Enhancing Speaking Skills and Overcoming Anxiety Using Technology: An E-Learning Module for EFL Learners

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This study explores the impact of an interactive electronic learning module (e-learning module) on improving speaking skills among law students experiencing speaking anxiety. Using an explanatory sequential mixed methods design, the research combined a one-group pre-test-post-test for quantitative analysis and structured interviews for qualitative insights. Seventy-three law students who had completed a Law English course incorporating the e-learning module participated in the study. Statistical analysis showed that the e-learning module significantly enhanced speaking skills (p = 0.000), with improvements ranging from moderate to large based on different levels of speaking anxiety: low (d = 0.492), moderate (d = 0.578), and high (d = 0.978). Speaking anxiety decreased from 60.03 to 44.74 (a decrease of 15.29). In structured interviews, all eight participants reported that the e-learning module helped them improve their speaking skills, highlighting their engagement with its materials and tasks. In addition to serving as pre-class preparation, they also used the module to reduce speaking anxiety. The findings emphasize the value of integrating e-learning modules into English as a Foreign Language (EFL) teaching. EFL educators are encouraged to incorporate such tools to create a supportive learning environment that aids students in overcoming speaking anxiety and improving their speaking abilities.

Introduction

A high level of proficiency in an international language, especially English, is now central to thriving in the Industrial 5.0 era as well as keeping abreast with the interconnected

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and globalized world. International corporations are increasingly recruiting individuals with self-assurance and proficiency in cross-cultural communication in their second or non-native language (Jackson, 2015). One of the professions that require those skills is the legal field. A future lawyer must adapt to a changing environment where cross-border interactions, global cooperation, and multicultural communication play essential roles in their profession (Krasnopolskyi et al., 2023). Foreign language speaking skills are essential for future lawyers, as they play a crucial role in professional legal practice (Almazova, Sheredekina, Odinokaya, & Smolskaia, 2021). For lawyers in international or multilingual settings, clearly articulating legal concepts in a foreign language is crucial. Strong oral communication skills are essential for lawyers, especially in litigation and legal argumentation (Smith, 2009). As a result, speaking proficiency in the legal field is ideally mastered by law graduate students. With speaking proficiency, they will have good communication abilities, which will assist them in their future professional careers. Nhac (2023) highlights that law students must be proficient in all language aspects, including the use of words, phrases, sentences, and discourses in the legal field of oral practice to achieve competence in legal English. Developing strong foreign language speaking skills allows future lawyers to navigate diverse legal environments, communicate effectively with international clients, and enhance their professional opportunities.

Interestingly, this poses a formidable challenge for law learners to become proficient. Significant challenges arise from the unique features of legal English, variations in legal systems across different jurisdictions, and a lack of sufficient background knowledge of the law (Nhac, 2021; Toska, 2019). Legal English is a specialized professional language that includes unfamiliar terminology to the average person (Gubby, 2016). Consequently, it is crucial to select appropriate methods and techniques. Alongside the skills of comprehending the legal aspect, law students also encounter challenges in improving their speaking abilities because of anxieties.

Speaking anxiety (SA) is a psychological barrier that arises during foreign language learning, particularly in English-speaking instruction, which is characterized by the autonomic nervous system producing feelings of dread, stress, and apprehension. Grounded in language anxiety theory, speaking anxiety encompasses communication anxiety, anxiety on tests, dread of negative evaluation, and anxiety in English class (Horwitz, 2001). Djafri and Wimbarti (2018) define speaking anxiety as a diminished self-assessment of proficiency in the target language, while Goh and Burns (2012) highlight its role in creating psychological barriers such as nervousness and apprehension. Speaking anxiety is often considered a linguistic barrier that impedes EFL learners' oral proficiency development (Tang & He, 2023; Teimouri, Goetze, & Plonsky, 2019; Quvanch, Qasemi, & Na, 2024). Some previous studies results show that the majority of Indonesian EFL learners struggle with foreign language proficiency, primarily due to psychological barriers, such as anxiety and lack of confidence as well as linguistic barriers, such as limited grammar and vocabulary (Sampelolo et al., 2021; Franscy & Ramli, 2022; Wijaya Mulya et al., 2024; Winnie et al., 2023).

Numerous linguistic and psychological factors contribute to speaking anxiety. Law students, in particular, experience heightened anxiety due to complex symptoms such as shyness and social anxiety during speaking in class or public (Brown, 2015). Čepon (2016) asserts that a lack of comprehension of conveyed content intensifies speaking anxiety, while Chou (2018) and Toubot, Seng, and Abdullah (2018) argue that low confidence in spontaneous speaking further exacerbates this challenge. Addressing these issues is crucial for improving law students' speaking proficiency while reducing anxiety.

To alleviate speaking anxiety and enhance oral proficiency, technology-assisted language learning provides an effective framework by integrating digital tools into language instruction. Digital learning technologies, such as web-based platforms and virtual reality, have been shown to improve students' confidence and speaking skills while reducing anxiety (Almazova et al., 2021; Bashori, van Hout, Strik, & Cucchiarini, 2022; Lestiono & Lee, 2024). Similarly, Krasnopolskyi et al. (2023) found that Web-technology enables future lawyers to develop their foreign language competence, while other studies affirm that the integration of technology and multimedia in speaking lessons boosts student interaction, confidence, and learning outcomes (Nugroho & Sakhiyya, 2022; Sosas, 2021). Moreover, Interactive Learning Module Technology (ILMT) improves students' proficiency in the Kazakh language while also easing their anxiety (Yermekbayeva, Kuzembayeva, Maydangalieva, & Spulber, 2024). These findings suggest that technology when effectively integrated into speaking instruction, can modernize language learning and provide significant support in reducing EFL learners' anxiety.

Despite the growing body of research on technology-assisted language learning, less attention has been devoted to the utilization of these technologies and their direct impact on law students' legal English proficiency, speaking fluency, and anxiety management.

To bridge this gap, e-learning modules offer a promising digital learning solution that supports speaking skills while addressing language anxiety. They serve as interactive, self-guided educational resources that facilitate comprehension, improve motivation, and enable flexible learning (Sofyan, Anggereini, & Saadiah, 2019; Delita, Berutu, & Nofrion, 2022; Sadiyani, 2023). Their interactive features promote flexibility, enabling students to explore content, revisit legal topics, and engage in preparatory practices before class (Dewi et al., 2019). Moreover, it supports individualized, self-paced learning, which not only enhances comprehension but also builds students' confidence in legal communication (Bozkurt & Bozkaya, 2015). As prior research has shown students' learning outcomes significantly improve after utilizing e-modules (Delita, Berutu, & Nofrion, 2022). By grounding this study within Language Anxiety Theory and Technology-Assisted Language Learning, this research aims to examine the effectiveness of the e-learning module in promoting law students' speaking skills and reducing speaking anxiety. In this context, we want to know whether the e-learning module significantly enhances students' legal English speaking skills across different anxiety levels and provides insights into how it supports this process. Considering this aim, the study aimed to answer the following research questions:

(1) Is the e-learning module effective in promoting speaking skills for law students with varying levels of speaking anxiety?
(2) Is there a significant difference in law students' speaking performance with varying levels of speaking anxiety before and after the intervention?
(3) Does the e-learning module effectively reduce students' speaking anxiety?
(4) What are students' opinions on their learning experiences with the e-learning module?

Method

This study used a mixed-methods design that combines both quantitative and qualitative approaches to assess the effectiveness of an interactive e-learning module in improving speaking skills among law students with varying levels of speaking anxiety. This approach enhances the analysis by overcoming the limitations associated with using either quantitative or qualitative methods alone (Şimşek, 2024). Specifically, an explanatory

sequential design was employed. First, quantitative data were collected and analyzed using a one-group pre-test-post-test design to address the research questions. Then, structured interviews were conducted as part of the qualitative phase to further support and elaborate on the initial quantitative findings (Creswell, 2018). This design provides a comprehensive understanding by integrating both types of data, offering a more robust justification of the study's findings.

Participant

The sample was selected using a purposive technique. According to the purposeful sampling theory by Palinkas et al. (2015), selecting participants with direct exposure to the intervention enhances the study's internal validity. It ensures that the most relevant data are collected. The selection was based on some fundamental criteria, such as (1) active third-semester law students, (2) taking legal English courses, and (3) regular classes. The participants were enrolled in a Legal English class, a compulsory subject in the third semester at the intermediate level (B1-B2). The selection of third-semester students was based on the course structure, as the specific course integrated with the e-learning module is only offered during that semester. This course aims to develop foreign language communication skills essential for the global job market. The research site was located in one of the universities in Banten, Indonesia. This region is renowned for being an industrial and manufacturing area, housing numerous sub-foreign companies. This context accentuates the relevance of the study, given the global character of these businesses and the crucial role of proficient foreign language communication skills for students in their future professional pursuits.

We conveniently sampled 73 participants, excluding 41 students from the total population of 114 due to their inactive status or poor responses to the survey. This quantitative sample size follows standard guidelines for small-scale experimental studies, ensuring adequate data for statistical analysis. According to Creswell (2018), small-to-moderate sample sizes (typically 30–100 participants) are commonly used in experimental and quasi-experimental research when the primary objective is to evaluate intervention effectiveness. Since this study involves 73 participants, it exceeds the minimum threshold for detecting moderate effects, making it methodologically reasonable for a pre-experimental study.

Meanwhile, to achieve sample saturation for the structured interviews in the qualitative phase, we employed the snowball sampling technique. According to Braun and Clarke (2006a), this technique allows researchers to gather diverse perspectives, ensuring rich, in-depth data that enhances the credibility and depth of thematic findings. Of the 73 participants, only eight students were selected as informants for the interviews. This technique aligns with the qualitative approach of the study, as the thematic analysis was used to analyse the data. Creswell (1998) recommends conducting between 5 and 25 interviews for phenomenological studies, while Braun and Clarke (2021) suggest that data saturation in thematic analysis can be achieved with as few as 6 to 12 interviews.

Data collection instruments

Pre-test and post-test were conducted to assess students' speaking performance and examine their spoken language abilities. During the pre-test, administered in the first meeting, the researcher evaluated students' speaking skills prior to teaching them using the English Law e-learning module. The post-test conducted after the module was implemented, aimed to

measure students' speaking performance following the treatment. In both tests, students were evaluated individually to ensure consistency in assessment.

Both pre-test and post-test are types of extensive monologue speaking tasks with a specific theme, as listed in the module. This test required students to deliver a 5-minute monologue on a given topic. In the preliminary phase of the study, the clarity and readability of the test instructions were evaluated by presenting them to a sample of 35 students. This assessment aimed to verify that the instructions effectively conveyed expectations and requirements to the participants. The speaking indicators include two primary components: organization (logical flow and skillfulness in concluding remarks) and mechanics (nonverbal cues, vocabulary use, fluency, pronunciation precision, vocal modulation, and grammatical accuracy), adapted from Joe, Kitchen, Chen, and Feng (2015). Content and construct validity for the test have been confirmed by two experts, along with inter-rater reliability.

To assess law students' experience of speaking anxiety and to measure its degree, this study used 18 items of the Foreign Language Speaking Anxiety Scale (FLSA) from Čepon (2016) employed before and after the intervention. Item validity analysis was conducted through item-total correlation using product moment to assess whether the items are strongly related to the construct. The score of the significance level of each questionnaire item ranges from 0.000 to 0.005, which is lower than 0.05, and the correlation score is more than r_{table} (2,746), therefore providing strong evidence for the validity of each item effectively. Meanwhile, Cronbach's Alpha was 0.799, and the substantial number of items indicates that the scale demonstrated a satisfactory level of internal consistency, which suggests that the items within the scale reliably measure the same construct. Therefore, the data from the FLSA questionnaire was reliable enough to be used.

Semi-structured interviews were conducted at the end of the experiment to explore students' experiences using the module to improve speaking skills while managing anxiety. Before implementation, the questions were piloted with five students whose feedback improved clarity and comprehensibility. The pilot study also assessed face validity, ensuring coherence, appropriate length, and necessary revisions. A subsequent field test involved two experts who validated the interview questions and suggested minor refinements. The interview was conducted with 8 students, selected as informants, using a snowball sampling technique. The interview was carried out in person and recorded for further analysis.

Intervention process

In this research, the e-learning module "English for Law" was utilized. The content and template of this e-learning module were designed through prior pilot research (R &D research) that incorporated need analysis for law students. It was designed multimodally, incorporating textual content and visual and auditory elements. It was guided by an analysis of the educational material requirements and necessitated approval from three distinct experts in content, language, and media (Septiyani, Aslami, & Surani, 2022).

The implementation phase took place in two English classes, consisting of twelve sessions, each lasting one and a half hours, held once a week. Since another instructor taught these classes, the researchers collaborated as co-teachers to assist with the implementation until the testing phase. During this phase, the e-learning module was integrated into the syllabus and course plan to ensure alignment with the learning objectives and specifically focused on the speaking component in a legal context. The final stage of the pre-experimental phase was testing. In this stage, students were given a spontaneous speaking test and assessed using a
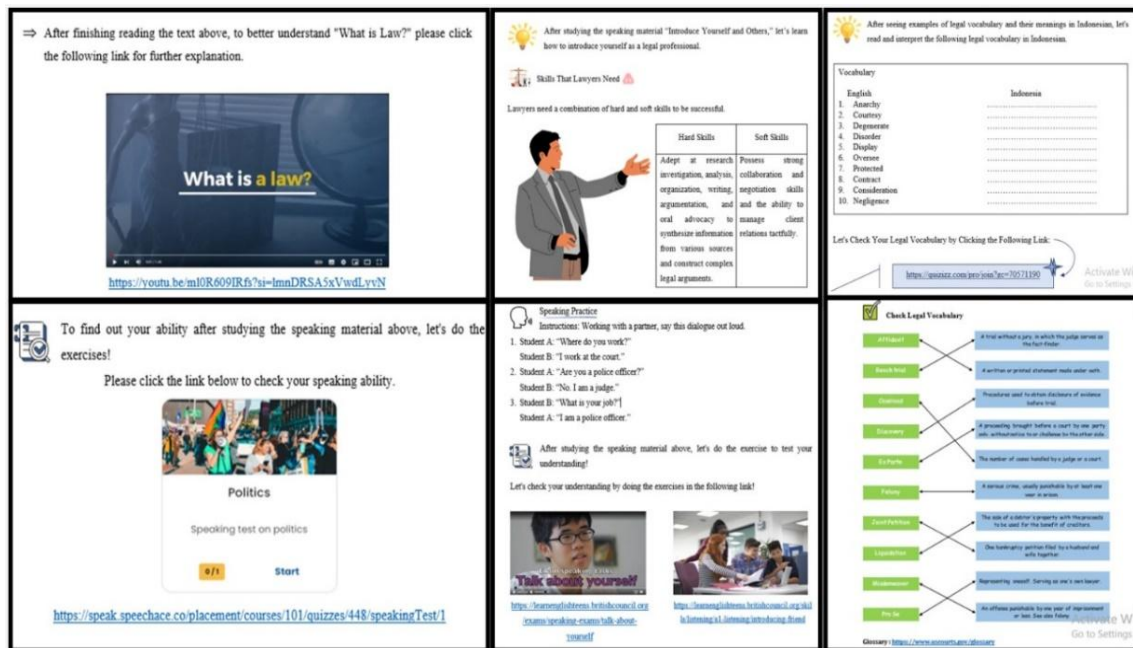
speaking rubric.

Figure 1. Screenshot of Digital Materials in the E-Learning Module

Analysis of Data

The One Sample Kolmogorov-Smirnov and the Shapiro-Wilk analysis were utilized for the data normality test of speaking anxiety measurement and speaking test results, with a significance threshold of >0.05. Meanwhile, the homogeneity test employed Levene's Test with a significance threshold greater than 0.05.

The hypothesis test examines whether there is a significant difference in students' speaking performance between the pre-test and post-test. The paired t-test employs the SPSS version 26 application, and the significance threshold is 0.05.

H0: There is no significant difference in students' speaking performance at varying levels of speaking anxiety between pre-test and post-test.

Ha: There is a significant difference in students' speaking performance at varying levels of speaking anxiety between pre-test and post-test.

Terms: If Sig>0.05 or $t_{count} < tt_{able}$, H0 is accepted and Ha is rejected

If Sig<0.05 or $t_{count} > t_{table}$, H0 is rejected and Ha is accepted

The interview data were transcribed and analyzed using thematic analysis based on Braun and Clarke's (2006a) six-step framework. The process began with thoroughly reviewing the transcripts to familiarize ourselves with the data. Next, key points were identified and coded systematically. These codes were subsequently categorized into broader groups, refined themes to ensure consistency and relevance. Once the themes were clearly defined and labelled, their significance was articulated. Finally, the findings were synthesized into a report, providing insights to answer the research questions. The coding process was conducted

using NVivo software, which facilitated data organization, pattern identification, and thematic classification, ensuring a structured and rigorous qualitative analysis to enhance accuracy and efficiency.

This study employed two forms of triangulation to ensure a more credible and comprehensive understanding of research findings. First, methodological triangulation involves using various sources, methods, researchers, and theories to validate the research evidence. Meanwhile, time triangulation was used to assess data consistency by collecting data on the same phenomenon at different times. In this study, observations and speaking tasks were conducted at various points over a fourteen-week intervention period to ensure data consistency.

Results

Before conducting hypothesis testing with a paired t-test to evaluate the e-learning module's effectiveness in improving students' speaking skills, normality and homogeneity tests were performed.

Precondition Test

The One-Sample Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted in SPSS 26 to assess the normality of students' FLSA and speaking performance data. The table below shows the normality test results for students' FLSA and speaking performance.

Table 1 Normality Test Results Using Shapiro-Wilk

Speaking Anxiety (SA) levels	Test Group	Statistics	Sig (p)
Low	Pre-test	0.899	0.403
	Post-test	0.915	0.496
Moderate	Pre-test	0.902	0.421
	Post-test	0.956	0.777
High	Pre-test	0.909	0.464
	Post-test	0.867	0.254

The normality tests on foreign language speaking anxiety (FLSA) data before and after intervention in the Shapiro-Wilk tests (0.403; 0.496; 0.421; 0.777; 0.464; 0.464; 0.254) were more than 0.05. As a result, it infers that the data on students' FLSA were normally distributed. Table 2 shows the homogeneity tests on speaking performance.

Table 2 Homogeneity Test Results

Speaking Anxiety (SA) levels	Data Type	n	Sig. (p)	Condition	Description
Low	Pre-test	16	0.200*	p>0.05	Normal
	Post-test	16	0.200*	p>0.05	Normal
Moderate	Pre-test	52	0.200*	p>0.05	Normal
	Post-test	52	0.200*	p>0.05	Normal
High	Pre-test	5	0.200*	p>0.05	Normal
	Post-test	5	0.200*	p>0.05	Normal

The data reveals that the significance values for both the pre-test and post-test were consistently greater than 0.05 (Sig = 0.200). These indicate that the speaking performance data for all students, regardless of their varying levels of speaking anxiety, were homogeneous.

The effectiveness of the e-learning module in promoting speaking skills for law students with varying speaking anxiety levels

Regarding the first research question, the effectiveness of the e-learning module was analysed using N-gain calculation. The statistical analysis results of the N-Gain score of speaking skills indicate significant improvements in speaking achievement among students with different speaking anxiety levels.

As shown in Table 3, students with low SA levels achieved a high mean score of 74.953%, indicating that the e-learning module intervention was broadly effective for this group. Based on Hake' (1998) N-gain score interval criteria, all students fell into the high improvement category (N-gain ≥ 0.7). These results highlight that the intervention is significantly effective in enhancing the speaking skills of students with low SA.

Table 3 N-Gain Outcomes in Low, Moderate, and High Speaking Anxiety (SA)

		Low SA	Moderate SA	High SA
N-Gain percent	Mean	74.953	62.876	56.331
	Median	73.509	63.339	56.140
	Variance	26.456	60.940	22.056
	Std. Deviation	5.143	7.8064	4.6964

Meanwhile, students with a moderate level of speaking anxiety (SA) achieved an N-gain mean score of 62.88%, classifying their improvement as moderate (0,70 > N-gain ≥ 0,30). This result indicates a significant overall increase in speaking scores between the pre-test and post-test assessments. While the measured outcome reflects a moderate level of improvement, the degree of progress varied among individuals. It suggests that the intervention was reasonably effective for students with moderate SA levels.

Additionally, students with high speaking anxiety performed a modest level of improvement with an average score of 56.33% (0,70 > N-gain ≥ 0,30). This result indicates that the teaching method using the electronic learning module was equally effective for students with high SA.

The impacts of the e-learning module for law students' speaking performance with varying speaking anxiety levels

The Paired sample t-test was used to analyse the second research question. The results indicated that students 'speaking skills improved through the implementation of the e-learning module, as shown by the mean scores difference on the pre-test and post-test data in the students' speaking performance across varying levels of speaking anxiety.

Table 4 Paired Sample t-Test Outcomes of Speaking Performance in Various SA

Speaking Anxiety levels	N	Mean	Std. Deviation	t_{count}	t_{table}	Sig (p)	Effect size
Low	16	-34.000	3.651	-37.245	2.131	0.000	0.492
Moderate	52	-30.288	3.743	-58.346	2.008	0.000	0.578
High	5	-32.000	3.3912	-21.100	2.776	0.000	0.978

The analysis results of the paired sample t-test showed a significant difference between pre-

test and post-test scores among the students with low speaking anxiety because of a t-value of -37.245 and corresponding p-value = 0.000 (p < 0.05). It concludes that the improvement from pre-test to post-test is statistically significant, and there is evidence of improvement following the intervention. According to Cohen's (1992) guide to effect sizes, an effect size of 0.492 was classified as medium/moderate. It means that the e-learning module contributed meaningfully to improving the speaking skills of students with low speaking anxiety. While the effect is not dramatic, it is significant enough to indicate that the electronic learning module is a valuable educational tool and showcases its potential as a supportive educational intervention.

Meanwhile, the result also reveals that the pre-and post-test scores of students' speaking skills improved significantly for group students with moderate SA. With a mean difference of -30.288, the post-test scores were, on average, 30.288 points higher than the pre-test scores, indicating a positive impact of the intervention. The t-value of -58,346 and corresponding p-value = 0.000 (p < 0.05) indicate that pre-test and post-test scores of students with moderate speaking anxiety differ significantly. Alongside, the effect size through Cohen's guide is 0.578542, reflecting a moderate to large impact, highlighting the e-learning module's effectiveness as a robust method for enhancing speaking skills in students with moderate levels of speaking anxiety. It shows that even students who faced moderate SA can achieve noticeable improvement with this e-learning module.

Moreover, students with high speaking anxiety levels show a significant improvement, as evidenced by the t-value of -21,100 and the corresponding p-value = 0.000 (p < 0.05). The finding demonstrated that the utilization of the e-learning module effectively reduced students' speaking anxiety and enhanced their speaking skills. Additionally, the effect size is 0.97827, classified as a large effect, indicating a strong and meaningful impact. It signifies that the improvement in speaking skills is not only statistically significant but also practically impactful. It means that students with high anxiety experience noticeable and meaningful growth in their abilities through utilizing the e-learning module.

Overall, the findings discovered that the t_{count} was more significant than the t_{table} at the significance level of p<0.05. It indicates a substantial difference in students' speaking performance between pre-test and post-test. It means the null hypothesis (H0) is rejected, whereas the alternative hypothesis (Ha) is accepted. This result implies that the e-learning module significantly and positively affects students' speaking performance across different levels of speaking anxiety.

The effectiveness of the e-learning module in reducing students' speaking anxiety

The paired t-test results in Table 5 provide a detailed comparison of foreign language speaking anxiety (FLSA) levels among law students before and after the intervention. The mean FLSA level before the e-module was 60.03, while after the e-learning module, it significantly dropped to 44.74 points. This substantial decrease in the mean anxiety score suggests that the module had a positive impact in reducing speaking anxiety.

Table 5 Speaking Anxiety Levels Before and After the Application of the E-Learning Module

Speaking Anxiety Levels	M	N	SD	t	df	Sig(2-tailed)
Before utilizing the e-module	60,03	73	9,525	14,173	72	,000
After utilizing the e-module	44,74	73	8,016			

The standard deviation (SD) for the FLSA levels before implementation was 9.525, indicating a higher variability in anxiety levels before the intervention. After the implementation, the standard deviation reduced to 8.016, suggesting that the anxiety levels decreased overall and became more consistent among the students. This result confirms that the reduction in FLSA levels after using the e-learning module is a real effect of the intervention, not just by chance. In summary, the e-learning module e-module significantly reduced foreign language speaking anxiety among law students, as evidenced by the substantial drop in mean anxiety scores, lower variability, and the highly significant p-value.

Students' opinions on their learning experiences using the e-learning module

Eight students were to be informants and interviewed with nine questions to gain deeper insights into their learning experience utilizing the electronic learning module. The focus was on the challenges, benefits, and impact on their speaking skills and speaking anxiety. Their opinions, suggestions, and criticism also provided extensive opportunities to apply the e-learning module in the future. After gathering the data, it was analyzed using thematic analysis, revealing three key themes: students' opinions on aspects of the e-learning module for promoting speaking skills, the benefits of its application, and the challenges encountered in its use.

(1) Students' opinions on aspects of the e-learning module for promoting speaking skills

Four categories were obtained regarding the students' opinions on the e-learning module aspects for promoting speaking skills: "real-world scenarios exercises, interactive tasks, features, simulate example. The findings are shown as follows:

Table 6 Students' Opinions on the E-Learning Module Aspects for Promoting Speaking Skills

Category	Code	Frequency
Real-world scenarios	Interactive and fun activities	3
	Speaking practice in different legal settings	8
	Simulation exercises encourage to practice more	5
Interactive tasks	Interesting and clear tasks	5
	Provide practices in different legal situations	4
Features	Engaging videos on topic discussions	3
	Integrated links provide access to videos related to legal topics	2
	Listening to the links provided helps overcome anxiety	2

Real-world scenarios

Based on students' responses regarding how the e-learning module enhances their speaking skills, all participants stated that it provides opportunities for speaking practice in various legal settings. Additionally, the majority agreed that simulation exercises, such as role-plays and dialogues, help them structure sentences effectively and encourage more speaking practice both in and outside the classroom. These real-world scenarios better prepare them for future professional roles in the legal field. The students' responses support this statement:

> The e-learning module helps me learn how to speak in real legal scenarios, such as talking to clients or in court. It helps me get comfortable with the language I will need in the future. (I/S1)

I think the dialogues in the e-learning module are really useful. They present real conversations in legal situations, helping me learn how to speak like a lawyer rather that just using general English. (I/S3)

Interactive tasks

The interactive tasks in the module provide students with clear instructions and help them to be ready to speak about legal topics. These are an important aspect of the e-learning module because they stimulate students with activities in various legal situations and engage them with the topic and real-life scenarios through simulation activities such as cross-examination role play. Some students' statements supporting the findings:

The tasks are clear. (I/S7)

The tasks are great because they simulate real legal situations. I can practice dialogues, and the interactive elements keep me engaged. (I/S5)

Features

The findings also indicate that the features of the e-learning module facilitate students to develop their legal speaking skills. Four students stated that the embedded online resource links in the module engaged them in legal topics. Two other students claimed that they utilized the embedded links for preparation and comprehend the material before the class, which helped them overcome their speaking anxiety. Students' statements supporting these codes are below:

I followed the links provided in the module to access videos related on the topics discussed. (I/S8)

I often feel anxious speaking English in front of the class, but I frequently listen to the audio links in the e-module, and they have helped me understand better. I feel less nervous now. (I/S4)

The analysis reveals themes that support the effectiveness of the e-learning module as an instructional tool for law students. As evidenced by the quantitative analysis, it helps them improve their speaking skills and overcome speaking anxiety. The module's flexible and accessible design enables students to learn independently, repeatedly reviewing legal materials and preparatory exercises before class. This self-paced learning approach boosts their confidence and enhances their speaking abilities.

(2) Students' opinions on the benefits of the e-learning module application

The interview analysis of the e-learning module benefits revealed four categories: an engaging learning method, a supportive learning tool, speaking skills development, and positive self-assumption.

Table 7 The Benefits of the E-Learning Module Application

Category	Code	Frequency
An engaging learning method	Build confidence when speaking inside and outside classroom	4
	Learning activities are engaging	5
	Exciting and new atmosphere of learning process	8
	Organized way of learning process	1
	Accommodate self-paced and self-regulated learning	2
A supportive learning tool	Easy to use and can be practiced effectively	6
	Really help tool to self-practice	4
	Provides correct legal terms, grammar, articulation pronunciation mistakes	2
	Gives new knowledge and insights in legal topics	5
	The content is straightforward and easy to grasp	6
	Very useful tool for dialogue practicing	6
	Provides speaking practices in different legal settings	8
Speaking skills development	Learn proper speaking techniques	1
	Enlarge legal vocabulary and phrases	6
	Improving grammar	1
	More fluent and clear in discussing legal matters	4
Positive self-assumption	Feel more confident in speaking about legal issues	8
	Feeling of making legal language improvement	3
	Increase learning motivation	6
	Reduce anxiety	7
	Feeling more prepared and ready	7

An engaging learning method

According to Table 7, all students answered that using the e-learning module for speaking lessons provides a new atmosphere for the learning process. The activities were more fun and exciting because they could do tasks related to legal situations rather than just reading the book and memorizing. Some students also stated using the e-learning module increases their confidence to speak inside and outside the classroom. Student excerpts supporting the findings are below :

> Using the e-module makes the classroom atmosphere more engaging. It makes the class more enjoyable because we get to complete tasks that are related to real legal situations. (I/S6)

> The e-module is interactive, and keeps me engaged. I get to practice speaking in real situations, which makes it more fun. (I/S)

A supportive learning tool

Meanwhile, students also proved that the e-learning module was a supportive learning tool that provided speaking practices in different legal settings. The students 'statements relating to the finding can be seen below:

> It's easy to understand and can be practiced effectively. (I/S5)
> It easier for me to learn English. (I/S3)

Speaking skills development
The finding shows that most students enlarged their legal vocabulary and phrases, which helped them to speak more fluently when discussing legal topics. Some students' statements supporting the findings are presented below:

It also helps me learn legal vocabulary and phrases, which I can use in real-life situations in a more organized way, which is very helpful. (I/S1)

I feel more confident using legal terms, and I can express myself more clearly when talking about legal subjects. (I/S1)

Positive self-assumption
Alongside, all of them stated they felt more confident in speaking about legal issues, as well as reducing their anxiety. They felt more prepared and ready before entering the class. They used the module as preparatory material and had self-practice. Students' statements supporting the findings are delivered as follows:

It has been extremely helpful in building my confidence when speaking, both in and out of the classroom. I can repeat the tasks until I feel confident. It helps me speak better. (I/S7)

The e-module allows me to do self-study, so I feel more prepared when it's time to speak in front of others. It makes me less nervous. (I/S3)

The analysis of all excerpts highlights that the e-learning module, as an interactive multimodal platform, effectively provides law students with opportunities to access digital teaching resources that support their oral communication skills. Its interactive features allow students to easily navigate, replay, and review content, enhancing their conceptual understanding of course materials and ability to communicate in legal contexts. Indirectly, this process helps students prepare for class and become more aware of speaking with reduced anxiety. These benefits underscore the e-learning module's significant impact on enhancing speaking proficiency, as reflected in the quantitative results.

(3) Students' opinions on the challenges encountered in the application of the e-learning module
The challenges with the e-learning module fall into three categories: advanced material, speaking barrier, and technical issues. The description of their categories, codes, and frequencies is presented in Table 8.

Table 8 The Challenges Encounter the Application of the E-Learning Module

Category	Code	Frequency
Advanced material	The content is quite advanced	2
	Don't fully grasp the content of the e-module	4
Speaking barrier	Need more practice to speak quickly and naturally	4
	Still nervous, and need more speaking practices	1
Technical issues	Improper loading	2
	Slow loading	2

Advanced material

Referring to the result in Table 8, two students stated in their answers that the content material in the e-learning module is too advanced for them. At the same time, four students reported difficulty in comprehending the material. The findings are supported by the students' statements as follows:

I find some parts of the e-learning module are difficult to comprehend. (I/S6)

Its material is a bit hard for me. The legal vocabulary is difficult, and I struggle to keep up with it. (I/S2)

Speaking barrier

The interview analysis revealed that the students also face challenges related to their speaking barriers. The finding in Table 8 indicates that these barriers arise because some students feel that they do not have enough practice through the module. Others admitted they still feel uneasy speaking in front of their friends in class and need more practice to build confidence. The following statements support the findings.

I need more practice to speak quickly and naturally. (I/S7)

I still struggle with speaking fluently. when I'm in a real conversation, the anxiety still comes back. (I/S5)

Technical issues

The third challenge students encountered while utilizing the e-learning module was technical issues. Among eight informants, two students reported problems using the module crashes, improper loading, and long loading times. Furthermore, these technical problems affected students' ability to focus on comprehending the module's content. The following are students' statements related to the findings:

Technical issues are a big problem. The module often crashes or takes too long to load, which wastes time and makes it hard to stay focused. (I/S5)

Sometimes, the module was slow or didn't load properly, which made it hard to focus on the tasks. (I/S1)

The obstacles identified in using the e-learning module may limit students' full engagement in the learning process. These challenges also limit the effective utilization of the module, resulting in only moderate improvement in speaking achievement, particularly among students with moderate to high speaking anxiety, as indicated by the quantitative findings.

Discussion and Conclusion

This study aimed to examine the effectiveness of the e-learning module in promoting speaking skills for law students with different speaking anxiety. The findings from the N-gain calculation revealed that the e-learning module was significantly effective in promoting speaking skills with varying levels of improvement among law students with different speaking anxiety levels. The e-learning module was particularly effective in enhancing all aspects of speaking skills for low-anxiety students. However, for moderate-anxiety students, it

primarily improved vocabulary, interaction-building, and fluency, with less impact on pronunciation and grammar. They noted that the online tasks expanded their legal vocabulary and helped them apply appropriate expressions with correct grammar while engaging in interactions within different legal contexts. Meanwhile, high-anxiety students showed greater improvement in pronunciation and vocabulary compared to other speaking skills. They attributed these gains primarily to the frequent use of legal terminology in speaking practice. However, they continued to struggle with grammar, fluency, and interaction due to their anxiety levels. This result aligns with previous studies indicating that higher anxiety levels negatively impact language performance and improvement. For instance, Quvanch et al. (2024) found that foreign language anxiety significantly hinders oral performance, leading to lower progress in speaking skills. Similarly, Tang and He (2023) and Teimouri et al. (2019) studies revealed that language anxiety negatively impacts achievement, indicating that higher anxiety levels hinder language acquisition. However, this study revealed that improvement varies depending on anxiety levels; students with lower anxiety show greater progress, while those with moderate to high anxiety experience more limited gains. Addressing speaking anxiety through targeted interventions could further optimize the benefits of e-learning, ensuring more balanced improvements across different anxiety levels in legal education.

The qualitative analysis indicates that the e-learning module is effective in supporting the digital environment to enhance speaking skills. Its provision of authentic digital learning materials helps students expand their vocabulary, and phrases and better understand English conversations in legal contexts. The interactive design of the e-learning module integrates digital texts, visuals, audio, and authentic online resources such as YouTube videos, podcasts, and websites to provide law students with valuable access to instructional materials that enhance their oral communication skills in legal contexts. English in authentic contexts helps students manage their speaking, as well as enhance their speaking skills. Online resources play a vital role in teaching English to law students to improve all four skills (Bin-hadyAli & Al-Tamimi, 2021). Multimodal digital resources and interactive activities enhance language learning by catering to different learning styles and reducing anxiety triggers (Teimouri et al., 2019), enhance message absorption, facilitate comprehension, and support knowledge structuring, ultimately refining and advancing students' skills (Dewi et al., 2019). The findings align with a previous study from Yermekbayeva et al. (2024), who reported that interactive e-module technology enhances personal learning experiences, improves communication skills, and reduces anxiety. Similarly, Sosas (2021) found that integrating technology and multimedia in speaking lessons boosts student interaction, confidence, and learning outcomes.

However, these findings are contrary to some studies, which argue that digital learning materials cannot fully replicate real-life communication interaction, mainly speaking, which is essential for developing spontaneous speaking skills (Blake, 2016). Similarly, Puniatmaja, Parwati, Tegeh, and Sudatha (2023) argue that students with lower digital literacy may struggle to navigate e-learning platforms effectively, leading to frustration and reduced learning outcomes. Furthermore, Mayer (2024) emphasizes that excessive reliance on technology without proper pedagogical structuring can lead to cognitive overload, negatively impacting comprehension and retention. These align with a few challenges that emerged during the e-learning module implementation, including technical difficulties in accessing the module, content complexity and cognitive barriers to speaking. These findings emphasize the need to ensure technological accessibility, design content that accommodates varying proficiency levels, and provide additional support for students who may experience difficulties in adapting to digital learning environments (Lin, Chen, & Liu, 2017). Therefore,

while e-learning modules can significantly support language development, integrating them with interactive, real-time communication opportunities is essential to maximize their effectiveness.

Regarding the second research question, the statistical analysis confirmed that students with different levels of speaking anxiety performed better in post-tests compared to pre-tests. The results support earlier studies by Delita et al. (2022) and Istuningsih, Baedhowi, and Sangka (2018), which demonstrated that students' learning outcomes significantly improve after utilizing e-modules. Similarly, Tamrongkunanan (2020)) highlights that e-learning modules effectively enhance students' knowledge, conceptual understanding, and speaking skills. Lin et al. (2017) further observed that digital content positively influences learning outcomes by fostering active student engagement and interaction, which reinforces knowledge acquisition and improved speaking skills. Interview results revealed that the digital materials provided structured guidance for interactive speaking activities, both in class and outside class. These outcomes highlight the e-learning module's effective design in providing a structured and supportive digital environment that enhances students' speaking skills.

The findings challenge the notion that anxiety is solely a negative factor affecting speaking skills and academic outcomes (Tang & He, 2023; Pascoe, Hetrick, & Parker, 2020). However, the significant improvement in post-test scores and the substantial impact on students with moderate to high speaking anxiety confirm that technology-integrated learning helps them regulate learning and reduce their anxiety. This also suggests that the impact of anxiety on performance depends on how students perceive and manage it, a process that can be facilitated through personalized learning experiences, such as those provided by the e-learning module. Al Majali (2020) further supports this perspective, suggesting that moderate anxiety can positively influence learning outcomes and motivation, reinforcing the idea that well-structured digital learning tools can optimize student engagement and success.

The FLLSA results before and after the intervention indicate that structured speaking activities in the e-learning module effectively reduce anxiety, as supported by students' qualitative reports of decreased anxiety and increased confidence. This improvement was attributed to the module's interactive features, including the exploration of content and embedded links that facilitated self-learning and independent practice before entering class. These findings support the idea that engaging with authentic English (Quvanch et al., 2024), pre-task preparation, and practice enhances confidence, improve speaking skills, and anxiety management (Shamsuri, Anita, Kamaruddin, & Azhan, 2021; Samad, Karim, & Ullah, 2020). This is consistent with Horwitz & Cope's (1986) theory of FLA, which emphasizes the importance of structured speaking activities as preparation to mitigate foreign language anxiety.

Furthermore, students expressed overwhelmingly positive opinions regarding the e-learning module's role in their speaking development. They found that the e-learning module fostered an engaging, dynamic learning environment, making the process more stimulating and enjoyable. Students' responses also validated that they felt engaged with the tasks in the e-learning module. It facilitated they had speaking practices in legal real-life scenarios. The e-learning module is structured to include exercises specifically tailored to legal skills in honing their legal English skills. The opportunity to practice with scenarios that mirror actual legal situations is deemed invaluable (Nhac, 2021). This engagement enables them to effectively develop their communication skills and apply their skills in professional legal settings. These findings are consistent with Al-Jarf (2021), who noted that digital learning tools provide

learners with a flexible and immersive experience, promoting language development by reducing anxiety and encouraging consistent practice.

Aligning with these findings, EFL speaking instruction should integrate digital resources to modernize pedagogy, reduce speaking anxiety, and enhance proficiency. The application of the e-learning module will make significant contributions to the field in various ways. Therefore, practitioners should implement interactive and engaging speaking activities while maintaining a balance between digital tools and face-to-face interactions. This approach ensures that students receive immediate feedback and develop authentic communication skills. Meanwhile, organizational managers have important roles in facilitating effective digital learning by investing in robust digital infrastructure. Additionally, policymakers must establish clear and comprehensive e-learning policies that uphold quality standards and guarantee equitable access to technology-enhanced education, particularly for students in underserved communities. A collaborative effort among educators, administrators, and policymakers is essential to fully harness the potential of e-learning modules, fostering an inclusive, innovative, and student-centred EFL learning environment.

This study has several limitations. First, this study used an experimental design without a control group, limiting strong causal inferences about the e-learning module's effectiveness. Future research should consider employing a controlled experimental design to compare the outcomes of students using e-learning modules with those following traditional instructional methods. Second, the sample size is small and restricted to one university. Therefore, further research with a broader scope and larger sample size is needed. Third, the results of this study depend on the characteristics of the research sample. Therefore, the findings may not be generalizable to other disciplines or educational levels as the sample's specific characteristics influence the results. Fourth, this study investigated the effectiveness of the e-learning module only for speaking skills. Further research is needed to explore its impact on other language skills and to fully assess its long-term effects on students' legal communication skills and its applicability in other disciplines. Fifth, this study does not provide data on the long-term reduction of speaking anxiety. Future research should conduct follow-up longitudinal studies to determine whether anxiety reduction is sustained over time, offering deeper insights into the lasting effects of technology-assisted learning on speaking confidence and proficiency.

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Declarations

Ethics Statements: This study has followed all of the ethical standards that are accepted in this journal.
Conflict of Interest: The authors declare there are no conflicts of interest with this article publication.
Informed Consent: All participants agreed to be involved in this study, as stated in the informed consent. Their personally identifiable information was removed in any publications and data derived in the research.
Data availability: The data supporting the findings of this study were collected from participants performances' test, anxiety test and interviews results.