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The Effects of a Personal Learning Environment on Vietnamese EFL Undergraduate Students' Speaking Skills

Hoang Viet Hien^{ID} and Suksan Suppatsereee^{ID}
Suranaree University of Technology
Nakhon Ratchasima, Thailand

Abstract. The personal learning environment (PLE) is a relatively new, learner-centred pedagogical approach using technology for learning. However, empirical research on PLEs remains in its infancy, especially in EFL contexts. This study therefore aimed to explore the effects of a PLE, designed by the researcher, on Vietnamese EFL undergraduates' speaking skills and examine how these effects varied across different speaking proficiency levels. Forty students at a university in Vietnam participated in a research project lasting eight weeks utilizing the PLE for an English speaking course. Adopting a mixed-methods, quasi-experimental design, this research employed pre- and post-speaking tests, reflective journals, and semi-structured interviews to collect data. Data were analyzed using paired-samples t-tests, one-way ANOVA, and thematic analysis. The results revealed that the PLE enhanced students' English speaking skills significantly. In addition, this enhancement varied across speaking proficiency groups, with the medium-level group experiencing the most considerable progress, followed by the low- and high-level groups. Qualitative findings from reflective journals and interviews highlighted students' positive perceptions of using the PLE to enhance their speaking skills. In short, this research underscores the potential of using the PLE approach in developing students' English proficiency and provides insights for educators and policymakers to employ autonomous language learning pedagogies.

Keywords: Personal learning environment; English speaking skills; EFL instruction; technology-enhanced language learning

1. Introduction

Speaking is regarded as one of the most crucial skills for communicative purposes in both first and second languages. The success of a foreign language learner is determined by one's capacity to have a conversation in that particular language (Devi, 2022). However, Vietnamese EFL undergraduates' English-speaking skills are relatively poor (Trinh & Pham, 2021). They have faced difficulties in improving speaking skills due to factors such as lack of exposure to the language,

large class sizes, lack of speaking opportunities in the classroom, lack of feedback and support, traditional teaching approaches, and boring topics (Do, 2021). In addition, they struggle with speaking English because they are frequently (a) afraid of making mistakes in class; (b) shy and diffident to speak in front of a crowd; (c) anxious when communicating in English; (d) demotivated by other students' superior performance in class; and (e) unable to find opportunities to practise speaking outside of the classroom (Tran & Vi, 2022).

In order to address these challenges, innovative approaches that create supportive, engaging, and interactive learning environments are necessary. One such approach is the use of a personal learning environment (PLE) in teaching English speaking skills (Situmorang et al., 2024). A PLE is a learner-centred teaching approach using technologies for learning. It represents a personalized area where students can develop and share ideas through learning environments linking resources and contexts (Attwell, 2007). In other words, a PLE is an environment furnished with tools, information resources, connections to others, and activities facilitating ongoing interactions for learning objectives through available technology (García-Martínez et al., 2021). Since the concept of PLEs is constantly developing, empirical research on PLEs, especially in EFL contexts, needs to be further studied (Xu et al., 2024). In addition, even though the PLE approach respects individual differences and stresses dynamic personalization in learning, there is a paucity of research that explicitly examines how these benefits of PLEs vary in individuals with different proficiency levels. Therefore, the present research aimed to fill the gaps by investigating the effects of a PLE on students' speaking skills and exploring the variations in these effects on different speaking proficiency levels (high, medium, and low). This research's findings were expected to improve English learning and teaching by offering a practical approach and introducing innovative ideas for future research. The research questions were as follows:

1. To what extent can a PLE enhance the speaking skills of Vietnamese EFL undergraduate students?
2. How do the effects vary across different speaking proficiency levels?
3. What are the perceptions of Vietnamese EFL undergraduate students towards using the PLE to enhance speaking skills?

2. Literature Review

2.1 Speaking Skills

Speaking is the most significant skill and is often utilized in any situation (Devi, 2022). Cora and Knight (2000) posit that speaking is the ability to execute and generate oral language used in the appropriate context and diverse situations with other speakers of the same language. There are four components of speaking skills: grammar, vocabulary, pronunciation, and fluency (Putri et al., 2020). Mastery of these components enables students to express ideas coherently, convey meaning accurately, engage in dynamic exchanges, and adapt their language use to different contexts and interlocutors (Putri et al., 2020).

In EFL contexts, various speaking activities have been employed in the classroom to enhance students' speaking skills such as discussion, role play, information gap, storytelling, and presentation. In addition, with the development of technology, students can utilize the Internet in class to practise their English (Luu et al., 2021). Online learning seems to be engaging and encourages students to look for the resources that best suit them. Students may access information for any lesson over the Internet from various sources. According to Kupchyk and Litvinchuk (2021), in EFL contexts, the focal point is to assist students in developing learning strategies and to provide connections with relevant information resources. In addition, it is pivotal to construct a learning environment that can facilitate foreign language acquisition through the customization of students' individual needs and interests (Kupchyk & Litvinchuk, 2021). This is in accordance with the idea of the PLE approach which focuses on students' personalization and collaboration in their learning through technologies (Martindale & Dowdy, 2010).

2.2 Personal Learning Environment

Since the middle of the 2000s, there have been two different perspectives on PLEs: the technological and pedagogical views. Concerning the first viewpoint, a PLE is defined by Martindale and Dowdy (2010) as a particular tool or a collection of tools for learners to organize and control their own learning. Castañeda and Adell (2013) refer to a PLE as an array of tools, informational resources, networks, and learning activities tailored to an individual's needs. Regarding the second viewpoint, Attwell (2007) emphasizes that PLEs should be considered a new approach using new technologies for learning rather than a software application. It is a system that enables students to control their own learning by assisting them in setting their goals, managing content and process, and communicating with others during the learning process (Attwell, 2007). This study followed both approaches and operationalized PLEs as a techno-pedagogical approach to enhancing students' speaking skills by enabling them to set their goals; customize available tools, resources, and activities; and connect with the community to achieve their learning goals.

A PLE-based approach not only offers personalized spaces owned and controlled by the user but also necessitates a social context by providing a means to connect with other personal spaces for efficient sharing of knowledge and collaborative knowledge generation (Martindale & Dowdy, 2010). According to Castañeda and Adell (2013), there are three components of a PLE: reading, doing/reflecting while doing, and sharing. The first component highlights the opportunity for students to develop their own PLEs by using the vast, readily accessible information on the Internet in multiple formats and personalizing them with various tools according to their unique needs and contexts. The second component pertains to how students, through synthesizing, reflecting on, and structuring the information they gather, are enabled either to create new content or modify existing ones by employing certain tools. The third component underscores the most vital part of PLEs, which are the tools, mechanisms, and activities for sharing information and interaction among individuals. This can be supported using social networking sites such as Facebook and Zalo (Gil-Fernández et al., 2023).

In language learning, Kupchyk and Litvinchuk (2021) state that PLEs provide students with ample opportunities to create their own learning process, determine their learning strategies, and learn at their own pace. PLEs can foster deep language and culture learning by offering unlimited authentic and updated resources. One of the most important benefits of PLEs lies in the perspective that language acquisition stems from social collaboration, leading to language awareness. PLEs also have a cognitive benefit in enabling learners to reflect on their language learning process by taking advantage of the support and data from other people, having a sense of data ownership, and aggregating various resources (Carter, 2003).

2.3 Previous Studies about PLE and Language Learning

Previous studies have shown positive effects of PLEs on the development of language skills. A thesis by Villabona (2019) explored the effectiveness of implementing PLEs in ELT to improve students' listening comprehension skills. The results revealed that students enhanced their listening comprehension skills significantly through the autonomous construction of resource collection. Suppasetsee et al. (2023) also conducted a study investigating students' engagement and opinions on an online PLE for listening. They found that students' engagement improved considerably in all aspects: behavioural, cognitive, and emotional. In addition, the personalized approach contributed to developing vocabulary and pronunciation skills despite challenges related to time management and Internet connection. Regarding writing skills, Bataineh and Bataineh (2024) undertook a study to examine the influence of the PLE approach on young EFL learners' writing performance. The results showed that students in the experimental group outperformed those in the control group. This was attributed to individualized and collaborative elements and increased motivation due to the tools.

In respect of speaking skills, Situmorang et al. (2024) conducted a study to investigate the impacts of the PLE approach on Indonesian students' speaking ability. Pre- and post-speaking tests and interviews were used as the instruments. The results found that students' speaking skills were enhanced significantly after learning with the PLE approach. This enhancement came from the collaborative and personalized features of the PLE. Additionally, students had opportunities to learn through various sources. Champakaew (2019) carried out a study using the PLE approach to explore the effects of out-of-class learning on students' communication skills of Thai undergraduates. Questionnaires, personal learning logs, and pre- and post-communication tests were employed. The findings revealed that students who were more autonomous performed better after the treatment.

In the Vietnamese context, to the researcher's best knowledge, only one study was conducted by Nguyen (2020) who developed a PLE model to enhance students' academic listening comprehension skills. However, it was only a proposal and has not yet been implemented in an actual class.

To conclude, PLEs have been researched considerably in multiple disciplines; however, only a few studies related to PLEs in the field of ELT have been conducted, especially in the Vietnamese context. In addition, most studies showed that the diversity of learning resources, collaboration, and personalization mainly contributed to the development of students' language skills. However, according to Korhonen et al. (2019), not many students can use PLEs effectively in their learning. As a result, they need scaffolding and support from other people. This study therefore aimed to fill these gaps by developing a comprehensive PLE to enhance Vietnamese EFL undergraduates' speaking skills.

2.4 Theoretical Framework of the Study

The PLE for speaking skills was developed based on three learning theories: connectivism, social constructivism, and self-regulated learning (Figure 1). There are four components including Diverse Digital Resources, Personalization, Collaboration, and Scaffolding. The expected outcome of this study is the enhancement of students' speaking skills.

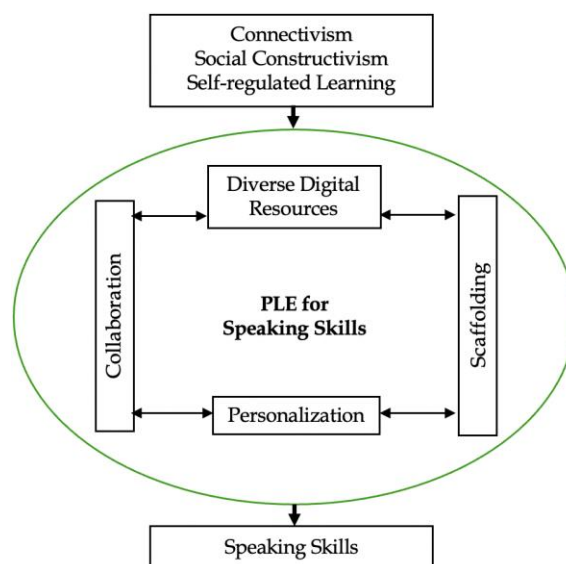


Figure 1. Theoretical Framework of the Study

Diverse Digital Resources

This component aligns with the theory of connectivism (Siemens, 2005), which holds that learning and knowledge extend beyond the individual and are distributed across a network of connections. Connectivist theory highlights the significance of abundant learning resources, which are viewed as nodes within an extensive knowledge network. By engaging with a wide range of digital resources, learners can access and connect with various information sources and enrich their learning process (Siemens, 2005). According to Zuhri (2021), using a variety of digital learning materials gives learners access to up-to-date information, leading to enhanced English learning achievements. Learning with various multimedia materials also improves students' motivation, which is an important factor for learning outcomes. In speaking skills, tools such as Oxford Learner's Dictionary,

Google Translate, ELSA, Duolingo, and BBC Learning English can support students' learning process (Luu et al., 2021).

Personalization

This component is closely linked with self-regulated learning theory and is also a crucial element of a PLE. Personalization empowers students to take control of their own learning processes, which is a core principle of self-regulated learning (Zimmerman, 2000). Students are able to engage with materials and activities that are directly relevant to their preferences and levels. By selecting resources that they find engaging, they will be more motivated to participate in speaking activities. As a result, their speaking skills can be improved through increasing practice (Agustina et al., 2022). In addition, using metacognitive strategies such as self-assessment and self-reflection can help them recognize their weaknesses and strengths to improve speaking skills (Herrera et al., 2022).

Collaboration

This is deeply aligned with social constructivism theory, which underscores the importance of social interactions in the learning process. According to Vygotsky (1978), learning is fundamentally a social process, and knowledge is constructed through interaction. In addition, collaboration is closely related to connectivism theory, which highlights the importance of building networks and collaboration to foster communication and interaction (Siemens, 2005). Collaborative activities can provide authentic contexts for language use, fostering fluency and encouraging the practical application of grammatical and lexical knowledge (Ayyub et al., 2021). In addition, through peer interaction, students receive useful suggestions which help refine their speaking skills (Chekol, 2020).

Scaffolding

Scaffolding is an indispensable component in the PLE. It closely corresponds to Vygotsky's (1978) social constructivism theory. Scaffolding is a concept derived from this theory in which more knowledgeable people provide support to learners until they can perform tasks independently. Scaffolding within the PLE directly contributes to the improvement of speaking skills by offering structured support and feedback. Clear expectations and guidance on how to improve their speaking skills are given to learners through teacher instructions and feedback (Sari & Rozimela, 2021). Furthermore, peer feedback and assistance enable learners to engage in meaningful interactions, receive constructive criticism, and practise speaking skills in a supportive environment (Azir, 2019). Through guided practice and feedback, learners can improve their pronunciation, grammar, fluency, and coherence in speaking.

3. Research Methodology

3.1 Research Design

This study was conducted utilizing a mixed-method approach with a one-group pretest-posttest design to investigate the effects of the PLE on students' speaking skills. First of all, a preliminary study was carried out using a survey to determine students' needs and preferences in terms of tools, materials, activities, and content for learning English speaking skills. This information was the basis for the

researcher to develop the PLE and design the PLE lessons. Subsequently, all instruments, including the PLE, lesson plans, pre- and post-speaking tests, reflective journals, and semi-structured interviews were developed. Before the implementation of the treatment, a consent form was provided to participants, ensuring their voluntary participation and awareness of the experiment's procedures and potential difficulties. Following that, they participated in the pre-speaking test with the examiners. They were then supposed to learn English-speaking skills with the PLE lessons within eight weeks. During this time, they were required to write reflective journals after every two lessons when completing one speaking topic. At the end of the course, 12 participants were recruited for semi-structured interviews using the purposive sampling method.

3.2 Participants

Convenience sampling was employed to select the participants for this study. Forty students who registered for the English 2 course at a private university in Vietnam were selected based on their willingness to complete this course by learning by means of the PLE. They were provided with the project's information via email and confirmed their agreement by replying to the email. When it comes to the General English programme in this context, students are required to take a placement test before they start the programme and then are assigned to the classes appropriate to their levels. The participants in this study were supposed to be at the pre-intermediate level. They were non-English major students from different departments and various regions in Vietnam. They had been learning English for at least seven years according to the English language system in Vietnam.

3.3 Instruments

There were two types of data collection instruments, namely instructional instruments and research instruments. Instructional instruments included the PLE for speaking skills and lesson plans; while research instruments consisted of pre- and post-speaking tests, reflective journals, and semi-structured interviews.

3.3.1 The PLE for Speaking Skills

As mentioned in section 2.4, there were four components in the PLE for speaking skills. The tools, materials, and activities integrated into the PLE were identified in the preliminary study.

Firstly, there was a diversity of digital resources including online learning tools and materials in the PLE. As for students' preferences, Facebook and Zalo, the two most prevalent social networking sites in Vietnam, were selected as the primary and supplementary learning platforms. Additionally, familiar tools supporting students in learning speaking skills such as Oxford Learner's Dictionary, Google Translate, ELSA (free version), Duolingo (free version), BBC Learning English were placed on the Facebook group. Regarding learning materials, both relevant and authentic text-based and video-based materials were provided to students according to their preferences. They consisted of YouTube videos, PowerPoint slides, articles, and quizzes.

Secondly, in terms of personalization, students set their own learning goals, drew up their plans, selected their favourite learning resources, monitored their progress, and self-evaluated their learning process. In addition, they had the freedom to learn at their own pace anywhere and anytime.

Thirdly, online interactive activities were employed to facilitate collaboration. The findings of the preliminary study revealed that students' favourite activities included online discussion, role-playing, and vlogging. Therefore, these three activities were integrated into the PLE to offer speaking opportunities.

Finally, scaffolding was provided through the support of both the teacher and peers. Students were trained to make effective use of the PLE. In order to facilitate students' personalization, a template guiding them on how to set goals, make study plans, and write reflections was shared on the Facebook group. Moreover, to support students' self-evaluation, students were trained to self-assess their speaking skills based on the IELTS speaking descriptor. Scaffolding also came from the teacher and peer feedback on students' speaking performances. Additionally, immediate support for each other could be provided via the Zalo chat group.

3.3.2 Lesson Plans

The lesson plans were developed based on connectivism, social constructivism, self-regulated learning theories, and components of the proposed PLE. The procedure of each lesson was as follows.

Before the lesson

Before the lesson, students studied the lessons' objectives posted on the Facebook group to set their own learning goals and draw up study plans using the template as a guideline (Figure 2).

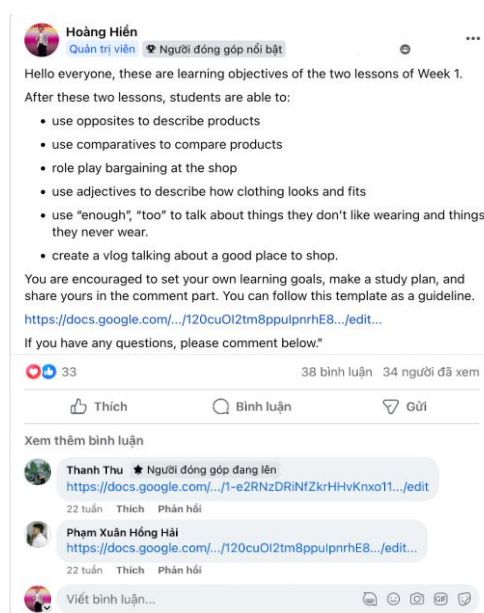


Figure 2. Screenshot of a FB Post Informing the Objectives of the Lessons

In addition, students explored the materials related to the lessons which had been posted on the FB group by the teacher. Students were also encouraged to search for more relevant materials using search engines and share them on the post (Figure 3).

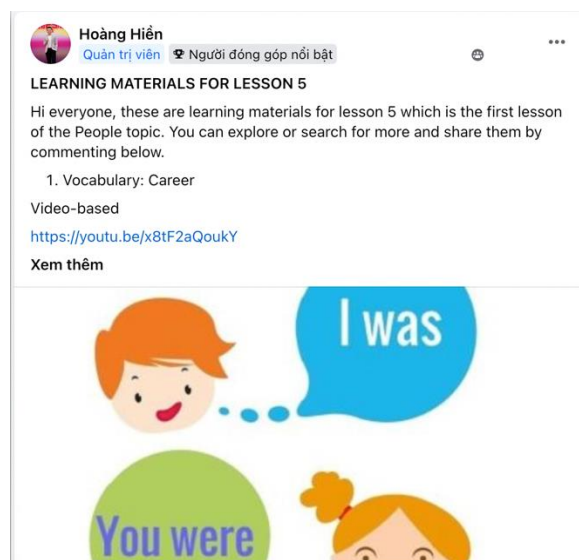


Figure 3. Screenshot of a Post Sharing Learning Materials

During the lesson

At this stage, the role of the teacher was that of a facilitator to encourage students' collaboration and communication. At the beginning of the lesson, students took part in a quick discussion related to the topic as a warm-up activity (Figure 4).



Figure 4. Screenshot of an Online Discussion

They then shared and discussed what they had learnt from the materials provided before the lesson. They were encouraged to use English to communicate with each other (Figure 5).



Figure 5. Screenshot of Students Sharing Knowledge

In addition, students made video recordings of the speaking activities, posted them on the Facebook group, and received feedback from their teacher and peers (Figure 6).



Figure 6. Screenshot of a Speaking Activity

After the lesson

After the lesson, students continued to learn English-speaking skills through online interactive activities (role-playing, vlogging). In order to complete these tasks, they were supposed to access the materials and tools provided on the

Facebook group or find more relevant ones by themselves. They could also ask their peers via the Facebook group or Zalo chat group if there were any questions or problems (Figure 7). They posted their performances on the Facebook group and gave feedback to each other (Figure 8).

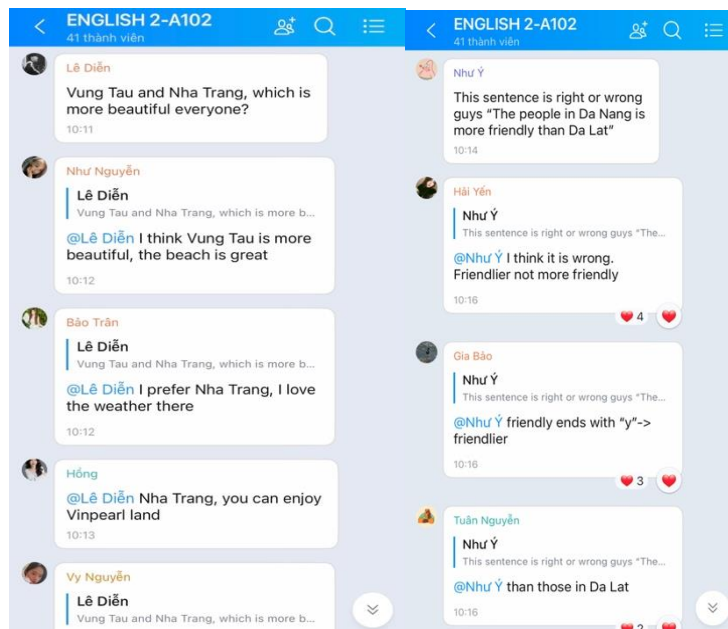


Figure 7. Screenshots of Students' Communication on the Zalo Chat Group



Figure 8. Screenshot of a Vlogging Activity Talking about Their Favourite City

Another activity during this phase was writing reflective journals in which students self-assessed their progress, self-reflected on the learning process, and shared these on the Facebook group.



Figure 9. Screenshot of a Post for Writing Reflective Journals Activity

3.3.3 Pre- and Post-Speaking Tests

In order to investigate the effects of the PLE on students' speaking skills and how the effects varied across different proficiency levels, the speaking section of the International English Language Testing System (IELTS) format was adapted as the pre-and post-speaking tests. The test items were carefully selected so that they were relevant to the topics of the course. However, owing to time limitations, the length of the test was shortened, leading to a reduction in the number of items in Part 1 and Part 3. The test lasted for approximately seven to 10 minutes for each student. In addition, to ensure consistency and reliability in scoring, there were two examiners marking students' speaking performances. The speaking rubric employed for marking was adapted from the IELTS speaking band descriptor (public version).

3.3.4 Reflective Journals

In the present study, writing reflective journals was a compulsory task students needed to complete every two lessons after finishing one speaking topic. In addition, at the end of the course, they were required to write a final entry. Students self-evaluated their speaking progress, explained their good and bad experiences, and proposed what they would do to improve. Reflection prompts based on Gibbs' reflective cycle (1988) were given to students on the SRL template as a guideline so that the students could know how to write reflective journals (Appendix 1).

3.3.5 Semi-structured Interviews

The interviews were conducted after the experiment had ended when the data from the other instruments such as the post-speaking test, and reflective journals had been collected. There were five interview questions utilized in this research in order to gain further insights into their perceptions about using the PLE in learning English speaking skills (Appendix 2).

In order to ensure the reliability and validity of all instruments, they were validated by three experts by using item objective congruence (IOC). In addition, they were piloted by 18 students within four weeks.

3.4 Data Analysis

For the data from pre-and post-speaking tests, paired-samples t-test (employing SPSS 27) was used for the analysis to explore the effects of the PLE on students' speaking skills. In addition, in order to gauge how the effects varied among three different groups in terms of speaking proficiency, one-way ANOVA was utilized. With regard to data collected from the reflective journals and interviews, thematic analysis based on Braun and Clarke's (2006) framework was employed to analyze them.

4. Results

4.1 The Effects of the PLE on Students' Speaking Skills

Table 1 shows the results of the paired-samples t-test of students' pre-test and post-test scores:

Table 1. Paired Samples T-test of Pre-Test and Post-Test

Tests	Paired Differences				t	df	Sig.(2-tailed)
	Mean	SD	95% Confidence Interval of the Difference				
			Lower	Upper			
Pre-test-Post-test	-3.625	1.371	-4.063	-3.186	-16.715	39	.000

It is clearly observable from Table 1 that there was an increase of 3.62 in the mean scores of students' speaking skills when comparing the pre-test and post-test scores. Additionally, there was a statistically significant difference between pre-test and post-test scores with $t(39)=-16.715$ and $p=0.000$ (<0.05). This indicates that the PLE noticeably enhanced students' English speaking skills. To be more specific, Table 2 illustrates the findings of paired samples t-test for four aspects of speaking skills in the pre-test and post-test:

Table 2. Paired Samples T-test of Specific Aspects of Speaking Skills

Aspects	Tests	Paired Differences		t	df	Sig. (2-tailed)
		Mean	SD			
Fluency and Coherence	Pre-test-Post-test	-1.15	0.622	-11.689	39	.000
Lexical Resource	Pre-test-Post-test	-1.12	0.757	-9.394	39	.000
Grammar Range and Accuracy	Pre-test-Post-test	-0.77	0.697	-7.027	39	.000
Pronunciation	Pre-test-Post-test	-0.57	0.635	-5.718	39	.000

Table 2 indicates that there were significant differences in all four aspects of speaking skills, with the p-values less than 0.05. Specifically, the results are as follows: Fluency and Coherence ($t(39) = -11.689$, $p = 0.000$), Lexical Resource ($t(39) = -9.394$, $p = 0.000$), Grammar Range and Accuracy ($t(39) = -7.027$, $p = 0.000$), and Pronunciation ($t(39) = -5.718$, $p = 0.000$).

4.2 The Variations in the Effects of the PLE on Different Speaking Proficiency Levels

Three groups of different English speaking proficiency levels (high, medium, and low) were identified based on the mean ($M = 59.67$) and standard deviation ($SD = 10.05$) of the pre-test scores. There were 10 students with high levels of proficiency, 19 with medium proficiency, and 11 with low proficiency, respectively. After that, the change scores of each participant were calculated using the Transform function in SPSS. Once the calculation of change scores had been completed, one-way ANOVA was conducted to compare the change scores of each group. Table 3 illustrates the results of one-way ANOVA of the change scores:

Table 3. One-way ANOVA of the Change Scores

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	34.311	2	17.155	16.249	.000
Within Groups	39.064	37	1.056		
Total	73.375	39			

It is apparent from Table 3 that there was a significant difference in the improvement of the three groups ($p = 0.000$). This could be interpreted as the effects of the PLE varying across different proficiency levels. In addition, the test of homogeneity of variances was carried out, the results of which are shown in Table 4:

Table 4. Results of Tests of Homogeneity of Variances

		Levene			
		Statistic	df1	df2	Sig.
Change Score	Based on mean	1.915	2	37	.162
	Based on median	.946	2	37	.397
	Based on median and with adjusted df	.946	2	18.993	.406
	Based on trimmed mean	1.359	2	37	.269

Table 4 shows that there was no significant difference in variances across the groups. In other words, the assumption of equal variances (homogeneity of variances) was not violated. Post-hoc comparisons were carried out using Tukey's HSD in order to identify which groups' enhancement significantly differed from each other. Tables 5 and 6 demonstrate the findings of the post-hoc tests and descriptive statistics of the change scores.

Table 5. Results of Post-hoc Tests

Multiple Comparisons						
Dependent Variable: Change Score						
Turkey HSD						
(I) Proficiency	(J) Proficiency	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
High	Medium	-2.27368*	.40143	.000	-3.2538	-1.2936
	Low	-1.25455*	.44895	.022	-2.3507	-.1584
Medium	High	2.27368*	.40143	.000	1.2936	3.2538
	Low	1.01914*	.38929	.033	.0687	1.9696
Low	High	1.25455*	.44895	.022	.1584	2.3507
	Medium	-1.01914*	.38929	.033	-1.9696	-.0687

*. The mean difference is significant at the 0.05 level.

Table 6. Descriptive Statistics of Change Scores

	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
High	10	2.200	.421	.133	1.898	2.501	2.00	3.00
Medium	19	4.473	.841	.192	4.068	4.879	3.00	6.00
Low	11	3.454	1.572	.474	2.398	4.511	2.00	8.00
Total	40	3.625	1.371	.216	3.186	4.063	2.00	8.00

As can be seen from Tables 5 and 6, there were significant differences between high-level and medium-level groups ($p=0.000$), between high-level and low-level groups ($p=0.022$), and between medium-level and low-level groups ($p=0.033$). The descriptive statistics showed that the medium-level group improved the most with the mean of 4.47 in the change scores, followed by the low-level group ($M=3.45$) and high-level group ($M=2.20$).

4.3 The Perceptions of Students towards the PLE

There were two main themes generated from the analysis of reflective journals and semi-structured interviews, namely speaking enhancement and challenges.

Speaking Enhancement

First of all, participants revealed that they experienced a notable enhancement in their speaking skills after learning through the PLE lessons. Specifically, most students reported that they could improve their grammar, vocabulary, pronunciation, fluency, and confidence in speaking English. When asked about the reasons, the majority of them emphasized the increased speaking opportunities that the PLE provided to them. Also, students stated that it was personalized feedback from the teacher and peers that also improved their speaking skills. In addition, participants mentioned the confidence-building opportunities from the PLE. Last but not least, all students revealed that qualified learning materials and tools played an important role in enhancing their speaking skills. Some excerpts illustrate this:

“One of the most noticeable improvements I experienced was my speaking skills. The PLE provided me with ample opportunities to practice speaking English through interactive tasks, role-plays, and online discussions. This consistent practice helped me become more fluent and articulate in expressing myself orally.” (S7, Semi-structured interviews)

“One aspect of the PLE that greatly contributed to my improvement in speaking skills was the personalized feedback provided by the teacher and peers. After completing speaking tasks, I received detailed feedback on my vocabulary, pronunciation, grammar, and fluency, which helped me identify areas for improvement and track my progress over time.” (S2, Semi-structured interviews)

“The PLE provided me with a lot of opportunities to practice speaking English in a safe and supportive environment. As I engaged with the speaking tasks and interacted with peers, my confidence in speaking abilities grew significantly. The positive feedback and encouragement from the teacher and classmates further enhanced my confidence and motivated me to strive for improvement.” (S12, Reflective journals)

“The learning materials shared in the PLE were really beneficial. The variety of video resources, articles, and apps offered many opportunities for language practice and reinforcement. Access to high-quality materials and tools enriched my learning experience and facilitated my progress in speaking English in terms of fluency and accuracy. (S15, Reflective journals)

Challenges

Despite various benefits highlighted by the participants, the semi-structured interviews and reflective journals also revealed several challenges that affected their learning experience. These included technical issues and distractions. They mentioned the following:

“Sometimes I felt frustrated because the Internet was so slow that I couldn’t upload the videos or download the materials.” (S4, Semi-structured interviews)

“It was difficult for me to focus 100% when learning on Facebook and Zalo due to the messages and notifications.” (S9, Reflective journals)

In general, despite several challenges, students had positive perceptions towards using the PLE to enhance their speaking skills.

5. Discussion

5.1 The Significant Enhancement in Students’ Speaking Skills

Regarding the extent to which the PLE can enhance students’ speaking skills, the findings revealed that students’ English speaking skills improved considerably after eight weeks of learning with the PLE. There are several possible interpretations for this result.

The first factor contributing to the significant enhancement in English speaking skills could be the personalized learning experience facilitated by the PLE. Personalized learning approaches have a profound impact on student motivation, comprehension, and overall learning outcomes. In this study, all the speaking topics, learning materials, and activities were selected based on students' needs and preferences. Students could therefore customize or search for more appropriate learning content and share it with others. Previous studies showed the positive effects of personalized learning on students' intrinsic motivation and language skills, particularly their speaking skills (Champakaew, 2019).

The second possible factor leading to the development of students' speaking skills was the quality of learning materials integrated into the PLE. The quality of the materials in this study could be seen in the aspects of relevance. Zhao (2014) stated that materials that align with students' needs and interests are more likely to arouse their attention and sustain their engagement in foreign language learning. In this research, students' needs and preferences were identified through the preliminary study. Apart from relevance, the authenticity of the materials was considered when selecting them. Authenticity refers to the degree to which materials reflect real-world language use and contexts, allowing students to develop practical speaking skills applicable to authentic communication situations (Situmorang et al., 2024). For those reasons, in this study, relevant authentic videos, as well as articles, were integrated into the PLE, enabling students to access and learn from them. To ensure the quality of the materials, they were validated by the three experts in ELT.

The third factor for the improvement of students' speaking skills could stem from the feedback and assessment component in the proposed PLE, which provided students with personalized and constructive guidance on their speaking performances. The provision of timely and relevant feedback allows students to identify their strengths and weaknesses, thereby facilitating targeted improvements in their speaking skills (Sari & Rozimela, 2021). Apart from teacher and peer feedback, self-assessment is a useful way to evaluate students' speaking skills in which students have opportunities to discover, learn and improve their speaking skills (Herrera et al., 2022).

Another notable factor that could trigger the improvement in English speaking skills was the opportunities for speaking coming from interactive learning activities within the PLE. In this study, students took part in online interactive activities such as online discussion, role plays, and vlogging. Through these collaborative activities, students had an opportunity to practise speaking English in authentic communicative contexts, interact with peers from diverse linguistic and cultural backgrounds, and receive constructive feedback on their performances. Collaborative learning promotes language development by providing opportunities for the negotiation of meaning, scaffolding of language learning, and development of social and cognitive skills (Salma, 2020).

The final factor contributing to students' speaking skills enhancement might come from social constructivism and connectivism theories. The present study

corresponded well with the principles of these theories in which students learnt by connecting with a variety of learning materials and tools and interacting with their counterparts and teachers via social networking sites through speaking activities.

The findings of this study are consistent with the studies of Situmorang et al. (2024) and Champakaew (2019) in which it was found that the PLE approach could improve students' speaking skills. They also correspond well with what has been found in previous studies on listening and writing skills such as those of Villabona (2019), Suppasetsee et al. (2023), and Bataineh and Bataineh (2024). The results of this research therefore confirmed the positive effects of PLEs on students' English proficiency.

5.2 The Variations in English Development across Three Speaking Proficiency Groups

Regarding how the effects of the PLE varied across different English proficiency levels, there was a significant difference in the change scores among three groups of students. Furthermore, the medium-level group improved the most compared to the others. Cognitive and linguistic foundations could be the factors leading to this result. The medium-level group may benefit from a phenomenon known as the zone of proximal development (ZPD), which is a critical concept in social constructivism theory proposed by Vygotsky (1978). The qualitative data collected from semi-structured interviews and reflective journals supported this. Specifically, participants in the medium-level group indicated that they were satisfied with all learning materials, activities, and support in the PLE. Meanwhile, those in the high-level group expressed the view that even though the PLE was helpful, they had expected to gain access to further advanced learning materials. The low-level group disclosed that they needed more scaffolding and detailed feedback for their learning.

5.3 Students' Perceptions

Most students perceived that the PLE lessons helped them enhance their speaking skills. They mentioned the speaking opportunities, personalized feedback, and confidence-building opportunities from the PLE. In addition, the quality of the learning materials and tools was considered to be a factor contributing to their speaking improvement. The positive perception of the students towards the impacts of PLEs on academic achievement in ELT was also reported by Champakaew (2019), Suppasetsee et al. (2023) and Situmorang et al. (2024). The participants in these studies perceived improvement in their learning achievements such as speaking skills, vocabulary, grammar, and pronunciation after experiencing learning English through the PLEs.

Despite positive perceptions of students towards learning with the PLE, some challenges were revealed. Firstly, some of the participants raised concerns about technical issues which affected their learning process. This issue was mentioned in the work of Suppasetsee et al. (2023) in which participants raised concerns about poor Internet connection preventing them from accessing the materials and practice exercises. Therefore, it is essential that students choose appropriate locations with strong Internet connections for learning. Secondly, distraction was

another problem mentioned by the participants as hindering their total focus. This is one of the disadvantages of learning through social media (Jayarathna, 2021). This highlights the importance of setting clear goals and plans to minimize distractions during the learning time.

6. Implications

The findings of the present study provide considerable implications for the stakeholders who include teachers, students, and policymakers in English language teaching and learning in general and speaking skills in particular.

Firstly, the results indicate the potential of employing the PLE approach in speaking instruction and advocate for its recommendation among teachers in EFL contexts. Specifically, teachers are encouraged to employ student-centred approaches in order to design instruction and integrate personalized learning experiences in language courses. In addition, the variation in the effects of the PLE on students with different levels of English proficiency emphasizes the importance of recognizing and addressing the varying needs and proficiency levels of students when designing and delivering PLE lessons. A survey is essential to identify the materials, activities, and even assessments that are as diverse as possible to suit the linguistic abilities and learning styles of each group.

Secondly, it is ideal that students should develop their own PLEs for their learning. To achieve this, students need to immerse themselves in a diversity of digital learning materials and tools that support not only English speaking skills but other skills as well. In addition, they should participate actively in speaking activities embedded within the PLE, which can cultivate their oral communication skills. Additionally, to maximize the merits of the PLE, students should be able to determine their level of English proficiency and identify their needs to select appropriate learning resources and activities to achieve their goals.

Thirdly, policymakers are encouraged to integrate the PLEs into the curricula as well as instructional practices. Instructional approaches that boost students' active engagement, collaboration, and personalization in accordance with the principles of PLEs such as project-based learning should be advocated. Teachers should be trained on how to incorporate PLEs in their teaching practices through workshops or seminars. Students should be equipped with self-regulated learning skills, especially digital literacy, to be able to construct their own PLEs for their lifelong learning.

7. Limitations and Recommendations

Even though this study has indicated the positive effects of the PLE on students' English speaking skills, there are several limitations. These limitations can be further investigated in future research.

Firstly, there are concerns about the sample size and generalization. This study was limited to the relatively small sample size of only 40 first-year university students as the participants. Also, the context of this study was only in a specific university in Vietnam. These might affect the generalizability of the findings to

other populations. As a result, future research is encouraged to replicate this study with a larger sample size in other EFL contexts to enhance the generalizability of the results.

The second limitation is related to the duration of the intervention. Since the experiment only lasted eight weeks owing to the policy of the institution, this might have constrained the depth and sustainability of the effects. Other researchers could conduct longitudinal research to examine the long-term effects of PLEs on language learning achievements.

8. Conclusion

In conclusion, this study was carried out to explore the potential of implementing the PLE approach in English teaching and learning. A PLE for speaking skills was proposed by the researcher based on the theories and principles. The results from speaking tests revealed that students enhanced their speaking skills after the intervention. In addition, the improvement varied among different levels of speaking proficiency. Specifically, students in the medium-level group were most significantly enhanced, followed by those in low- and high-level groups. The responses from reflective journals and semi-structured interviews indicated that students had positive perceptions towards using the PLE to enhance their speaking skills. These findings demonstrated that the development and implementation of the PLE in English language teaching and learning are encouraging. There should be changes in the teaching and learning practices of teachers and students to adapt to the advancement of technology. Policymakers also need to make modifications to the curricula as well as to teacher training. Further work is still needed to affirm the results of this study as well as examining more about other aspects of PLEs.

9. References

- Agustina, A., Prihantoro, P., & Gusmuliana, P. (2022). *The correlation between students' self-regulated learning and their speaking skill (A correlational study at English Tadris program of IAIN Curup)* [Doctoral dissertation, IAIN Curup]. <http://e-theses.iaincurup.ac.id/id/eprint/1140>
- Attwell, G. (2007). E-portfolio: The DNA of the personal learning environment? *Journal of E-learning and Knowledge Society*, 3(2), 39-61. <https://doi.org/10.20368/1971-8829/248>
- Ayyub, B., Akib, E., & Amin, B. (2021). Promoting the students' speaking skill by implementing collaborative learning method in teaching speaking skill. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature*, 9(1), 10-22. <https://doi.org/10.24256/ideas.v9i1.1234>
- Azir, I. D. A. (2019). Applying peer scaffolding to enhance the EFL vocational students' speaking skills. *Ethical Lingua: Journal of Language Teaching and Literature*, 6(2), 149-157. <https://europub.co.uk/articles/-A-640101>
- Bataineh, M., & Bataineh, R. (2024). Personal learning environment and writing performance: The case of Jordanian young EFL learners. *Studies in Self-Access Learning Journal*, 15(1). <https://doi.org/10.37237/150102>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Carter, R. (2003). Language awareness. *ELT Journal*, 57(1), 64-65. <https://doi.org/10.1093/elt/57.1.64>

- Castañeda, L., & Adell, J. (2013). La anatomía de los PLEs. In L. Castañeda & J. Adell (Eds.), *Entornos personales de aprendizaje: Claves para el ecosistema educativo en red* [Personal learning environments: Keys to the online educational ecosystem] (pp. 11-27). Marfil. <https://www.um.es/ple/libro/>
- Champakaew, W. (2019). Out-of-class English language learning and the communication skills of university students. *Journal of International Studies, Prince of Songkla University*, 9(2), 185-210. <https://so03.tci-thaijo.org/index.php/jis/article/view/232048>
- Chekol, A. D. (2020). Investigating the influence of using peer feedback on EFL students' speaking achievement and their perceptions towards peer feedback. *Arabic Language, Literature & Culture*, 5(3), 23-34. <https://doi.org/10.11648/j.allc.20200503.11>
- Cora, L., & Knight, P. (2000). *Learning and teaching English: A course for teachers*. Oxford University Press.
- Devi, M. R. (2022). The importance of speaking and listening abilities for EFL students. *International Journal of Advanced Multidisciplinary Scientific Research*, 5. <https://doi.org/10.31426/ijamsr.2022.5.7.5511>
- Do, T. H. (2021). Factors influencing learners' English speaking skill at a Vietnamese university and suggestions for improvement. *Social Science Learning Education Journal*, 6(06), 455-465. <https://doi.org/10.15520/sslej.v6i06.2824>
- García-Martínez, J. A., González-Sanmamed, M., & Muñoz-Carril, P. C. (2021). Validation of the activities' scale in higher education students' personal learning environments. *Psicothema*, 33(2), 320-327. <https://doi.org/10.7334/psicothema2020.294>
- Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods*. Further Education Unit. <https://thoughtsmostlyaboutlearning.files.wordpress.com/2015/12/learning-by-doing-graham-gibbs.pdf>
- Gil-Fernández, R., Calderón-Garrido, D., & Martín-Piñol, C. (2023). Exploring the effect of social media in personal learning environments in the university settings: Analysing experiences and detecting future challenges. *Revista de Educación a Distancia (RED)*, 23(71). <https://doi.org/10.6018/RED.526311>
- Herrera, L., Melo, C. H. C., & Zambrano, M. A. L. (2022). The influence of self-assessment on the English language learning process. *Colombian Applied Linguistics Journal*, 24(1), 89-104. <https://doi.org/10.14483/22487085.17800>
- Jayarathna, D. (2021). Facebook as a venue for learning writing skills in English: A survey based on an ELT experiment. *Journal of Social Sciences and Humanities Review*, 6(1), 55-67. <https://doi.org/10.4038/jsshr.v6i1.51>
- Korhonen, A. M., Ruhalahti, S., & Veermans, M. (2019). The online learning process and scaffolding in student teachers' personal learning environments. *Education and Information Technologies*, 24(1), 755-779. <https://doi.org/10.1007/s10639-018-9793-4>
- Kupchyk, L., & Litvinchuk, A. (2021, March). Constructing personal learning environments through ICT-mediated foreign language instruction. *Journal of Physics: Conference Series*, 1840(1), 012045. IOP Publishing. <https://doi.org/10.1088/1742-6596/1840/1/012045>
- Luu, L. P. T., Nguyen, T. N. Q., Vo, N. T. T., & Nguyen, M. T. H. (2021). The need of applying English learning apps to help Van Lang University students improve their spoken English performance. *AsiaCALL Online Journal*, 12(2), 72-86. <https://asiacall.info/acoj/index.php/journal/article/view/33>
- Martindale, T., & Dowdy, M. (2010). Personal learning environments. In G. Veletsianos (Ed.), *Emerging technologies in distance education* (pp. 177-193). Athabasca University Press. <http://surl.li/uqhfl>

- Nguyen, M. T. (2020). Designing a rhizomatic online personal learning environment model to improve university students' academic listening skills. *International Journal of English Language and Literature Studies*, 9(4), 286-304. <https://doi.org/10.18488/journal.23.2020.94.286.304>
- Putri, S. A., Amri, S., & Ahmad, A. (2020). The students' difficulties factors in speaking. *J-Shelves of Indragiri (JSI)*, 1(2), 115-129. <https://doi.org/10.32520/jsi.v1i2.1059>
- Salma, N. (2020). Collaborative learning: An effective approach to promote language development. *International Journal of Social Sciences & Educational Studies*, 7(2), 57-61. <https://doi.org/10.23918/ijsses.v7i2p57>
- Sari, D. K., & Rozimela, Y. (2021, March). The implementation of scaffolding strategies at speaking English course in Kampung Inggris Pare East Java. In *Ninth International Conference on Language and Arts (ICLA 2020)* (pp. 51-56). Atlantis Press. <https://doi.org/10.2991/assehr.k.210325.010>
- Siemens, G. (2005). Connectivism: Learning as network-creation. *ASTD Learning News*, 10(1), 1-28. http://www.astd.org/LC/2005/1105_seimens.htm
- Situmorang, I., Sitompul, H. S., & Tuty, T. (2024). The influence of the personal learning environment (PLE) approach on English speaking ability. *Cendikia: Media Jurnal Ilmiah Pendidikan*, 14(3), 224-231. <https://doi.org/10.35335/cendikia.v14i3.4548>
- Suppasetsee, S., Kumdee, S., & Minh, T. H. (2023). Supporting student engagement with technology: Findings from a study of an online personal learning environment for extensive listening. *LEARN Journal: Language Education and Acquisition Research Network*, 16(2), 220-240. <https://so04.tci-thaijo.org/index.php/LEARN/article/view/266944>
- Tran, T. T., & Vi, T. T. (2022). Difficulties encountered by students at a university in Vietnam in speaking English. *International Journal of Social Science and Humanities Research*, 5(3), 39-50. <https://doi.org/10.47191/ijsshr/v5-i3-39>
- Trinh, N. B., & Pham, D. T. T. (2021). Challenges in speaking classrooms among non-English majors. *Vietnam Journal of Education*, 37-42. <https://doi.org/10.52296/vje.2021.52>
- Villabona, M. T. O. (2019). *PLEs as catalysts for boosting listening comprehension skills* [Unpublished doctoral dissertation]. Universidad Nacional Abierta y a Distancia. <https://repository.unad.edu.co/handle/10596/28019>
- Vygotsky, L. S. (1978). *Mind in society: Development of higher psychological processes*. Harvard University Press.
- Xu, X., Liu, J., Zhang, Y., & Zhang, H. (2024). Development and implementation of personal learning environment-based writing for publication scaffolding platform for Ph.D. students. *Humanities and Social Sciences Communications*, 11(1), 1-12. <https://doi.org/10.1057/s41599-023-01502-6>
- Zhao, Y. (2014, June). On how to arouse the students' learning interest in foreign language teaching. In *2014 International Conference on Education, Management and Computing Technology (ICEMCT-14)* (pp. 308-312). Atlantis Press. <https://doi.org/10.2991/icemct-14.2014.74>
- Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation* (pp. 13-39). Academic Press. <https://doi.org/10.1016/B978-012109890-2/50031-7>
- Zuhri, F. (2021, April). English learning achievement of multilingual learners through digital literacy practices. In *Thirteenth Conference on Applied Linguistics (CONAPLIN 2020)* (pp. 168-172). Atlantis Press. <https://doi.org/10.2991/assehr.k.210421.024>

Appendix 1

Prompts for Reflective Journals

1. What did you do during the learning process? (What activity did you do? What learning materials/tools did you use? How long did you spend learning on the PLE?)
2. How would you self-assess the progress of your speaking skills?
3. What was good or bad about the experiences?
4. What might have been the reasons for the good and bad experiences?
5. What can you learn from this?
6. What will you do differently next time?

Appendix 2

Semi-structured Interview Questions

1. After 8 weeks of learning with the PLE, what do you think?
2. Did the PLE improve your English-speaking skills? If yes, how?
3. Were there any activities or materials you found the most beneficial for your English-speaking skills? If yes, what are they?
4. Did you have any difficulties when you learnt with the PLE? If yes, what are they?
5. Would you recommend the PLE to other English language learners? Why or why not?