International Journal of Social Science and Human Research

ISSN (print): 2644-0679, ISSN (online): 2644-0695

Volume 08 Issue 05 May 2025

DOI: 10.47191/ijsshr/v8-i5-41, Impact factor- 8.007

Page No: 2980-2997

Using Artificial Intelligence Tool Gliglish To Improve Speaking Fluency for English Majors

Ha Thanh Thao[1], Luong Khanh Ly[2], Nguyen Minh Thu[3], Pham Trung Kien[4]

[1,2,3,4] Faculty of Foreign Languages Education, Thai Nguyen University of Education, Vietnam

ABSTRACT: Speaking fluency is an important aspect of speaking skills, which ensures coherence and confidence in expressing English language learners' speaking ability. However, many first-year university students feel they are not fluent in speaking. This study aimed to apply the AI tool Gliglish to improve speaking fluency for first-year English major students at Thai Nguyen University of Education. The study was designed as a quasi-experimental method, including an experimental group of students using the Gliglish tool for 8 weeks, practicing with a different speaking topic each week, and a control group continuing to use the traditional learning method. The pre- and post-intervention tests were used to analyze the improvement of the two groups. After applying this app, the experimental group scored higher than the control group. After the intervention, the participants completed a questionnaire to collect their opinions on the impact of Gliglish. The survey results indicated that most students in the experimental group noticed a significant improvement in their ability to use the AI Gliglish tool. This study's conclusion recommends integrating this AI tool into the speaking practice to enhance students' speaking fluency.

KEYWORDS: Speaking; Speaking fluency; Artificial intelligence; English majors

I. INTRODUCTION

1.1. Background of the research

English is now considered a worldwide language in our day and age. English has undoubtedly asserted its status in recent years due to its widespread use across cultures, politics, economics, technology, and other domains. English receives more attention among the foreign languages taught in Vietnam (Ngo & Tran, 2023). In addition, it is extensively used in education, the linguistic space, and some facets of popular culture. As a case in point, Hoang (2020) discusses that one can find English-language versions of shows on television, talk shows, daily newspapers, and documents published in Vietnam. As a result, it can be reasonable to conclude that English is commonly spoken in Vietnam, proving its value in the country.

Among the four skills, Kürüm (2016) underscores that speaking is a skill worth investing in for individuals to be proficient in a language. As reported by Vietnam News (2025), in the Ministry of Education and Training (MOET) draft, English will be more widely used across the general education system, even in communication in the general education system by 2035, while Vietnamese is the official language. Despite its importance, FLE first-year students, the subject of our study, are not often exposed to the internal and external elements encouraging active communication.

Many were named when going deeper into speaking skills regarding the points contributing to good communication. In detail, Bohari (2019) proposes that pronunciation, lexical resources, grammar, and fluency are the four main aspects that build up speaking skills. Among these points, fluency is consistently highlighted as highly important. According to Skehan (2009), fluency means speaking quickly and maintaining a smooth flow of speech, which involves the effortless combination of accurate pronunciation, suitable vocabulary, and correct grammar. While the significance of fluency development is widely acknowledged, EFL students encounter challenges in embracing opportunities to enhance their speaking skills. Environmental, linguistic, and psychological barriers for English majors in Vietnam can reduce language comprehension (Nhan, 2024). Furthermore, Suban (2021) argue that fluency training should focus on making students comfortable with telling rather than worrying about mistakes or meaning. Although proficient in English, many university students remain hesitant to talk, which underlines the need for further research into improving fluency in speaking. The current study is motivated by the differences in fluency development. To meet these requirements, the researcher proposed utilising AI tools for speaking practice, assisting students in enhancing their speaking fluency.

Artificial intelligence (AI) has incorporated human intellect into computer systems so they can function, reason, and make decisions similarly to humans (Kok et al., 2009). As AI integrates into education, its significance in language acquisition has been growing (Swartout et al., 2013). Gliglish is an AI technology that aims to enhance speaking abilities, especially fluency (Khoudri,

2024). Gliglish employs advanced algorithms to offer personalized language instruction by replicating natural speech and delivering instant feedback on vocabulary, grammar, and pronunciation. Learning English allows learners to spend time speaking in a relaxed environment, which helps them acquire confidence and boost their fluency.

1.2. Purposes of the research

The study aims to investigate the impacts of using the AI tool Gliglish on speaking fluency and to evaluate students' attitudes towards using the AI tool Gliglish among 30 first-year English major students at Thai Nguyen University of Education.

1.3. Research scope

For the time limited, only 30 English majors at the Thai Nguyen University of Education were invited to conduct the study. These students, from various provinces and with an expected English proficiency level of B1 (Prime Minister of the Government of Vietnam, 2008) or higher based on high school graduation standards, participated in the research. The group of 4 male and 26 female students was randomly split into two smaller groups for the study.

1.4. Research questions

The following research questions, based on the framework, have guided the study:

1. How does Gliglish affect speaking fluency for students majoring in foreign languages?
2. What are the students' attitudes towards using the AI tool Gliglish to improve fluency in speaking skills?

1.5. Significance of the research

The results of this study might be beneficial to first-year students because interactive experience in real-life scenarios can improve their speaking abilities. This implementation could be an invaluable asset to their studies, thanks to Gliglish's guidance. It can also assist with language learning by providing a more enjoyable and user-friendly design, prospectively stimulating student motivation and self-assurance. Such advantageous findings from Gliglish open up possible outcomes for the application of AI in education in general and the Thai Nguyen University of Education in particular.

II. LITERATURE REVIEW

2.1. Speaking Skills

2.1.1. Definition

Nunan and Carter (2001, as cited in Aljumah, 2011) have identified speaking as one of the four core language skills, alongside listening, reading, and writing. Günes (2014, as cited in Bozkırlı & Er, 2018) has highlighted that speaking aids in expressing mental concepts, while Richards and Rodgers (2014) have regarded it as an interactive process essential for authentic communication. Thouësny and Bradley (2011) have argued that learning to speak English effectively depends on immersive, supportive environments.

2.1.2. Importance of speaking skills

Among the four basic skills, speaking is one of the most important skills because it is one of the abilities needed to perform a conversation. Baker and Westrup (2003), as cited in Lou et al. (2016), have shown that speaking is vital outside the classroom; therefore, learners who speak English well can have a greater chance of better education, finding excellent jobs, and getting promotions. In the modern world, job applicants must prove themselves in debates and group discussions where their speaking skills are primarily assessed. Additionally, professionals must deliver speaking skills to advocate for their company's goods or train their colleagues.

2.1.3. Learning speaking English

Inayah and Lisdawati (2021) notice the phenomenon nowadays, where students feel anxious and struggle to speak English while understanding the language without difficulties. Al Nakhalah (2016) also mentions that due to limited classroom time and a lack of motivation to practise English beyond the class, students do not have chances to get acquainted with speaking English. To address this, students were introduced to engaging activities where they could share their personal experiences as they participated, such as storytelling, role-play. First, Hien and Phuong (2024) present a systematic method for implementing storytelling in educational settings. During the storytelling stage, students participated in interactive games and discussions, introducing key vocabulary alongside visual aids and gestures to enhance students' language familiarity. Second, Ahmada and Munawaroh (2022) provide guidelines and brief materials on role-play techniques, followed by a transcript of a conversation between characters for each student. To demonstrate accurate pronunciation, students watched a short video of the same discussion featuring native speakers. Then, they divided students into pairs to practice the role-play.

2.2.2. Importance of fluency

According to Nation (2007), as cited in Vy et al. (2024), fluency is one of the four fundamental elements in a balanced language program. Its improvement contributes to faster speech delivery and enhanced accuracy and linguistic complexity. English

speaking fluency is crucial for interpersonal communication and professional requirements; therefore, establishing a foundation and developing students' speaking fluency should be prioritized in any university program (Ha et al., 2021).

2.2.3. Learning speaking fluency

Several techniques have been found to facilitate fluency development. Using drama in class is another helpful way. Students' confidence, intonation, and speech flow improvement are generated by acting out plays or scripts. Pishkar et al. (2017) have shown that modern drama aids students in speaking more fluently under reduced stress and within a better time frame. Digital tools such as mobile-assisted projects have been proven to open new doors to foster speaking proficiency, namely fluency and other factors, by providing simultaneous feedback, increasing student involvement, and self-directed learning (Benlaghrissi & Ouahidi, 2024).

2.3. Artificial Intelligence

2.3.1. Definition of Artificial Intelligence

Artificial Intelligence (AI) is reshaping numerous fields, including education. It can fundamentally change learning and teaching by making the experience more tailored, interactive, and effective (Alneyadi et al., 2023). Learners receive personalized feedback through tools like speech recognition, personal assistants, and AI-powered apps, which help improve their speaking skills. In education, artificial intelligence may benefit learning approaches (Smith, 2023).

2.3.2. Learning English speaking via AI

Kushmar et al. (2022) indicates that AI can be used to overcome many of the difficulties of teaching and learning English, especially in speaking skills, using automatic speech recognition techniques to learn correct pronunciation, using open digital language dictionaries to enrich the vocabulary of the student, and using intelligent programs to augment speaking skills for English learners. Students may use voice assistants, such as Google Assistant, Siri, Cortana, Amazon Alexa, and Bixby, which can greatly assist students in their English language acquisition. Students will enhance their oral fluency with these interactive platforms that offer immediate feedback and in-the-moment practice.

Many AI tools assist teachers and students in learning English speaking, including Replika, Call Annie, Speechify, Yoodli AI, TalkPal AI, Fully Fluent, etc. However, this research focuses on Gliglish, a new tool particularly effective in speaking classes that foster students' autonomous learning. It encourages students to practice speaking while providing a grammar and pronunciation analysis feedback system. Ariawan (2024) notes that Gliglish offers personalized feedback in a low-stress environment, making it valuable for enhancing speaking fluency.

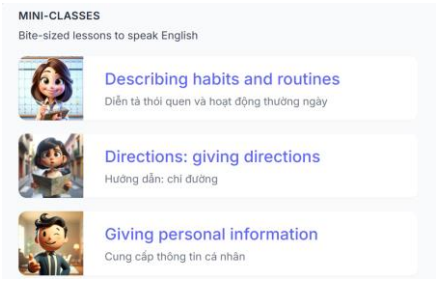
2.3.3. Gliglish

Based on the details shared by an authorized website (Gliglish, 2023), Gliglish is an AI-driven language-learning platform concentrated on auditory and verbal practice. This online resource offers outstanding assistance and is accessible 24/7 for instructional goals. Currently, Gliglish operates primarily through its official website https://gliglish.com/. Gliglish provides various options for a well-rounded yet engaging language acquisition approach. Users can develop their fluency and self-assurance by practicing and employing Gliglish's features like multilingual recognition, conversations, adjustable speed, transcript, feedback on grammar, pronunciation, lexicon, translation, and recommendations (Mehranirad, 2025).

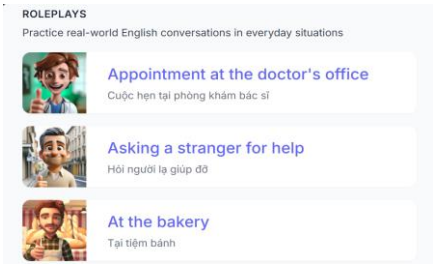
1)Multilingual Support: This network operates in recognition of more than 30 foreign languages, including French, German, Italian, Vietnamese, and others, as well as regional dialects like English (US, UK, Australian) and Spanish.

Picture 1. Multilingual Support

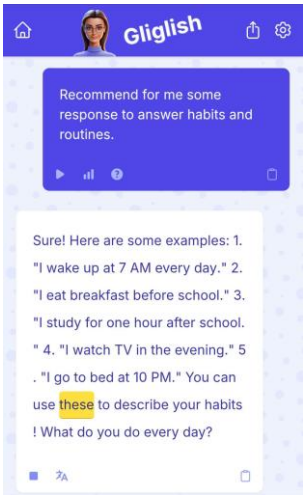
2) AI-powered conversations: Gliglish uses advanced AI to replicate lifelike scenarios, incorporating role-playing interaction such as asking for help or ordering food, available lessons and responds based on one's favourite topics, stimulating learners to learn and maintain the dialogue more proficiently and enjoyably.



Picture 2. Lessons

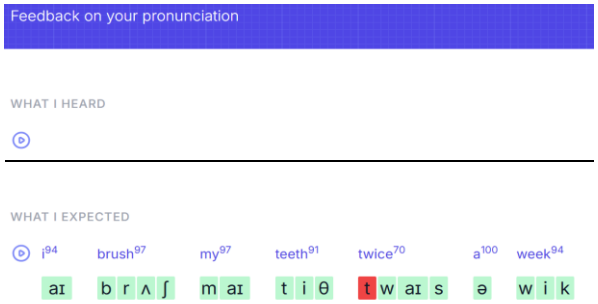


Picture 3. Role-playing interactions

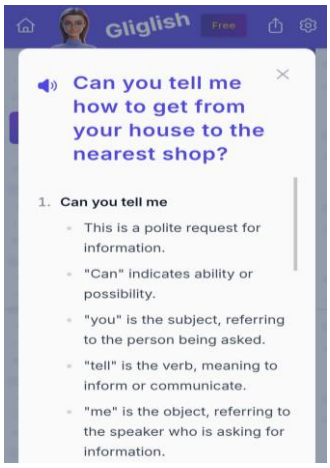


Picture 4. Responses on one's topic

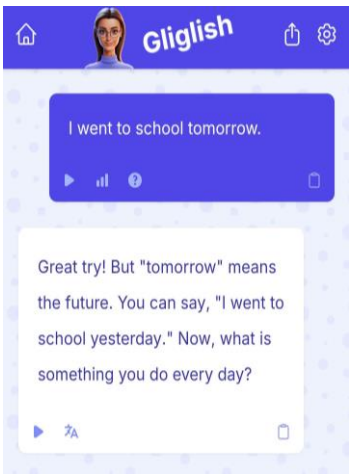
3) Real-time feedback: It provides grammar, pronunciation, and lexicon feedback, which corrects the grammar mistakes through explanations, adjusts words related to the context, and compares the speaker's pronunciation with the correct version.



Picture 5. Pronunciation feedback

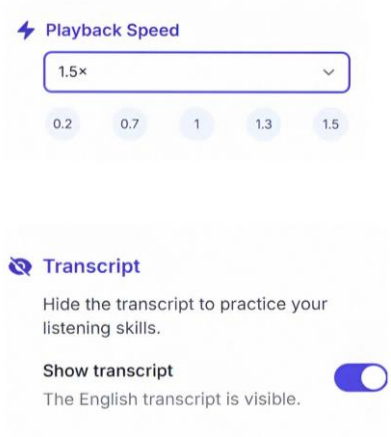


Picture 6. Grammatical explanation



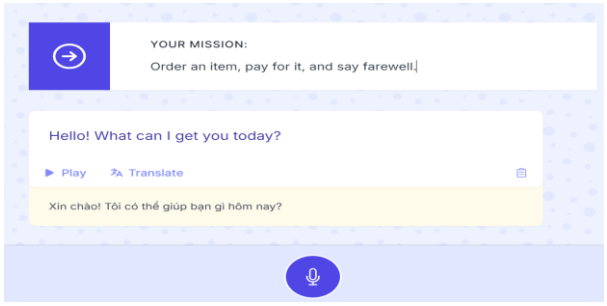
Picture 7. Lexicon feedback

4) Adjustable speaking speed and transcript: The app helps users speed up and slow down the volume or the conversation pace to an optimal level aligned with their capability. Additionally, they can choose to show the transcription of dialogue or not.



Picture 8. Speed and transcript adjustment

5) Translation: This function supports translating unfamiliar words or phrases into native languages.



Picture 9. Translation

2.3.3.1. Advantages of Gliglish

Thanks to Gliglish 's capabilities, it offers numerous plus points. The best strengths of the application are developing speaking skills (Guaillas Gualán & Armijos Ramírez, 2024) and reducing students' anxiety when speaking English (Radhiyya et al., 2025).

- Multilingual and Dialect Support and Recognition: The app supports multiple languages and dialects, making it easier for users to access and learn more effectively in both directions, the target language and the second language.
- Interactive Conversation with AI: Users can practice listening and speaking skills through natural and practical situations generated by advanced AI technology. Gliglish allows students to strengthen their skills through virtual lessons based on a cultural and linguistic database.
- Personalization and Adaptability: As soon as a learner interacts with AI, Gliglish provides instant feedback on pronunciation, grammar, and vocabulary and adjusts the level to suit the learner's current level.
- Tracking learning progress: The app saves conversation history and provides detailed reports on the learner's progress during practice.
- Free access: Gliglish offers a free version for users, although it is limited to about 10 minutes per day.

2.3.3.2. Disadvantages of Gliglish

In addition to the benefits, Gliglish still has several unavoidable limitations. This study was based on these problems to design activities to mitigate negative factors and maintain positive ones.

- High data use: Advanced features of the app require large amounts of data, which can be a barrier for users with limited internet connections.
- Technical difficulties: Some technical issues, such as microphone recognition errors or delays in response, can affect the learning experience.
- Paid Subscription Required: To access the full features and expand the practice time, users must pay a subscription fee.
- No writing and reading practice: Gliglish focuses primarily on developing listening and speaking skills; therefore, learners who want to improve their writing and reading skills may be limited because the app does not support text exchange.
- Complex interface: New users may initially feel overwhelmed by advanced features.

2.3.4. Improvement of speaking fluency via the AI tool Gliglish

Learning to speak English fluently through the AI tool Gliglish yields promising results. The AI tool Gliglish's interactive approach and personalised feedback significantly improve language fluency. Gliglish's AI-powered conversational exercises simulate real-life scenarios, allowing users to practice speaking naturally and engagingly. By offering immediate corrections and suggestions, the platform helps learners focus on enhancing their speaking fluency while building confidence in real-time conversations. With consistent use, users often experience rapid improvements in their ability to articulate thoughts clearly and fluently in English.

2.3.5. Measuring speaking fluency

In this research, to evaluate the pre- and post-test data, our group chose to use an application called ELSA Speak. For more information, we used ELSA's Speech Analyzer, which Anguera et al. (2023) indicate is a cutting-edge AI English learning tool designed to evaluate learners' spontaneous speech and deliver instant feedback concerning their pronunciation, fluency, grammar, and vocabulary. The ELSA's Speech Analyzer primarily provides detailed feedback regarding the users' pace and pause when referring to fluency (Noor, 2024).

This selection was clarified based on the following explanation. The first one is that after analyzing different studies, AI evaluation holds greater merit and objectivity when the research group compares it with traditional assessment methods. For instance, Gatlin-Nash et al. (2021) highlight that teachers' judgments on students' performance may correlate with their demographic profiles, while a study conducted by Nazaretsky et al. (2024) reveals that feedback from AI systems was often seen as more reliable and helpful than that given by humans. According to Coulange (2023), the following reason is that ELSA offers widely recognized score estimations that align with testing systems, including the Common European Framework of Reference (CEFR). To explain, the pre- and post-tests followed the VSTEP's framework, which was developed based on the CEFR (Nguyen, 2018).

2.4. Previous studies

Several studies have investigated the application of AI to improve speaking fluency, providing insight into the benefits of using AI tools to advance speaking fluency development.

The study by Duong and Suppasetseree (2024) examined how an AI voice chatbot might enhance the fluency of Vietnamese undergraduate students in speaking. The study looked at how students' repeated interactions with the chatbot reduced their hesitancy and pauses in speech, resulting in more fluid communication. The results showed that students' confidence and comfort levels rose as they conversed with the AI, which enhanced their fluency and general speaking performance. While using an AI voice chatbot can improve students' speaking fluency, it has limitations. The study was conducted quite narrowly, based on the number of students and the time. Due to technological defects, participants using an outdated Android operating system could not install and run the Andy English Bot on their smartphone, since the application required Android OS 13.0 or above.

Ariawan (2024) investigated how Gliglish, a conversational AI tool, may help students speak English more fluently and accurately while focusing on grammar, vocabulary, pronunciation, and fluency. Despite being a relatively new and not widely known tool for English learners, Gliglish offers the opportunity for spoken practice and personalized feedback in a low-stress environment. The research invites educators to investigate and incorporate conversational AI, such as Gliglish, into their classes to improve language learning since the data indicate that the tool favours learners' speaking ability.

Radhiyya et al. (2025) emphasise that Gliglish is a neural network-based platform that enhances English-speaking practices. It includes several attributes that enhance language learning. A notable characteristic is its voice recognition capabilities, which detect and assess pronunciation errors while providing prompt corrections. Furthermore, the AI tool Gliglish cultivates an interactive and supportive educational environment, aiding students in alleviating speaking-related anxiety and hesitation while improving their fluency, pronunciation, and grammatical accuracy.

Overall, these studies highlight the growing body of research showing the positive effects of AI tools in enhancing speaking fluency, providing valuable insights into their role in language learning. According to Ariawan (2024, as cited in Khoudri, 2024) and Radhiyya et al. (2025), AI-powered platforms that offer multilingual voice recognition, customizable speaking rates, and real-time feedback, like Gliglish, substantially impact speaking fluency. Through AI tools like Gliglish, students majoring in foreign languages can significantly improve their speaking fluency by receiving immediate feedback on pronunciation, grammar, and fluency. By incorporating this research into the current study, the researcher can underline the potential benefits of using AI to support fluency development in EFL classrooms. This could help language learners find a resource essential to their studies.

III. METHODOLOGY

3.1. Research desgin

This study was designed as a quasi-experimental study. Experimental research, as defined by Cohen et al. (2018), is a scientific method that involves manipulating independent variables to observe their effects on a dependent variable while controlling for other factors that can influence the outcomes.

The study adopted the quasi-experimental design as it preserved the natural class structure using intact groups and effectively examined the tool's impact using pre- and post-tests rather than random assignment. This design enabled all students to benefit from the AI tool Gliglish while observing changes in speaking fluency over time.

This study used a mixed-methods design to examine how fifteen first-year English majors at Thai Nguyen University of Education could talk fluently after using Gliglish, an AI-powered English-speaking assistant. The study design combined quantitative and qualitative data gathering and analysis techniques to comprehend the studied phenomenon fully.

3.2. Participants

The study involved thirty first-year Thai Nguyen University of Education students majoring in foreign languages. The students participating came from different provinces in Vietnam, with 30 people, including 4 males and 26 females, all of whom were randomly selected. Their current English proficiency level was at the B1 level according to the Vietnamese curriculum (Prime Minister of the Government of Vietnam, 2008). As mentioned in the background of the research, even though foreign languages were their strength and priority, they encountered challenges in fully engaging with opportunities to enhance their speaking skills. They were not confident in their speaking abilities and tended to learn from some of the provided speaking models rather than make meaningful and natural English conversations. To address these issues, the researchers hoped to receive positive feedback from the participants after introducing the AI tool Gliglish to them.

3.3. Research instruments

3.3.1. Questionnaires

A questionnaire is a structured set of questions given to interviewees with clear guidelines for selection (Sreejesh et al., 2013). Questionnaires are widely used for surveys due to their efficiency and ease of data interpretation (McLean, 1994; Wilson, 2010, as cited in Taherdoost, 2016). Rashid (2020) highlights that questionnaires reduce interviewer bias, encouraging honest answers.

This study asked the students to complete a post-questionnaire to determine their attitudes toward improving speaking fluency using the AI tool Gliglish. The questionnaire contained 15 closed-ended questions. The questionnaire was divided into 3 groups of questions, including Confidence, Hesitation, and Extended Speech, to examine categories that significantly impact fluency. The questionnaire used Cronbach's Alpha to assess its reliability. This was tested to measure internal consistency, which refers to assessing whether all factors in the questionnaire are the same construct; therefore, the interconnection link could be seen among the test items (Cronbach, 1951). The internal consistency is based on Table 3.1.

Cronbach's alpha value	Interpretation
0.80 till 1.00	Very good and high level of internal consistency
0.70 till 0.79	Good and acceptable level of internal consistency
0.60 till 0.69	Acceptable
<0.60	The item needs repair
<0.50	The item needs to be dropped

Table 3.1. Cronbach's Alpha value interpretation table (Bond & Fox, 2015, as cited in Govindasamy et al., 2024)

Besides, to evaluate which categories have the most substantial effect, the researchers also calculated mean scores after completing the questionnaire. Participants' ratings were rated on the Likert scale (named after its deviser, Rensis Likert, 1932), with five choices for each question. A Likert scale asks respondents to indicate how much they agree or disagree with each item to determine whether employees feel positively, neutrally, or negatively about each assertion. The Likert scale can assess quality, importance, performance, frequency, satisfaction, concentration and agreement level. Almost all research questions concern the level of agreement, quality, regularity, and satisfaction (Test, 2023).

3.3.2. Documentation Instrument

Documentary includes various modes of representation, such as photographs, diaries, publications, sound recordings, monuments, and memorials. It also encompasses modes of engagement that serve as a creative enterprise for presentation, specifically the

aesthetic presentation found in documentary radio, film, and photography (Nichols, 2001). Aoki (2014) has stated that voice recording enables students to produce spoken output. Voice recording in this study referred to the students' practice of recording their conversations utilizing the available phone application to make their conversations with the AI tool Gliglish.

Researchers collected weekly voice recordings from the students during the intervention period on the topics prepared for this study. These recordings were used to analyze the qualitative data, allowing for a detailed analysis of the participants' speaking fluency and progress using the AI tool Gliglish. Researchers could track students' development and identify specific areas of improvement and ongoing challenges by employing a consistent recording schedule.

3.3.3. Tests

Tests are one of the most popular types of research tools. There is a range of opinions regarding the term 'test'. As Richards and Schmidt (2013) have stated, a test is a tool to gauge an individual's aptitude, expertise, or performance in a particular field. McNamara (2000) has noted that an individual's behaviour can be tested by eliciting a sample of their conduct under standard settings and evaluating it using a scoring system that allows us to compare their behaviour with others.

The researchers collected data and assessed the participants' verbal capacity using pre- and post-tests. These tests comprised two speaking parts and used quantitative data to evaluate their results regularly.

(1) Pre-test

Before any interventions were implemented, students completed an initial assessment in the first session to determine their baseline proficiency. The 5-minute pre-test was recorded and then uploaded to an application called ELSA Speak, whose speech analyzer application had a marked rise in the ESL students' speaking abilities (Al-Husban, 2025), to give remarks on their speaking skills.

(2) Post-test

A post-test, which lasted approximately five minutes, indicated how useful the AI tool Gliglish was in helping pupils' speaking fluency. The research group assigned a specific topic to the students, recorded their answers, and then used ELSA Speak to assess these recordings. The efficiency process was evaluated depending on the final exam scores and the number of errors in the post-test.

The pre-test and post-test formats remained the same and followed VSTEP's framework. The acronym VSTEP stands for Vietnamese Standardised Test of English Proficiency. In Vietnam, it is the first standardized test of English proficiency. Language testing specialists at Vietnam National University, Hanoi's University of Languages and International Studies (ULIS) created the test structure and criteria. The MOET made it available nationwide on March 11, 2015.

Researchers made use of this checklist to examine students' fluency.

Translated version:

	0	1	2	3	4	5
Fluency - Hesitation - Extended speech	The test-taker is not present.	- Can only speak in a fragmented and hesitant manner using very short words and phrases, mostly consisting of memorized sentences.	- Can produce short phrases and sentences very slowly, frequently omitting words and needing to repeat them.	- Can produce simple ideas with relatively smooth speech. - Attempt to express complex ideas but pauses frequently to search for structures and vocabulary.	- Can express simple ideas fluently and makes an effort to convey complex concepts, but speech is slow due to searching for structures and vocabulary. - Know how to use simple phrases and sentences to extend answers.	- Can express simple ideas fluently and convey complex concepts, though speech is slow due to searching for structures and vocabulary. - Can produce long speech segments but shows clear evidence of error correction.

Table 3.2. VSTEP 3-5 Speaking Fluency Scoring Criteria (MOET, 2015)

	6	7	8	9	10
Fluency - Hesitation - Extended speech	- Can communicate simple and complex ideas easily and relatively fluently, with occasional hesitation, but not for long when searching for structures and vocabulary. - Can produce long sentences, though there are some non-systematic errors and signs of self–correction.	- Can communicate simple and complex ideas easily, relatively fluently, and consistently with occasional hesitation, but not for long when searching for structures and vocabulary. - Can produce long speech segments but sometimes repeat words and require self–correcting.	- Can communicate simple and complex ideas easily, quite fluently, and consistently. There are occasional hesitations, but they do not take time due to searching for structures or vocabulary. - Can produce long speech segments, though some minor errors still occur.	- Frequently produces extended stretches of language and can express ideas easily, fluently, and naturally with occasional repetition and error correction. - Shows little signs of hesitation when searching for words or structures, only pauses to look for appropriate ideas for conceptually complex topics.	- Frequently produces extended stretches of language and can express ideas easily, fluently, and naturally with little repetition and error correction. - Shows minimal hesitation when searching for words or structures and only pauses to look for appropriate ideas for complex concepts.

Table 3.2. VSTEP 3-5 Speaking Fluency Scoring Criteria (MOET, 2015)

3.3.3.1. Hypothesis Testing

Creswell (2015) has defined a hypothesis as a researcher's prediction regarding the expected connections between variables. Researchers require a null hypothesis (H_0) and an alternative hypothesis (H_1) to create hypotheses. The test attempts to reject the null hypothesis, which claims there is no impact or difference. The alternative hypothesis is what researchers might believe or hope to prove true, and it is usually opposed to the null hypothesis.

This study proposes the following two hypotheses:

The first hypothesis: 'Using the artificial intelligence tool Gliglish improves speaking fluency for English majors'.

H_0: Using the artificial intelligence tool Gliglish does not improve speaking fluency for English majors.

H_1: Using the artificial intelligence tool Gliglish improves speaking fluency for English majors.

The second hypothesis: 'There is an improvement in the speaking fluency score between the experimental group after using the AI Gliglish tool compared to the control group'.

H_0: There is no improvement in the speaking fluency score between the experimental group after using the AI Gliglish tool compared to the control group.

H_1: There is an improvement in the speaking fluency score between the experimental group after using the AI Gliglish tool compared to the control group.

A statistical test called a t-test is employed to test these hypotheses. The p-value is the probability of observing test results that are at least as extreme as the observed results, assuming the null hypothesis is correct. The significance level, represented by alpha (α), represents the likelihood of rejecting the null hypothesis if true. Common α values include 0.05 (5%), 0.01 (1%), and 0.10 (10%).

- If the p-value is < α, reject the null hypothesis and endorse the alternative due to adequate data evidence.
- If the p-value is > α, do not reject the null hypothesis, indicating inadequate evidence for the alternative hypothesis.

3.4. Research procedures

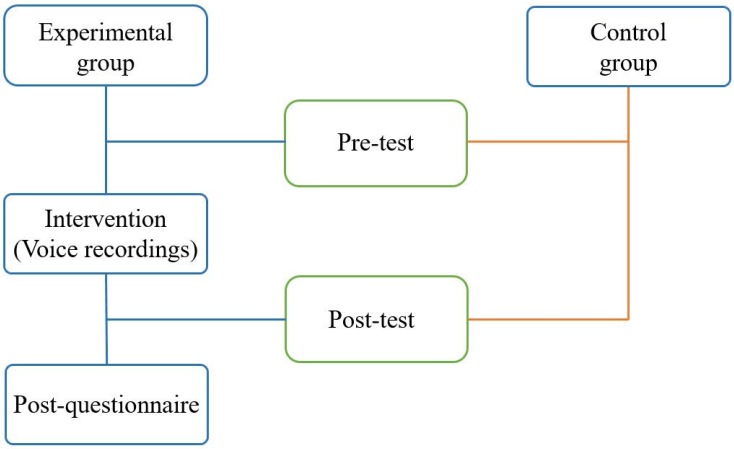


Figure 1. Research procedures

This research aimed to determine the improvement of university students' speaking fluency by using the AI tool Gliglish at Thai Nguyen University of Education, with 30 students from first-year English majors as participants. After conducting the research, the researchers obtained six types of data: the pre-test and post-test scores, the number of errors in the pre- and post-tests, the weekly voice recordings, and the post-questionnaire answers. The test was done twice: the pre-test was given before the evaluation to determine the student's initial ability, and the post-test was administered after the review. The topics were given to the experimental group weekly for practice with the AI tool Gliglish, and these voice recordings were recorded once a week. This analysis provided insights into the gradual changes in their speaking abilities throughout the experiment. The post-questionnaire was administered once to the experimental group after the experimental period. The questionnaire was given to discover the attitudes of students towards the AI tool Gliglish used. Details of the procedures were presented below.

Stage 1: Assessing the initial students' speaking fluency competency

First, 30 participants were divided into two groups: the experimental group and the control group. The participants in both groups took the pre-test, requiring them to have a recorded speaking exam so that researchers could determine and analyze their beginning fluency speaking abilities.

Furthermore, all experimental group students received lessons on how to use the AI tool Gliglish, allowing them to practice their English and learn how it worked.

Stage 2: Implementing the intervention process

After doing the pre-test, the participants in the experimental group went through an 8-week experiment in which they used the AI tool Gliglish. Throughout the eight-week intervention period, the researchers ran Elsa Speak to synthesize, evaluate, and analyze the students' practice results using the AI tool Gliglish to improve speaking fluency. The research team provided two topics per week, and the AI assistant assisted participants in addressing one issue for the first three days of the week, with the remaining three days dedicated to completing the remaining tasks. Participants submitted a 5-minute voice recording discussing both topics with the AI assistant on the rest day (following the guidelines established by the researchers). In the upcoming weeks, this procedure was repeated.

Stage 3: Assessing the students' competence in speaking fluency after carrying out the intervention

The experimental and control groups received a post-test at the end of the 8-week experiment. The research group recorded the speaking exam of the students in the same manner as the pre-test. The researchers continued synthesizing, evaluating, and analyzing the post-test results and the volume of errors.

The pre-test and post-test results were analyzed using Microsoft Excel, and a comparison was made between the two test scores and error numbers to determine the effectiveness of the AI tool Gliglish on the students' speaking fluency.

Stage 4: Collecting the students' attitudes after using the AI tool Gliglish

Lastly, the post-questionnaire was given to the experimental group of fifteen students to collect and analyze data regarding the participants' attitudes toward the AI tool Gliglish

3.5. Data analysis

3.5.1. Quantitative Data Analysis

The researchers collected quantitative data through weekly voice recordings, the volume of errors, and the pre-test and post-test scores from the students, and analyzed the data using Microsoft Excel. These collected data were evaluated using Elsa Speak,

emphasizing fluency and the contributions of the AI tool Gliglish to enhance students' speaking fluency. Descriptive statistics of the data provide information such as group means and standard deviations. Inferential statistics assist in testing research hypotheses. A paired sample t-test was conducted to compare the pre- and post-test scores of the experimental and control groups separately, while an independent sample t-test was used to assess the post-test scores of both groups.

The findings from this quantitative analysis were compiled into narrative summaries, offering more profound insights into the impact of Gliglish on speaking fluency. This approach enriched the researcher's understanding and provided a comprehensive perspective on student learning outcomes, complementing the quantitative data.

3.5.2. Qualitative Data Analysis

In addition to the quantitative data, qualitative data was gathered through the questionnaire to ensure that all questions were answered thoroughly and that the responses were clear and meaningful. Using Cronbach's Alpha to measure the reliability and the mean scores of 3 different groups (including Confidence, Hesitation, and Extended Speech) of the questionnaire, the researchers analyzed the participants' attitudes towards using the AI tool Gliglish to improve their speaking fluency.

III. FINDINGS AND DISCUSSION

4.1. Findings

4.1.1. Findings for Research Question 1

RQ1: How does Gliglish affect speaking fluency for students majoring in foreign languages?

4.1.1.1. Summary of collected data

No.	Control			Experimental		
	Pre-test (out of 100)	Post-test (out of 100)	Gain score (out of 100)	Pre-test (out of 100)	Post-test (out of 100)	Gain score (out of 100)
1	31	34	+3	27	35	+8
2	45	47	+2	36	48	+12
3	70	68	-2	74	84	+10
4	40	42	+2	66	78	+12
5	36	40	+4	69	77	+8
6	52	55	+3	40	50	+10
7	49	45	-4	50	66	+16
8	46	50	+4	38	45	+7
9	37	39	+2	42	54	+12
10	54	57	+3	43	52	+9
11	60	62	+2	40	52	+12
12	65	61	-4	39	50	+11
13	56	59	+3	58	68	+10
14	58	60	+2	61	76	+15
15	41	45	+4	61	80	+19
Mean	49.3	50.9	1.6	49.6	61	11.4

Table 4.1. The data acquired from the control and experimental groups and the gain score

Before starting the intervention, we conducted a pre-test to assess the first-year students' English-speaking skills, specifically their fluency. According to the pretest results, in the control group, the lowest score was 31, achieved by one student, and the highest score was 70, also achieved by one student. In the experimental group, the highest score was 74, attained by one student, while the lowest score was 27. The researcher thoroughly selected students to participate in the study randomly; both groups included students with varying levels of speaking skills to evaluate whether the tool was effective for all groups or only suited to a specific group.

After implementing the intervention, the researcher conducted the post-test, revealing that the control group's results included a highest score of 68, achieved by one student, and a lowest score of 34. Two students scored above 80 for the experimental group, and the lowest score was 35.

The gain scores obtained by the students were computed and calculated to examine the difference between the pre-test and post-test of the experimental group and the control group, as well as to compare the fluency improvement between a group that used the AI Gliglish tool and a group that did not. The results indicated that fluency in speaking skills among students in the control group increased only slightly, with three students even showing a decrease compared to the entrance test. In contrast, the results for the experimental group were more positive; the students' scores increased, ranging from 7 to 19 points.

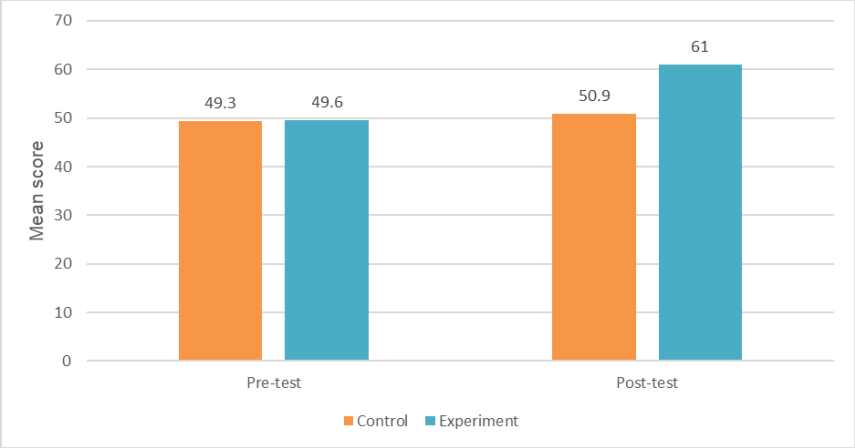


Figure 2. Average Scores of Control and Experimental Groups in Pre-test and Post-test

4.1.2. Hypothesis Test

4.1.2.1. The first hypothesis

The first hypothesis: 'Using the artificial intelligence tool Gliglish improves speaking fluency for English majors'.

H0: Using the artificial intelligence tool Gliglish does not improve speaking fluency for English majors.

H1: Using the artificial intelligence tool Gliglish improves speaking fluency for English majors.

To test this hypothesis, an initial comparison was conducted between the mean scores of the pre-tests for each group and the mean scores of the post-tests using a paired t-test. An independent t-test was used to compare the mean post-test scores between the experimental and control groups. The post-test results indicated a substantial disparity between the experimental and control groups, resulting in the rejection of the researcher's null hypothesis.

A. Formula of paired t-test

$$t = \frac{\bar{d}}{SD_d/\sqrt{n}}$$

$\bar{d}$: mean of the differences

$SD_{\bar{d}}$: standard deviation of the differences

n: sample size

A1. Paired t-test results for speaking fluency scores

		M	SD	t	p
Control group	Pre-test	49.3	11.3	2.3	.037
	Post-test	50.9	10.1		
Experimental group	Pre-test	49.6	14.1	11.26	.000
	Post-test	59.2	15.3		

Table 4.2. Paired t-test results for speaking fluency scores in the experimental and control groups

The control and experimental groups were individually compared on the pre-test and post-test fluency scores. The paired t-test is significant at the $p < 0.05$ level. Therefore, we can infer that the experimental and control groups experienced a significant disparity between these two tests.

To ascertain the disparity between the specified groups, the speaking ability scores of the experimental group must be compared to those of the control group using an independent t-test.

A2. Paired t-test results for speaking fluency errors

		M	**SD**	**t**	**p**
Experimental group	Pre-test	21.7	8.3	11.4	.000
	Post-test	16.4	7.5		

Table 4.3. Paired t-test results for speaking fluency errors in the experimental and control groups

As observed, pre-test and post-test errors in speaking fluency were only compared in the experimental group. The paired t-test at the ($p<0.01$) level is significant when the number of mistakes in the post-test was significantly reduced compared to the pre-test. Therefore, we can conclude that the experimental group experienced significant differences between these two tests.

4.1.2.2. The second hypothesis

The second hypothesis: 'There is an improvement in speaking fluency score between the experimental group after using the AI Gliglish tool compared to the control group'.

H0: There is no improvement in speaking fluency score between the experimental group after using the AI Gliglish tool compared to the control group.

H1: There is an improvement in speaking fluency score between the experimental group after using the AI Gliglish tool compared to the control group.

B. Formula of the independent groups t-test

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{SD_1^2}{n_1} + \frac{SD_2^2}{n_2}}}$$

$\overline{X}_1$: The mean of sample group 1

$\overline{X}_2$: The mean of sample group 2

SD_1^2: The variance of sample group 1

SD_2^2: The variance of sample group 2

n_1: The sample size in group 1

n_2 The sample size in group 2

The table below compares post-test scores of speaking fluency in the control and experimental groups.

		M	SD	t	p
Post-test scores	Control group	50.9	10.1	2.13	.043
	Experimental group	61	15.3		

Table 4.4. The independent groups t-test

The t-test is significant at the $p<0.05$ level. In summary, there is a notable disparity between the scores of the two groups, indicating with 95% confidence that learners in the experimental group using Gliglish to enhance speaking fluency outperform those in the control group. As a result, we dismiss the null hypothesis and validate the researcher's theory.

4.1.3. 8-week intervention using the AI tool Gliglish

Weekly scores (Out of 100) / Participants	W1	W2	W3	W4	W5	W6	W7	W8
S1	74	70	77	79	72	74	71	75
S2	76	76	68	72	70	76	82	82
S3	66	66	75	81	75	83	82	80
S4	66	73	72	73	72	67	68	65
S5	85	76	73	74	67	74	76	75
S6	67	71	78	74	72	76	78	75
S7	76	82	77	78	80	82	85	87
S8	63	62	72	72	70	65	75	77
S9	66	85	85	79	86	75	79	80
S10	60	62	68	67	75	67	70	72
S11	82	81	80	79	83	83	88	85
S12	60	61	62	66	73	76	77	72
S13	76	77	76	78	80	79	80	83
S14	84	84	78	78	86	84	87	88
S15	82	75	86	78	82	85	88	88
Mean	72.2	73.4	75.13	75.2	76.2	76.4	79.07	78.93

Table 4.5. Data from an 8-week intervention using the AI tool Gliglish

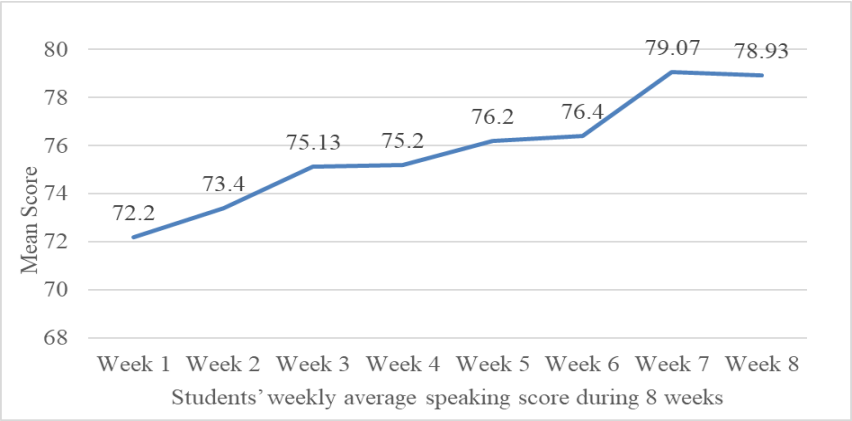


Figure 3. Students' weekly average speaking score during 8 weeks

It was clear that the students' fluency score in week 8 was significantly higher than in week 1. This data indicates that the 8-week intervention with the AI tool Gliglish positively impacted fluency improvement. The rise in fluency scores from week 1 to week 8 suggested that using the AI tool Gliglish assisted students in enhancing various aspects of their fluency, such as pace, pausing, and hesitation. The consistent engagement and exposure to virtual dialogue contexts may have facilitated their overall improvement.

4.1.4. The figures for the questionnaire

RQ2: What are the students' attitudes towards using the AI tool Gliglish to improve fluency in speaking skills?

The chart sorts the questionnaire into three sections: confidence, extended speech and hesitation.

Confidence	1. Practicing English with the AI tool Gliglish makes me more confident in my speaking abilities.
	2. Practicing English with the AI tool Gliglish makes me notice improvements in my speaking fluency over time.
	3. Practicing English with the AI tool Gliglish makes me feel less anxious when speaking English in front of others.
	4. Practicing English with the AI tool Gliglish makes me overcome the fear of making mistakes when speaking English.
	5. Practicing English with the AI tool Gliglish motivates me to improve my speaking skills.
Extended speech	6. Practicing English with the AI tool Gliglish makes me maintain a consistent speaking pace.
	7. Practicing English with the AI tool Gliglish makes me minimize noticeable pauses when searching for appropriate vocabulary.
	8. Practicing English with the AI tool Gliglish makes me speak more comfortably, even when expanding on unfamiliar topics.
	9. Practicing English with the AI tool Gliglish makes me better organize my thoughts before speaking in English.
	10. Practicing English with the AI tool Gliglish gives me the ability to speak English without thinking too much.
Hesitation	11. Practicing English with the AI tool Gliglish makes me respond more quickly in conversations.
	12. Practicing English with the AI tool Gliglish makes me reduce hesitation when forming sentences in English.
	13. Practicing English with the AI tool Gliglish makes me speak more fluently, with fewer self-corrections and less repetition.
	14. Practicing English with the AI tool Gliglish improves my accuracy in grammatical and lexical planning during speech.
	15. Practicing English with the AI tool Gliglish makes me better and faster at expressing complex ideas clearly and effectively.

Table 4.6. Three groups of the questionnaire

Group	Cronbach's Alpha	Mean scores
Confidence	0.86	3.93
Extended Speech	0.79	3.96
Hesitation	0.9	3.8

Table 4.7. Analysis results of the questionnaire

The collected data from the post-questionnaire was measured using Cronbach's Alpha to determine its reliability and the level of internal consistency. Having divided 15 questionnaire questions into 3 distinct groups (including Confidence, Extended Speech, and Hesitation), each group showed a different Cronbach's Alpha value. Table 4.7 shows that the p-value for Confidence and Hesitation is 0.86 and 0.9, respectively, while that for the Extended Speech group is 0.79, showing that each group's level of internal consistency was at least acceptable. In other words, questions in each group measured the same notion, and they had a close interrelatedness link in affecting participants' speaking fluency after 8 weeks using the AI tool Gliglish. Among the three groups, according to the participants, the Hesitation group was the factor that was recorded as having the best question list, both in concept and level of internal consistency. In contrast, the Extended Speech was a bit lower. However, this disparity was not much affected in general.

Furthermore, the researchers also calculated mean scores, which were used to assess which categories had the most tremendous improvement among the 3 groups according to the participants, to clarify their attitudes towards using the AI tool Gliglish. The results were correspondingly 3.93, 3.96, and 3.8, which revealed the Extended Speech group had the highest average scores, followed by the Confidence and Hesitation groups. It showed the participants' attitudes that after the experimental period, the improvement in the ability to extend their talk was ranked first, Confidence was second, and Hesitation was last. Nevertheless, mean scores for these three groups were not substantially different, which meant the participants all showed improvement after using the AI tool Gliglish.

4.2. Discussion

The following discussion is based on the test results and questionnaires about using the AI tool Gliglish to improve speaking fluency.

As mentioned in the previous part of the research, Duong and Suppasetseree (2024) investigate the potential of an AI voice chatbot to improve the speaking fluency of Vietnamese students. The research examines how students' frequent engagements with the chatbot reduced their hesitance and pauses in speaking, leading to more fluid communication. The results indicated that students' confidence and comfort heightened during AI interactions, enhancing their fluency and general speaking skills. A further study by Ariawan (2024) indicated that Gliglish, a conversational AI tool, might aid students in achieving greater fluency and accuracy in spoken English. Gliglish, a more recent resource for English learners, offers opportunities for spoken practice and individualised feedback in a relaxed environment. Radhiyya et al. (2025) state that Gliglish is a neural network-based platform to enhance English-speaking proficiency. A notable characteristic is its voice recognition functionality, which detects and assesses pronunciation errors while offering immediate remedies. Additionally, the studies by Ariawan (2024) and Radhiyya et al. (2025) show that users have a reasonable opinion of the AI tool Gliglish because it creates a fun and helpful learning atmosphere, which helps lower students' anxiety and reluctance to speak while enhancing their fluency, pronunciation, and grammar. This observation supports the findings of this study, which show that AI Gliglish helps increase students' confidence, reduce hesitation, and extend speed in speaking, which in turn can have a positive impact on their academic and professional future.

Regarding the theories mentioned above, the researchers concluded that using the AI tool is highly beneficial for helping students strengthen their speaking fluency. Gliglish can be regarded as an effective speaking practice tool that supports students in practicing their speaking skills daily instead of relying solely on teachers, and it can address the limitations that learners currently face when trying to speak fluently.

IV. CONCLUSION AND RECOMMENDATIONS

5. 5.1. Conclusion

The findings revealed that the AI tool Gliglish had a significant effect on improving the speaking fluency of first-year students. When comparing the pre-test results with the post-test, the experimental group exhibited notable improvements in fluency and reduced speaking errors. Following the 8-week intervention, most students in the experimental group felt more comfortable and confident when practicing English because of Gliglish's instant error detection and correction feature. Concerning the students' attitudes about the app, their feedback was generally positive, particularly about reduced hesitation and the ability to produce extended speech.

In contrast, the control group showed slight improvement in speaking fluency because their post-test scores were almost the same as their pre-test scores. In other words, the control group struggled to enhance their fluency, possibly due to their lack of support from an AI tool such as Gliglish. These results highlight the potential of Gliglish as a valuable tool in enhancing speaking fluency with English learners. Applying Gliglish to the learning process may provide tangible benefits in academic and professional contexts.

5.2. Limitations

While the study found that the AI tool Gliglish positively impacted speaking fluency, it is important to know several of its limitations. Firstly, the sample size was limited to only 30 first-year students, which restricts the generalisation of the

findings. A larger and more diverse sample should be selected to give a rounded view of the app among different learner backgrounds. Secondly, the researchers could not explore all fluency-related factors provided by the Elsa Speak app due to time constraints. Some elements, such as speaking speed and pause duration, were not considered, which could go beyond counting errors in pre- and post-test assessments. Thirdly, the free version of Gliglish has limited features, which could affect the user experience and prevent a full investigation of the tool's potential benefits. Finally, due to the lack of time, the study concentrated mainly on speaking fluency, without considering other important aspects such as pronunciation, vocabulary, or grammar. Expanding the scope of future studies, including these factors, would offer a more comprehensive evaluation of Gliglish's effects in supporting language learning.

5.3. Recommendations

The researchers propose several recommendations for future research based on the study's results. In the first place, the research sample can be expanded to consist of various learner groups such as high school students, non-language majors, and working people. Such an approach would make the findings more general and objective. Additionally, the study can extend its duration to assess the long-term effects of Gliglish on foreign language learners. Consequently, there would be a more complete view of learners' speaking skills changes over time. In addition, further research can explore other factors, like speaking confidence and speaking performance, when using the AI tool Gliglish to evaluate its impact on improving speaking skills completely. In conclusion, applying new research methods can contribute to having a better understanding of learners' perspectives and experiences, thus enhancing the implications of the tool in practical learning environments.

REFERENCES

1) Ahmada, A., & Munawaroh, L. (2022). The use of role play method to improve speaking skills. Darussalam English Journal, 2(1), 55–82. https://doi.org/10.30739/dej.v2i1.1506
2) Al-Husban, N. (2025). The impact of AI-assisted language learning tools on augmenting university EFL students' speaking skills in Jordan. Journal of Applied Learning & Teaching, 8(1), 116–127. https://doi.org/10.37074/jalt.2025.8.1.13.
3) Al Nakhalah, A. M. M. (2016). Problems and difficulties of speaking that encounter English language students at Al Quds Open University. International Journal of Humanities and Social Science Invention, 5(12), 96-101. https://www.ijhssi.org/papers/v5(12)/version-3/O5120396101.pdf
4) Alaraj, M. M. (2017). EFL Speaking Acquisition: Identifying Problems, Suggesting Learning Strategies and Examining Their Effect on Students' Speaking Fluency. The International Journal of Social Sciences and Humanities Invention, 4(1), 3215–3221. https://doi.org/10.18535/ijsshi/v4i1.05
5) Aljumah, F. H. (2011). Developing Saudi EEF Students' Oral Skills: An Integrative Approach. English Language Teaching, 4(3), 84-89. https://doi.org/10.5539/elt.v4n3p84
6) Alneyadi, S., Wardat, Y., Alshannag, Q., & Abu-Al-Aish, A. (2023). The effect of using smart e-learning app on the academic achievement of eighth-grade students. Eurasia Journal of Mathematics, Science and Technology Education, 19(4), em2248. https://doi.org/10.29333/ejmste/13067
7) Anguera, X., Proença, J., Gulordava, K., Tarján, B., Parslow, N., Dobrovolskii, V., & Girard, R. (2023). ELSA speech analyzer: English communication assessment of spontaneous speech. In Proceedings of the 9th Workshop on Speech and Language Technology in Education (SLaTE) (pp. 95–96). https://www.isca-archive.org/slate_2023/anguera23_slate.html
8) Aoki, S. (2014, December 22). Potential of voice recording tools in language instruction. Studies in Applied Linguistics and TESOL, 14(2). https://doi.org/10.7916/salt.v14i2.1309
9) Ariawan, S. (2024). Talking with AI: Be confident in speaking English with Gliglish. In Useful AI tools for English teachers (pp. 275–287). CV Rizquna. https://www.researchgate.net/publication/382337213_Talking_With_AI_Be_Confident_in_Speaking_English_with_Gliglish
10) Benlaghrissi, H., & Ouahidi, L. M. (2024). The impact of mobile-assisted project-based learning on developing EFL students' speaking skills. Smart Learning Environments, 11(1), 18. https://doi.org/10.1186/s40561-024-00303-y
11) Bohari, L. (2019). Improving speaking skills through small group discussion at eleventh grade students of SMA Plus Munirul Arifin NW Praya. Journal of Languages and Language Teaching, 7(1), 68–81.
12) https://doi.org/10.33394/jollt.v7i1.1441
13) Cohen, L., Manion, L., & Morrison, K. (2018). Research methods in education (8th ed.). Routledge. https://doi.org/10.4324/9781315456539
14) Coulange, S. (2023). Computer-aided pronunciation training in 2022: When pedagogy struggles to catch up. In A. Henderson & A. Kirkova-Naskova (Eds.), Proceedings of the 7th International Conference on English Pronunciation: Issues and Practices (pp. 11–22). Université Grenoble-Alpes. https://doi.org/10.5281/zenodo.8137754

15) Creswell, J. W. (2015). Educational research: Planning, conducting, and evaluating quantitative and qualitative research (5th ed.). Pearson. https://thuvienso.hoasen.edu.vn/handle/123456789/12789
16) Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297–334. https://doi.org/10.1007/bf02310555
17) Duong, T., & Suppasetseree, S. (2024). The effects of an artificial intelligence voice chatbot on improving Vietnamese undergraduate students' English speaking skills. International Journal of Learning, Teaching and Educational Research, 23(3), 293-321. https://doi.org/10.26803/ijlter.23.3.15
18) Gatlin-Nash, B., Hwang, J. B., Tani, N. E., Zargar, E., Wood, T. S., Yang, D., Powell, K. B., & Connor, C. M. (2021). Using assessment to improve the accuracy of teachers' perceptions of students' academic competence. Elementary School Journal, 121(4), 609–634. https://doi.org/10.1086/714083
19) Gliglish. (2023). Learn languages by speaking with AI. https://gliglish.com/intl/en#features
20) Govindasamy, P., Cumming, T. M., & Abdullah, N. (2024). Validity and reliability of a needs analysis questionnaire for the development of a creativity module. Journal of Research in Special Educational Needs, 24(3), 637–652. https://doi.org/10.1111/1471-3802.12659
21) Ha, T. T. T., Phan, T. T. N., & Anh, T. H. (2021, December). The importance of translanguaging in improving fluency in speaking ability of non-english major sophomores. In 18th International Conference of the Asia Association of Computer-Assisted Language Learning (AsiaCALL–2-2021) (pp. 338-344). Atlantis Press. https://doi.org/10.2991/assehr.k.211224.032
22) Hien, N. T. T., & Phuong, V. T. (2024). The effectiveness of the storytelling technique on students' achievement and motivation in English speaking skills. Multidisciplinary Reviews, 6, e2023spe011. https://doi.org/10.31893/multirev.2023spe011
23) Hoang, V. V. (2020). The roles and status of English in present-day Vietnam: A socio-cultural analysis. VNU Journal of Foreign Studies, 36(1), 1–21. https://doi.org/10.25073/2525-2445/vnufs.4495
24) Inayah, R., & Lisdawati, I. (2017). Exploring students' difficulties in speaking English and their attitude in speaking English. Acuity: Journal of English Language Pedagogy, Literature and Culture, 2(1), 12–23. https://doi.org/10.35974/acuity.v2i1.585
25) Khoudri, I. (2024). Revolutionizing English language learning with AI: Boosting student receptive and productive skills. Pakistan Journal of Life and Social Sciences, 22(2), 1660–1670. https://doi.org/10.57239/pjlss-2024-22.2.00115
26) Kok, J. N., Boers, E. J., Kosters, W. A., Van der Putten, P., & Poel, M. (2009). Artificial intelligence: definition, trends, techniques, and cases. Artificial intelligence, 1(270-299), 51. https://www.eolss.net/Sample-Chapters/C15/E6-44.pdf
27) Kürüm, E. Y. (2016). Teaching speaking skills. Annals of the University of Oradea: Economic Science, 25(1), 264-273. https://www.researchgate.net/profile/Eyuep-Kurum/publication/312538107_Teaching_Speaking_Skills/links/58a36c0892851ce3473be405/Teaching-Speaking-Skills.pdf
28) Kushmar, L. V., Vornachev, A. O., Korobova, I. O., & Kaida, N. O. (2022). Artificial intelligence in language learning: What are we afraid of. Arab World English Journal, Special Issue on CALL, 8, 262–273. https://doi.org/10.24093/awej/call8.18
29) Lou, Y., Chen, P., & Chen, L. (2016). Effects of a task-based approach to non-English-majored graduates' oral English performance. Creative Education, 7(4), 660-668. https://doi.org/10.4236/ce.2016.74069
30) McNamara, T. F. (2000). Language testing. Oxford University Press. https://archive.org/details/languagetestingo00timm
31) Mehranirad, M. (2025). Exploring the Impact of an AI-oriented Teacher Education Program on EFL Teachers' Professional Development. Technology Assisted Language Education, 3(1), 1-23. https://doi.org/10.22126/tale.2025.11510.1082
32) Ministry of Education and Training (MOET). (2015). Document application guidelines: Format of test questions to assess English proficiency from level 3 to level 5 according to the 6-level Foreign Language Competency Framework for Vietnam in developing exam questions and marking exams (Decision No. 730/QD-BGDDT dated March 11, 2015) [Taken and translated from MOET, 2015]. Ministry of Education and Training. https://thcsdongson.tpbacgiang.edu.vn/van-ban-cong-van/thong-bao-pho-bien/tai-lieu-huong-dan-ap-dung-dinh-dang-de-thi-danh-gia-nang-luc-su-dung-tieng-anh-tu-bac-3-den-bac-5-theo-khung-nang-luc-n.html
33) Nazaretsky, T., Mejia-Domenzain, P., Swamy, V., Frej, J., & Käser, T. (2024, September). AI or human? Evaluating student feedback perceptions in higher education. In Technology Enhanced Learning for Inclusive and Equitable Quality Education (pp. 284–298). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-72315-5_20
34) Nguyen, T. N. Q. (2018). A study on the validity of VSTEP writing tests for the sake of regional and international integration. VNU Journal of Foreign Studies, 34(4). https://doi.org/10.25073/2525-2445/vnufs.4285
35) Nhan, L. K. (2024). Factors affecting English speaking proficiency among English-majored students in a Vietnamese

university. International Journal of Science and Management Studies, 7(3), 237–245. https://doi.org/10.51386/25815946/ijsms-v7i3p112

36) Nichols, B. (2001). Introduction to documentary. Indiana University Press. https://www.kufunda.net/publicdocs/Bill_Nichols___Introduction_to_documentary-1-3and6.pdf
37) Noor, L. (2024). Harnessing ELSA for enhanced English language learning: An educator's guide. WAESOL Educator, 49(1), 37–39. https://educator.waesol.org/index.php/WE/article/view/87
38) Ngo, M. T., & Tran, L. T. (2023). Current English education in Vietnam: Policy, practices, and challenges. In English language education for graduate employability in Vietnam (pp. 49–69). Springer. https://doi.org/10.1007/978-981-99-4338-8_3
39) Pishkar, K., Moinzadeh, A., & Dabaghi, A. (2017). Modern English Drama and the Students' Fluency and Accuracy of Speaking. English Language Teaching, 10(8), 69-77. https://doi.org/10.5539/elt.v10n8p69
40) Prime Minister of the Government of Vietnam. (2008, September 30). Decision No. 1400/QD-TTg approving the scheme on foreign language teaching and learning in the national education system in the 2008-2020 period. Government of Vietnam. https://thuvienphapluat.vn/van-ban/Giao-duc/Quyet-dinh-1400-QD-TTg-phe-duyet-de-an-day-va-hoc-ngoai-ngu-trong-he-thong-giao-duc-quoc-dan-giai-doan-2008-2020-71152.aspx
41) Radhiyya, F. P., Nasution, D. K., & Ginting, P. (2025). Exploring AI Gliglish to Enhance English Speaking Skills among Secondary School Students in Thailand: A Classroom Action Research Study on Confidence and Proficiency. Journal of English Language and Education, 10(2), 270-283. https://www.jele.or.id/index.php/jele/article/view/750
42) Rashid, M. H. A. (2020, May 9). Questionnaire | Main aspects of questionnaire | Merits of questionnaire | Demerits of questionnaire. Library & Information Management. https://limbd.org/questionnaire-main-aspects-merits-demerits-of-questionnaire/
43) Richards, J. C., & Schmidt, R. W. (2013). Longman dictionary of language teaching and applied linguistics (4th ed.). Routledge. https://doi.org/10.4324/9781315833835
44) Skehan, P. (2009). Modelling Second Language Performance: Integrating Complexity, Accuracy, Fluency, and Lexis. Applied Linguistics, 30(4), 510–532. https://doi.org/10.1093/applin/amp047
45) Smith, A. (2023, April 11). The role of artificial intelligence in education and learning. Acadecraft. https://www.acadecraft.com/blog/role-of-artificial-intelligence-in-education-and-learning/
46) Sreejesh, S., Mohapatra, S., & Anusree, M. R. (2013). Questionnaire design. In Springer eBooks (pp. 143–159). https://doi.org/10.1007/978-3-319-00539-3_5
47) Suban, T. S. (2021). Teaching speaking: activities to promote speaking skills in EFL classrooms. Lectio: Journal of Language and Language Teaching, 1(1), 41-50. https://www.journal.unwira.ac.id/index.php/LECTIO/article/view/888
48) Swartout, W., Artstein, R., Forbell, E., Foutz, S., Lane, H. C., Lange, B., Morie, J., Noren, D., Rizzo, S., & Traum, D. (2013). Virtual humans for learning. AI Magazine, 34(4), 13–30. https://doi.org/10.1609/aimag.v34i4.2487
49) Taherdoost, H. (2016). How to design and create an effective survey/questionnaire; A step by step guide. International Journal of Academic Research in Management (IJARM), 5(4), 37-41. https://ssrn.com/abstract=3224226
50) Test, L. (2023, June 20). Likert scale: How to use the popular survey rating scale. Culture Amp. https://www.cultureamp.com/blog/what-is-a-likert-scale
51) Thouësny, S., & Bradley, L. (2011). Introduction on views of emergent researchers in L2 teaching and learning with technology. In Second Language Teaching and Learning with Technology: Views of Emergent Researchers (pp. 1–8). https://doi.org/10.14705/rpnet.2011.000003
52) Vietnam News. (2025, March 7). English to be second language for all students by 2035: Ministry. Vietnam News. https://vietnamnews.vn/society/1693460/english-to-be-second-language-for-all-students-by-2035-ministry.html
53) Vy, L. T. M., Huong, T. L. T., Quy, T. N., Cuong, V. Q., & Anh, N. T. (2024). Determined Factors and Effective Strategies for Developing English Speaking Fluency among Vietnamese University Students. PASAA: Journal of Language Teaching and Learning in Thailand, 68, 32-63. https://files.eric.ed.gov/fulltext/EJ1435994.pdf