to show the students' learning growth (Cepik & Yastibas, 2013; Huang & Hung, 2010). Additionally, e-portfolios enable students to manage their work through the use of technology resources (Kwak & Yin, 2018) and do self-reflection (Yastibas & Yastibas, 2015) at their convenient time. E-portfolios therefore represent a student-centered approach.

E-portfolios, like conventional portfolios, feature peer- and/or self-assessment. Peer-assessment occurs when one student evaluates the work of another, and self-assessment occurs when a student evaluates his or her own work (Reinholz, 2016). Self-assessment enables students to set goals and study independently, whereas peer-assessment enables them to collaborate (Hanrahan & Isaacs, 2001). Furthermore, how students comprehend and improve their learning through peer- and self-assessments is critical for improving their learning (Reinholz, 2016; Stančić, 2020). Peer- and self-assessment can be used as formative assessments prior to submitting assignments (Wanner & Palmer, 2018). These assessment techniques are typically used in e-portfolios when students upload their audio or video clips, with peer-assessment consisting of students' comments on their peers' work and self-assessment consisting of reflections upon reading the comments or completing the assignments (e.g., Cepik & Yastibas, 2013; Hung, 2011; Sun & Yang, 2015).

Given that one of the primary tasks in e-portfolios is peer or self-assessment (Chang et al., 2018), Menekse et al. (2018) assert that reflection enables students to realize their mastery and vicarious experiences. They are provided with ongoing opportunities to self-analyze their work, reflect on oral production, assess their own progress, and set personal goals through e-portfolios. Moreover, e-portfolios allow students to view their peers' work and learn from their experiences, both of which contribute to an individual's self-efficacy improvement (Bandura, 1977; Kissling & O'Donnell, 2015; Zheng et al., 2017). As a result, it is anticipated that e-portfolios have the potential to improve students' self-efficacy, but this needs further research given the paucity of available data.

Self-efficacy

Self-efficacy is defined as an individual's level of trust or confidence in their capacity to perform a particular action (Bandura, 1977, 1982, 1997; Fathi et al., 2021). It is also believed to influence how people demonstrate perseverance when completing difficult tasks (Bandura, 1997). Thus, when confronted with academic tasks, an individual with high self-efficacy should demonstrate patience, commitment, learning strategies, and curiosity (Mills, 2014). However, self-efficacy is not synonymous with self-confidence because the concepts are different (Bandura, 1997; Pajares, 1996).

Bandura (1977) asserts that efficacy is determined by four distinct sources of information: performance accomplishments, vicarious experience, verbal persuasion, and physiological states. Bandura defines performance accomplishments as a representation of personal mastery, vicarious experience as learning from the experiences of others, and verbal persuasions as positive feedback and support from others. Additionally, this includes physiological states, which are described as an individual's emotional, physical, and psychological well-being. Further, it has been demonstrated that self-efficacy is a strong predictor of task engagement (Mills, 2014), language awareness (Kissling & O'Donnell, 2015), and performance (Apridayani & Teo, 2021; Leeming, 2017; Swanson, 2012,

2013, 2014). Individuals with a higher self-efficacy are motivated to complete their objectives, whereas individuals with a lower self-efficacy lack confidence and believe that complex tasks are unachievable (Bandura, 1977).

Several attempts have been made to comprehend self-efficacy in language learning. Yang (1999) found a substantial correlation between it and strategies for improving English speaking in a survey of 500 Chinese students. Yang also found that students with high self-efficacy employed a more comprehensive range of learning strategies to improve their speaking abilities. Hsieh and Schallert (2008) discovered self-efficacy as a strong predictor of motivation in language acquisition by studying 500 students in the United States. Furthermore, Hsieh and Kang (2010) conducted a study with 192 Korean students in which some of them lacked control over their learning, causing them to do poorly, and vice versa. Recent research has found a link between self-efficacy and speaking performance (Asakereh & Dehghannezhad, 2015; Kusuma, 2020), however, little is known about how language instruction improves students' self-efficacy in language learning, and more research into this topic is required.

Related Studies on E-Portfolios, Speaking Performance, and Self-Efficacy

A growing body of research has explored the use of e-portfolios in assessing students' language performance, with positive language improvements and signs of self-efficacy growth. Huang and Hung (2010) investigated the use of Wretch, a free blogging system, by 51 Taiwanese English as a foreign language (EFL) students for e-portfolio implementation. Students were requested to provide audio files on their blogs on a regular basis. They also visited three of their classmates' blogs, provided input on the students' linguistic characteristics, and were obliged to provide their reflections in audio recordings after reading the remarks. This approach subsequently prompted other future investigations to carry out similar actions. Furthermore, Huang and Hung claimed in their qualitative research that the activities in e-portfolios helped students strengthen their speaking performance, particularly in pronunciation and vocabulary use. During the implementation of e-portfolios, students reduced their shyness and increased their self-efficacy, resulting in greater confidence in their ability to complete the assigned speaking task.

Hung and Huang (2015) proceeded to examine 51 Taiwanese EFL students on e-portfolio implementation after the success of their previous study. They used regression analysis to discover that uploading audio files and peer evaluations were important predictors of oral presentation performance. Earlier, Hung (2011) evaluated 17 Taiwanese EFL students by having them post speaking videos on Wretch or other free blogging platforms. Hung then employed descriptive statistics and qualitative analysis to determine how they may enhance their speaking abilities in terms of delivery, pronunciation, volume, and facial emotions. It was also discovered that students gained vicarious experience by watching and learning from their classmates' videos.

Cepik and Yastibas (2013) evaluated 17 Turkish EFL students using e-portfolios. They reported that the overall e-portfolio activities helped students improve their speaking skills in terms of grammar, pronunciation, vocabulary, and organization. After multiple experiences with filming speaking videos, they also noticed that students gained an increased desire to speak and increased self-confidence. Sun and Yang (2015) extended the discussion by including YouTube and Facebook in e-portfolios while measuring the speaking performance of 14 undergraduate Taiwanese EFL students. They utilized qualitative analysis to determine that students improved their speaking abilities, particularly in the areas of ideas, content creation, and pronunciation. In addition, the students demonstrated persistence due to the stimulating activities included in the e-portfolios.

Current research on the deployment of e-portfolios has also revealed comparable findings. For instance, Yekta and Kana'ni (2020) recruited 30 Iranian students and randomly assigned them to

one of two groups: experimental or control. They then looked at the impact of e-portfolios on students' speaking fluency. Yekta and Kana'ni found that the students who recorded their speaking videos consistently had greater speaking fluency than those who did not. Similar findings were also reported by Cabrera-Solano (2020), who adopted the e-portfolio assessment technique to teach speaking skills to 42 EFL students in Ecuador. Cabrera-Solano found that e-portfolios could improve speaking pronunciation and fluency. In addition, Author (2021) used e-portfolios and flipped classrooms to teach 63 twelfth-grade pupils in an Indonesian high school. They reported that incorporating this technique boosted speaking performance and increased learning engagement. Author (2021) built on this accomplishment by using e-portfolios during the COVID-19 pandemic and observed that students engaged actively in cognitive, affective, and behavioral dimensions. Moreover, it is essential to recall that a number of the previously discussed studies demonstrated that self-efficacy increased as a result of blogging. Nonetheless, the aforementioned studies, particularly those involving statistical analysis, did not investigate this topic in great depth.

Method

Design and Context

This study adopted a mixed-methods design, in which quantitative and qualitative data were collected to offer detailed information and corroborate one another (Creswell & Creswell, 2018). An experimental design was used to allow variable manipulation and subsequent effects on the outcomes (Creswell & Creswell, 2018). The quantitative section used a quasi-experimental design with experimental and control groups. This enabled the delivery of pre- and post-test treatment to assess the two distinct groups' outcomes (Ary et al., 2019). Following the quantitative analysis, semi-structured interviews with students were conducted to learn about their speaking performances and self-efficacy experiences. The study spanned the months of February and July of 2020.

This research aimed to look into the impact of e-portfolios on EFL students' speaking and self-efficacy in higher education settings. This 14-week study was conducted in an English language department at a public university in Indonesia during the COVID-19 pandemic. During the pandemic, all Indonesian higher education institutions conducted emergency remote teaching following the Indonesian government's study from home orders. As a result, all courses in this study, including the speaking classes, were delivered entirely online.

Participants

The experimental group included 28 students (8 males and 20 females) and 27 participants (11 males and 16 females) in the control group, all of whom were between 18 and 20 years old and had given their consent to participate in the study. Furthermore, they were all non-native English speakers who had spent an average of eight years studying the language. However, statistical analysis demonstrated that they were homogeneous ($p > 0.05$), and the pre-speaking test indicated a B1 level. According to The Common European Framework of Reference (CEFR) for Languages, this level indicates that the participants can complete simple tasks and engage in social situations.

To prevent ethical concerns, the study's objectives, risks, and benefits were explained to the participants. They then voluntarily participated by signing online consent letters. Moreover, a purposive sampling method was employed to recruit participants from the experimental group who volunteered to participate in semi-structured interviews. Only ten participants (five males and five females) expressed an interest in joining and consented to the process. To protect their confidential information, these individuals were assigned pseudonyms consisting of a combination of numbers and letters, such as S (student), F (female), and M (male) (male).

Instruments

Data on participants' speaking performances and self-efficacy were collected using four research instruments, resulting in rigorous data collection methods. Pre-and post-speaking tests were administered using an adaptation of the IELTS speaking assessment, which asked the participants to complete a five-minute online monologue on randomly selected topics. The pre-and post-speaking tests included questions about people, food, hobbies, cities, historical locations, and television programs. For instance, when the participants were assigned the topic of television programs, they were given a few questions to direct their monologue. These contained questions such as "What type of television program do you typically watch?" "How does this program look?" "Why do you appreciate this program?" "What did you learn from this television program?" and "Would you suggest this program to others?" "Why?" Then, a scoring rubric devised by Dashti and Razmjoo (2020) was implemented, which included criteria for measuring speaking fluency and coherence, as well as lexical resources, grammatical range and accuracy, and pronunciation. Cronbach Alpha values for the inter-rater reliability of pre-tests in the experimental and control groups were 0.98 and 0.97, respectively. Meanwhile, the Cronbach Alpha values for the inter-rater reliability of post-tests were 0.807 and 0.93 in the experimental and control groups, respectively. This indicates that both groups' grading for pre- and post-speaking tests was highly consistent.

The self-efficacy scores of the participants were determined using a 28-item questionnaire developed by Asakereh and Dehghannezhad (2015). It employed rating scales ranging from one (strongly disagree) to five (strongly agree), and the Cronbach Alpha value for this instrument was 0.91, indicating that it is still reliable.

The participants, were then, interviewed using a fourteen-question protocol to elicit participants' experiences with the e-portfolio implementation process. The interview questions were revised and enhanced in response to feedback from two SLA researchers. The interview questions focused on how e-portfolios aided the participants in improving their oral communication skills and self-efficacy. For example, the researchers asked "*How did you organize your learning during video blogging activities?"* and "*How did you reflect your performance during video blogging activities?*"

Procedure

The first stage involved administering a pre-test and 12 weeks of e-portfolio activities (Table 1). The last weeks were used to assess post-speaking performance and self-efficacy, as well as to conduct semi-structured interviews with open-ended questions. Throughout the 12-week intervention period, the experimental group applied a robust procedure for e-portfolio activities similar to those found in previous studies (e.g., Cepik & Yastibas, 2013; Sun & Yang, 2015), which included providing speaking materials, practicing speaking skills, uploading videos, and engaging in peer- and self-reflection.

Schoology (a learning management system platform) was used to distribute online speaking materials and tasks to the participants (see Figure 1). The participants discussed or asked questions about the material online on this platform. We required the participants to record videos, publish them on YouTube (a social media platform for uploading and watching videos), comment on their classmates' videos (Figure 2), and complete self-reflection exercises on Google Docs (online word processors for collaborative writing). They were instructed to create five-minute videos for the initial topic and extend each next video by two or three minutes. This resulted in a video duration of 19–20 minutes for the final topic.

On the other hand, the control group was provided with online speaking materials via *Schoology*. The participants discussed the materials available on this platform. They were required to record and

upload videos to YouTube. The lecturer would next provide commentary on the participants' clips. In contrast to the experimental group, this control group did not receive peer- or do self-reflection. The participants were frequently instructed to produce five-minute videos with no additional time for future videos.

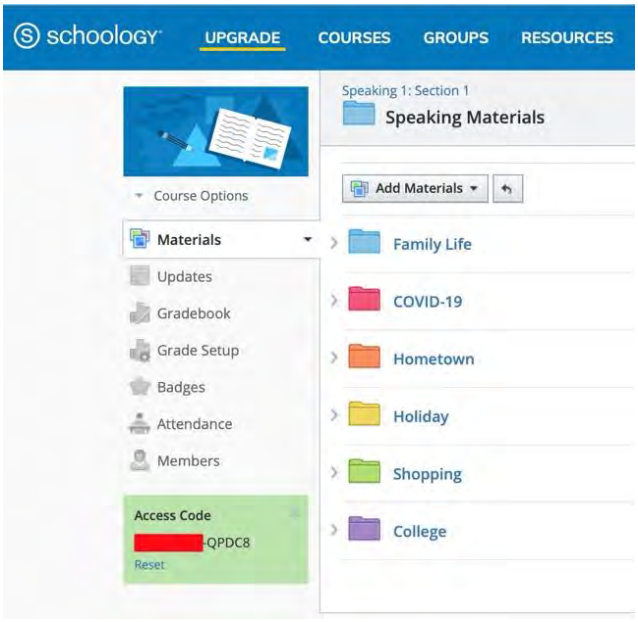

Figure 1. Speaking Folders on Schoology

Ten participants were scheduled for interview sessions following the experiment's results. This was intended to elicit information about their experiences during the experiment, particularly those involving speaking performance and self-efficacy. The interviews lasted roughly 60 minutes in Indonesian to alleviate participants' timidity and elicit detailed narratives. The interviews took place twice over two weeks. The interviews were taped and transcribed into Indonesian with the participants' agreement.

Table 1
The Participants' Activities in the Experimental & Control Groups

	Experimental		Control	
Meetings	Topics	Participants' activities	Topics	Participants' activities
1st meeting	Pre-test		Pre-test	
2nd meeting	Family life	Reviewing materials Practicing Recording videos (5 minutes duration) Uploading on YouTube	Family life	Reviewing materials Practicing Recording videos (5 minutes duration) Uploading on YouTube
3rd meeting	Family life	Lecturer and friends' comments Writing self-reflection	Family life	Lecturer's comments
4th meeting	COVID-19	Reviewing materials Practicing Recording videos (7-8 minutes duration) Uploading on YouTube	COVID-19	Reviewing materials Practicing Recording videos (5 minutes duration) Uploading on YouTube
5th meeting	COVID-19	Lecturer and friends' comments Writing self-reflection	COVID-19	Lecturer's comments
6th meeting	Hometown	Reviewing materials Practicing Recording videos (10-11 minutes duration) Uploading on YouTube	Hometown	Reviewing materials Practicing Recording videos (5 minutes duration) Uploading on YouTube
7th meeting	Hometown	Lecturer and friends' comments Writing self-reflection	Hometown	Lecturer's comments
8th meeting	Holiday	Reviewing materials Practicing Recording videos (13-14 minutes duration) Uploading on YouTube	Holiday	Reviewing materials Practicing Recording videos (5 minutes duration) Uploading on YouTube
9th meeting	Holiday	Lecturer and friends' comments Writing self-reflection	Holiday	Lecturer's comments
10th meeting	Shopping	Reviewing materials Practicing Recording videos (16-17 minutes duration) Uploading on YouTube	Shopping	Reviewing materials Practicing Recording videos (5 minutes duration) Uploading on YouTube
11th meeting	Shopping	Lecturer and friends' comments Writing self-reflection	Shopping	Lecturer's comments
12th meeting	College	Reviewing materials Practicing Recording videos (19-20 minutes duration) Uploading on YouTube	College	Reviewing materials Practicing Recording videos (5 minutes duration) Uploading on YouTube
13th meeting	College	Lecturer and friends' comments Writing self-reflection	College	Lecturer's comments
14th meeting	Post-test		Post-test	

Figure 2. Participants' Videos and Comments on YouTube in the Experimental Group

Data Analysis

The data was examined quantitatively and qualitatively. Descriptive statistics and one-way MANCOVA analysis were employed to study the quantitative data. One-way MANCOVA analysis was performed since the study had two dependent variables, and such analysis was appropriate to be performed to measure two or more dependent variables statistically. Moreover, *SPSS 27* for Mac was used to examine the quantitative data. All assumptions tests, including normality tests, homogeneity tests, scatterplots, equality of covariance tests, and multicollinearity tests, were performed and assured the researcher that participants' speaking scores and self-efficacy met the assumptions. As a result, a one-way MANCOVA analysis could be conducted.

Furthermore, a content analysis technique was chosen to analyze the interview data. After we transcribed the interview results into Indonesian, we sent them back to the participants for validation before we translated them into English for analysis purposes. The analysis of the interviews was also supported by the bracketing method through writing memos during interviews and analysis (Tufford & Newman, 2012). For instance, when we read the transcriptions, we took notes on some important points for coding and generating themes. Regarding the coding process, axial coding was implemented where the codes were all organized according to themes. This study then generated four themes: performance accomplishments, vicarious experience, verbal

persuasion, and psychological states. Figure 3 below shows students' self-reflection exercises on Google Docs (online word processors for collaborative writing).

Statements	Responses		Notes
	Yes	No	
Fluency (I speak without pauses, hesitation, and false starts)	√		Yeah, I guess so. Sometimes, I talked without pauses and nervous
Grammar (I speak with accuracy and variety of structures)	√		Yes, I spoke with a variety of accuracy
Vocabulary (My speech contains appropriate vocabulary and variety of expressions)		√	I think not all
Pronunciation (I speak with good stress, rhythm, and intonation)	√		Yes. Sometimes, I spoke with good stress, rhythm, and intonations
Communicative effectiveness (My speech contains clarity of ideas and comprehensibility)	√		Yes, my speech contained meaning, supported by the topic as well.
Topic management (My speech addresses relevant topic and adequacy of details and examples)	√		Yes. My speech addressed relevant topic and adequacy of details and examples
Confidence (I speak without being anxious)		√	I spoke anxiously, so many words were wrong.
Organization (My speech is well organized as it addresses introduction, main discussion, and conclusion)	√		I think yes.
Strategy use (I avoid unfamiliar language in my speech)	√		I used common language or vocabulary
Time management (I manage my timing of my speech)		√	Even though I made mistakes, but I did not have to rerecord the video again

Figure 3. An Example of Participants' Reflections in the Experimental Group

Findings

The analysis in Table 3 shows a statistically significant difference *(F* (2, 50) = 26.317, $p < 0.001$, *Wilks' Λ* = 0.487, *partial η2* = 0.513) between the scores on participants' speaking performance and self-efficacy of the participants in the experimental and control groups.

Table 2
Descriptive Statistics in the Experimental and Control Groups

Groups	Scores	Mean	SD	Var
Experimental (n=28)	Pre-Speaking	72.143	5.267	27.757
	Pre-Self-efficacy	171.607	29.281	857
	Post-Speaking	81.821	4.269	18.226
	Post-Self-efficacy	207.714	5.041	964.138
Control (n=27)	Pre-Speaking	69.889	4.526	20.487
	Pre-Self-efficacy	155.519	40.164	1613.182
	Post-Speaking	74.556	30.759	25.410
	Post-Self-efficacy	171.222	42.844	1778.256

Table 3
Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	0.513	26.317	2.000	50.000	0.001	0.513
Wilks' lambda	0.487	26.317	2.000	50.000	0.001	0.513
Hotelling's trace	1.053	26.317	2.000	50.000	0.001	0.513
Roy's largest root	1.053	26.317	2.000	50.000	0.001	0.513

Moreover, Table 4 shows that there was a statistically significant difference between participants' speaking scores in the experimental and control groups as $F(1) = 27.460$, $p < 0.001$, *partial η2* = 0.350. Additionally, Table 2 demonstrates that the experimental group's participants ($M = 81.821$) excelled over their control group counterparts ($M = 74.556$) on the post-speaking test. It means that e-portfolios significantly improved participants' speaking scores. Table 4 displays a statistically significant difference between participants' self-efficacy in the experimental and control groups as $F(1) = 19.623$, $p < 0.001$, *partial η2* = 0.278. Furthermore, as evidenced by Table 2, participants in the experimental group ($M = 207.714$) outscored their peers in the control group ($M = 171.222$) on the post-self-efficacy test. It means that e-portfolios significantly enhanced participants' self-efficacy.

Table 4
Post-Hoc Analysis

Dependent Variables	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Post speaking scores	594.646	1	594.646	27.460	0.001	0.350
Post self-efficacy	6721.992	1	6721.992	19.623	0.001	0.278

After the experiment, ten willing participants were interviewed to learn more about their experiences and corroborate the statistical findings. Four themes emerged from the findings: performance accomplishments, vicarious experience, verbal persuasion, and psychological states.

Performance Accomplishments

The e-portfolio activities in this study provided a simple step-by-step approach for doing this assessment technique in completely online English learning modes. It also provided equal opportunities to all participants to participate in similar speaking activities. However, the participants in this speaking class used various ways to achieve success. S3M, for example, concentrated on pronunciation practice: "I learned how to pronounce words in English, and learned from some videos. That is, I watched Western videos, vlogs, or Western movies. Sometimes, I repeated what the actors said in the movies, especially the difficult words. In addition, I practiced with the tongue twister technique" (S3M, a phone interview, July 2020)

In a different testimony, S2F conducted a different strategy:

> *"I usually search for information on the internet. For example, I searched for some information about COVID-19 as a topic. Then, I wrote that information in English before recording since I am not quite good at the language. Because of this, I needed notes when recording the videos" (S2F, a phone interview, July 2020)*

The participants were frequently asked to record their speaking performances and upload videos on YouTube, and many of them practiced before recording. For example, S1M practiced regularly and said, "Because I had to do a regular speaking task, I was forced to practice every time. I am getting used to speaking in English because of the practices" In addition, S5F also confessed similar testimony by saying, "I was afraid and shy because I couldn't perform in front of the camera. But after a series of practices, I can now perform in front of the camera since I am no longer afraid"

Vicarious Experience

The participants were required to watch five videos after uploading. All participants confessed that they not only watched the videos to provide their friends with comments, but they also learned some new knowledge. For example, S8M echoed, "I watched my friends' videos on purpose because I wanted to learn pronunciation and new vocabulary. Due to this, I always search my dictionary when I find new English words" In addition, S10M learned something new from the videos:

> *"I watched my friends' videos to learn something new and compare our levels of development. Somehow, this increased my confidence, and I also learned my friends' perspectives when speaking about the topics in their videos. Therefore, I would be able to do such performances when I had to perform similar topics in the future" (S10M, a phone interview, July 2020)*

Verbal Persuasion

The participants also gave their comments after watching their friends' videos. The peer-assessment provided by blogging improved their speaking mastery. Six participants were able to notice their weaknesses because the comments were motivational. For example, S9F mentioned, "My friends' comments often gave me some feedback for improvements. For example, they asked me to improve my grammar in my next videos, and sometimes to level up my voice" Similarly, S6M mentioned, "My friends' comments never looked down on my performance as they are often constructive. For example, I should increase the levels of my voice in my next videos, and also use appropriate grammar…."

Psychological States

Students' uploaded videos on YouTube were accessible online and watched by the public. According to the participants, they were motivated to practice more and be confident in their videos. They also developed their confidence because of the regular practices that made them speak in English frequently, and their friends' constructive comments helped raise their confidence level. For instance, S4F said, "Uploading videos on YouTube means the public can watch your videos. Then, I encouraged myself to be confident in front of the cameras, and I motivated myself that my performance and voice, as well as my English, is good" In addition, S7M said, "Through doing regular practices, I'm getting used to speaking in English fluently and regularly in front of the camera. In every task or video, I develop my confidence since English is always used"

Most participants were persistent in conducting all activities on time and with full effort. The exciting activities influenced them to be persistent. However, the long duration of the last video in the tenth and twelfth meetings significantly affected their mood of doing the activities. S3M expressed her thoughts:

> *"The activities were exciting and affected my motivation to do all tasks. Probably because they have not been conducted before, and the enthusiasm to finish all assignments was high, especially with recording and editing the videos. However, the last video required more duration, and it was a nightmare" (S3M, a phone interview, July 2020).*

Similarly, S5F stated her thoughts:

> *"I think I had good persistence during this online class because the activities were interesting even though the last assignments [videos] were too difficult. This is because it required me to talk for more than 15 minutes. Therefore, my mood was affected even though the assignments were finally accomplished [videos]" (S5F, a phone interview, July 2020).*

Discussion

The study's initial purpose was to determine the effect of e-portfolio assessment on participants' online speaking performances. The statistical analysis revealed a substantial difference between the participants' pre- and post-tests on speaking. Furthermore, as evidenced by the mean scores, e-portfolios enhanced oral communication performance. Thus, this finding corroborated prior experimental (Cabrera-Solano, 2020; Hung & Huang, 2015a) and qualitative research on the beneficial impacts of e-portfolios on EFL participants' speaking skills (Cepik & Yastibas, 2013; Huang & Hung, 2010; Hung, 2011; Lee, 2014; Sun & Yang, 2015).

We surmised that there were a variety of causes for the participants' better-speaking performances. To begin, we believed that their diverse strategies for mastering speaking materials influenced their performance in some way. As Banerjee (2019) discovered, participants' language performance is aided by topical knowledge. Thus, by mastering knowledge sources through a variety of strategies, they were able to give comprehensive content during their speaking performance. Second, the directions to provide feedback and engage in self-reflection regarding fluency, pronunciation, vocabulary, and grammar appear to have an effect. The interview results corroborated this speculation by indicating that participants received a variety of types of feedback from peers and themselves, which aided in their subsequent speaking videos. Other research (Lee, 2014; Sun & Yang, 2015; Waluyo, 2019) discovered similar findings, namely that peer reviews were informative and beneficial for e-portfolios used in language classes. Thirdly, because the videos were public, the participants practiced on a daily basis to improve their performances. Finally, some research showed

comparable findings, indicating that their performance appears to be shaped by having sufficient opportunity to practice their speaking abilities (Hsu, 2016; Lee, 2014; Sun & Yang, 2015).

The second objective was to determine the impact of using e-portfolio assessment on participants' self-efficacy in an online course. The findings revealed that e-portfolios could help participants improve their self-efficacy. Despite the lack of earlier research on this variable, it corroborated Menekse et al.'s work (2018) on the use of mobile technologies in teaching self-efficacy. Likewise, the interview data suggested that the engaging activities in e-portfolios appear to be the ones that increase participants' motivation, including the ability to complete challenging tasks, which encourages their perseverance. Regular e-portfolio practices serve to affect participants' confidence and persistence. It aided the participants in developing their confidence, which verified Cepik and Yastibas's finding (2013) that implementing e-portfolios resulted in increased confidence. It was hypothesized that participants' tenacity was affected by regular practice and video recording. Thus, the greater one's self-confidence and persistence, the more self-efficacy develops. This is because self-efficacy encompasses both self-confidence and persistence.

Additionally, peer- and self-reflections were hypothesized to improve participants' self-efficacy. For instance, they viewed their friends' videos prior to commenting. According to the participants, it enabled them to acquire new skills and compare their results, which ultimately boosted their confidence. Usher and Pajares (2008) observed that participants might use their peers' experiences to benchmark their own performance. Self-efficacy will increase proportionally to the amount of experience a student gains from this comparison. Sun and Yang (2015) also reported similar findings, stating that the participants benefited from seeing their peers' films and improved their performance independently.

Further, it is projected that the favorable comments on previous videos will boost participants' confidence for the upcoming ones. According to Shi (2018), social persuasive techniques such as helpful comments boost participants' self-efficacy. In addition, it was postulated that self-reflection was critical in enhancing participants' self-efficacy. Participants admitted that they were able to identify their strengths and limitations through self-reflections and used them to better their subsequent speaking videos. These findings then reinforced Menekse et al.'s study (2018), in which reflections assisted the participants in recognizing their mastery and vicarious experience, both of which contribute to self-efficacy development. Thus, the empirical findings from previous studies and the interview results indicated that participants' self-efficacy levels increased as a result of regular practice and filming videos, peer-assessment, and self-reflection.

Implication of the Findings

This study has implications for teaching speaking skills, particularly in the context of the COVID-19 pandemic. Students' e-portfolio products are no longer confined to audio recordings, as video formats enable students to create more imaginative and entertaining speaking performances. E-portfolios can be combined with a variety of technology tools to provide relevant experiences for students. This study added to the body of knowledge showing that e-portfolios had a significant impact on students' speaking performances. Statistically, e-portfolios increased students' self-efficacy, enhancing the literature on e-portfolios as a strategy for speaking assessments. Empirically, our research suggests that EFL teachers, particularly those delivering online instruction during the pandemic, employed this assessment technique. Along with improving students' speaking performance and self-efficacy, it can be delivered entirely online, which was necessary during the COVID-19 pandemic, when most universities discontinued their offline instruction. As previously said, e-portfolios enable students to apply a variety of strategies to achieve academic success.

However, it is critical to note that to ensure successful implementations, EFL teachers should follow the general procedure, which includes providing video tasks and adequate time for research and practice prior to students' recording the videos and providing clear instructions for peer- and self-reflection. EFL teachers should also consider the duration of the videos that their students are required to prepare. This is because tasks requiring people to record videos for extended periods of time may have an effect on their moods and motivation, as demonstrated by Sun and Yang's (2015) study participants. Also, as demonstrated, peer- and self-assessment can assist students in identifying their strengths and flaws and receiving vital input on how to improve. It was suggested that students build confidence through peer- and self-assessment, as this provided critical feedback and acquainted them with the perspectives of others. People become more accustomed to a circumstance as they become more at ease in it. As a result, it is advocated that these assessment methods be included in students' EFL learning.

Finally, because the public can view the students' videos, they will tend to give better presentations. According to the students' reports, they spent time mastering linguistic elements to improve their performance in their videos. However, it is critical to keep in mind that publishing recordings to public blogs or platforms can generate depressing situations for students. According to previous research, the students took the videos very seriously since they published them on public blogs. As a result, negative feelings such as anxiety and stress developed (e.g., Hung, 2011, 2012; Sun & Yang, 2015; Waluyo & Bakoko, 2022).

Conclusion

This study examined the use of e-portfolios as a method of assessment and learning in an online speaking course during the COVID-19 pandemic during the study from home period in Indonesia. It was concluded that e-portfolios might be one of the most effective assessment strategies for speaking courses, especially the one conducted in a fully online setting. Statistically, it was determined that e-portfolio activities had a substantial effect on speaking performance and self-efficacy. Secondly, it described a novel finding in which students appeared to gain an ability for autonomous learning. As such, e-portfolios should be considered as a technique for online speaking assessments.

Future research should investigate how e-portfolio assessment affects students' performance in other English skills such as writing, listening, and reading. A comparative study of the assessment impact of synchronous and asynchronous online learning modes is also possible.

Regardless of its objectives, this study has a few limitations. The study excluded students of various ethnicities, which could have influenced the findings. It is encouraged that the findings be interpreted in situations comparable to those of the participants in this study. The current study also did not conduct a more complex statistical analysis, which could have yielded new statistical insights.

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