Jurnal EVOLUSI

Please cite this article as: Ida Zulaifa binti Salleh, & Rahmat, N. (2025). Final-Year UPTM Undergraduates' Attitudes Towards Technology In Learning English. *Jurnal Evolusi* , *6*(2), 73–85. https://doi.org/10.61688/jev.v6i2.481

FINAL-YEAR UPTM UNDERGRADUATES' ATTITUDES TOWARDS TECHNOLOGY IN LEARNING ENGLISH

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Received 1 October April 2025, Accepted 1 November 2025, Available online 30 November 2025

ABSTRACT

This study investigates final-year UPTM undergraduates' attitudes towards technology in learning English. Technology has been widely used in education for effective learning, therefore, it is crucial to understand students' attitudes towards it to develop better learning strategies. This research aims to identify what kind of technology is more sufficient for students in learning English and to investigate students' attitudes towards using technology in learning English. A quantitative approach was conducted using a structured questionnaire distributed to 100 students across three facilities, where all of the programmes are for non-English majors. The data collected were analysed descriptively to measure the frequency and patterns of technology usage. The findings revealed that the majority of the students have positive attitudes towards technology, such as Google Translate, WhatsApp, TikTok, Duolingo, and Google Docs. However, digital tools with limited accessibility, such as Apple Pages, showed lower usage. These findings suggest that students are willing to use technology in learning English when the tools are practical, accessible, and aligned with their learning needs. This study concludes that fostering positive attitudes towards technology can enhance self-learning and effective language learning experiences.

Keywords: Undergraduates, Technology, Attitudes, English Language Proficiency

INTRODUCTION

According to Sela & Luke (2020), almost everyone uses English in the learning and teaching process, communication, transferring soft and hard skills, showing social status in society, business discussions, and many more. This indicates how important it is to have English skills to be a part of society, especially in hunting for a better future. While proving English is important, the world has been advancing a lot, particularly after COVID-19 happened, where technology plays an important

role in ensuring students consume as much knowledge as they can (Starkey et al., 2021). The pandemic has forced educators and learners to shift and adapt rapidly from traditional to online learning as the education system needs to run despite what happened (Iman et al., 2023).

After the shifting mode of education happens, students can gradually accept how technology may help their learning, especially in improving their English proficiency. Many software applications and educational videos have been created and updated to help these students in learning English, such as Duolingo, Coursera, TikTok educational videos and more. These digital tools may offer real-time feedback, interactive exercises, and engaging learning strategies to cater to different learning styles based on students' preferences (Vardhini, 2023).

However, some people may not see the benefits of using technology in learning English. This crossed the researcher's mind to do a study to investigate undergraduates from non-English major programmes whose attitudes prove that technology may offer help in learning English.

Statement of the Problem

The help that technology offers has become a norm for tertiary-level students to learn English. However, there are remaining students who are left behind from those who gain benefits from technology, as they have unequal and inconsistent access to technology as time passes, especially those who live in underdeveloped or unprivileged regions (Sari & Abrar, 2024).

The reasons why these remaining students are left behind are that they face difficulties in terms of limited exposure due to financial problems and a lack of digital knowledge and skills (Sari & Abrar, 2024). These students may receive educational aids such as tablets and laptops from the government. Unfortunately, they might not have Wireless Fidelity (Wi-Fi) connections in their areas. Moreover, students with financial problems may have old devices where they are not up-to-date with software or applications which support English learning. Thus, students who have disadvantages in financial disadvantages may struggle to support extra classes to learn digital knowledge and skills. This may happen due to their socioeconomic problems that lead to the unawareness of technology, widening the gap between those who have access and those who do not.

Next, technology will always grow from time to time. Although technology has become widespread for its help and use in learning English, there are still some students who have a negative attitude towards technology. They believe that using technology to study is boring and tiring, which results in them not attending online classes (Widayanti & Suarnajaya, 2021). This can lead to many problems as technology has blended into education, and many educators use technology in their teaching.

Furthermore, there are several reasons why some students may be afraid to use technology, including little knowledge of how technology works, low motivation or bad past experiences with technology (Khasawneh, 2022). These students may prefer traditional teaching methods, which are useful in certain ways, but are not capable enough to give all the skills they need to know to learn English.

In addition, it is crucial to take note of how students view technology in helping their learning process. Policymakers and educators may want to think of a better way to promote a more constructive learning experience. This is where the researcher feels the need to do this study. The purpose of this study is to investigate students' attitudes towards using technology to learn English.

Research Objectives

The objectives of this study are as stated below:

1. To identify what kind of technology is more sufficient for students in learning English.
2. To investigate students' attitudes towards using technology in learning English.

Research Questions

The research questions of this study are as follows:

1. What kind of technology is more sufficient for students in learning English?
2. What are students' attitudes towards using technology in learning English?

LITERATURE REVIEW

English as a Second Language (ESL)

English serves its function as the medium of communication and instruction, whether for education, business and personal daily talks. Today, English has become one of the official language subjects which is compulsory to teach and learn in school. Starting from the pre-school, primary, secondary and tertiary education levels (Abu Bakar et al., 2021). Furthermore, the widespread use of English has several benefits to society by opening up more career opportunities, gaining global knowledge for personal input, and also letting cross-cultural communication happen with diverse cultures and races (Akther, 2022; Brooker, 2018; Zhang, 2024).

In today's era, English plays a crucial role in tertiary-level education in Malaysia. The use of English has been the medium of instruction in many universities, particularly for science, technology, engineering, mathematics, business and medicine programmes (Rao, 2019). In the process of learning, materials related to the programmes are most likely to be written in English, such as academic textbooks, research papers, and journal articles. This issue proves that it is essential for students to have the proficiency and skills to understand and absorb the information provided by the materials and instructions given by their educators (Zhou & Thompson, 2023). English and tertiary education need to be blended as they may prepare students to have critical thinking skills, global perspectives, and wider career opportunities. Many multinational companies and industries prioritise employees with strong English communication skills (Ting et al., 2017).

The Role of Technology in Learning English

The use of technology in learning English has been widely spread while offering an innovative application of methods, tools, materials, devices, systems, and strategies which are considered relevant to lead to the desired aims and objectives of learning English (Shahid et al., 2023). According to Baretto (2018), students are more likely to become motivated to learn English when technology is used.

Technology offers several options for efficient academic advancement (Patel, 2013). Therefore, technology plays a crucial role in learning English by acting as a medium of instruction (Ghafar & Mohamedamin, 2022). It offers students a more structured and interactive learning environment through digital platforms such as e-learning websites, mobile applications, and online learning (Basak et al., 2018). Furthermore, technology may act as a tool for communication and interaction (Akyürek, 2019). Constant interaction with these students may build up confidence for them to use English in real-life situations (Tabasi et al., 2024). In addition, technology provides resources for language exposure (Tabasi et al., 2024). Moreover, technology has several digital platforms that improve the quality of servers year by year. According to Albinson

et al. (2020), these digital platforms can help students as assessment and feedback tools, as they offer immediate and detailed evaluations of students' work progress. It also works as a personalised learning server for students (Binhammad et al., 2024).

Types of Technology in Learning English

According to Al-Sharqi & Abbasi (2020), technology may provide various ways of learning English by offering various digital tools and platforms that are growing rapidly in today's era. Many aspects of language acquisition, such as building vocabulary, communicating, listening comprehension, writing, and collaboration, are some aspects that these digital tools and platforms may cater to (Vardhini, 2023). Below are some of the main types of technology used in learning English for readers to understand what they are and how they work to help students. Each of them plays a unique role in offering ways of improving and learning English for students by offering accessible, interactive, and efficient learning experiences (Porcel et al., 2024).

Using computer software for learning English is a common practice for students, especially at the tertiary education level (Kim & Bae, 2020). Several computer software programmes are available widely for use, such as Merriam-Webster, Grammarly, Google Translate and ChatGPT. These support language learning by offering grammar correction, vocabulary expansion, and accurate translations (Kim & Bae, 2020; Farhan, 2025).

Communication and interaction are equally important in improving English usage. Therefore, social networking sites such as Discord, WhatsApp, X (Twitter), and Instagram have a crucial role in social connections. These platforms allow students to practice English naturally and collaboratively as they offer real-time communication and exposure to informal English usage (Jannah & Hentasmaka, 2021; Ahchutan, 2021).

For auditory and visual learners, online audio and video tools like YouTube, TikTok, Podcasts, and Spotify may provide the preferred learning environment, where they can have engaging and immersive English learning experiences. YouTube and TikTok are widely used for pronunciation, grammar tutorials, and educational entertainment. Podcasts and Spotify improve listening skills and exposure to authentic English speech (Rufino, 2024; Paulinsyah et al., 2024).

Smartphone and tablet applications like Busuu, Hello English, Duolingo, and BBC Learning English are designed to provide engaging and personalised lessons based on individual needs and preferences. They offer structured and gamified lessons that enhance students' motivation and support personalised learning (Amin, 2021; Bharathi, 2023).

Finally, word processing programmes such as Google Docs, Microsoft Word, Apple Pages, and WPS Office Writer are crucial as they assist in collaborative writing and grammar correction, enhancing students' academic writing skills (Philo & Angstadt, 2020; Ningsih, 2023).

Attitudes Towards Technology in Learning English

Abdul Rauf & Swanto (2020) mentioned that attitudes refer to an individual's point of view on things, either positively or negatively. Attitudes can be seen from three different elements: affective, cognitive and behavioural (Haddock & Maio, n.d.). There is a term called computer attitude, which has been defined to be a person's general attitude or evaluation of favour or animosity towards computer technology or specific computer-related activities (Smith et al., 2000). Computer attitude evaluation typically involves statements that examine an individual's interaction with computer hardware, computer software, and other individuals relating to computers and computer activities (Palaigeorgiou et al., 2005).

Positive Attitudes Towards Technology in Learning English

Nowadays, most students show positive attitudes towards technology, which may be separated into three major aspects: affective, cognitive and behavioural aspects. In the affective aspect, those who have fun utilising technology in their learning are most likely to be the ones who feel more motivated and confident to learn English (Negoescu & Mitrulescu, 2023). In the cognitive aspect, students with positive attitudes are more likely to recognise the effectiveness that technology offers in learning (Carmi, 2024). Lastly, from the behavioural aspect, students who have positive attitudes towards technology tend to be more active in engaging with digital platforms in learning English (Mohd Sulaiman & Wan Ibrahim, 2024). Students may show their willingness and openness to adapt to new methods of learning by using technology and shifting from traditional learning methods fully to maximise their learning experiences.

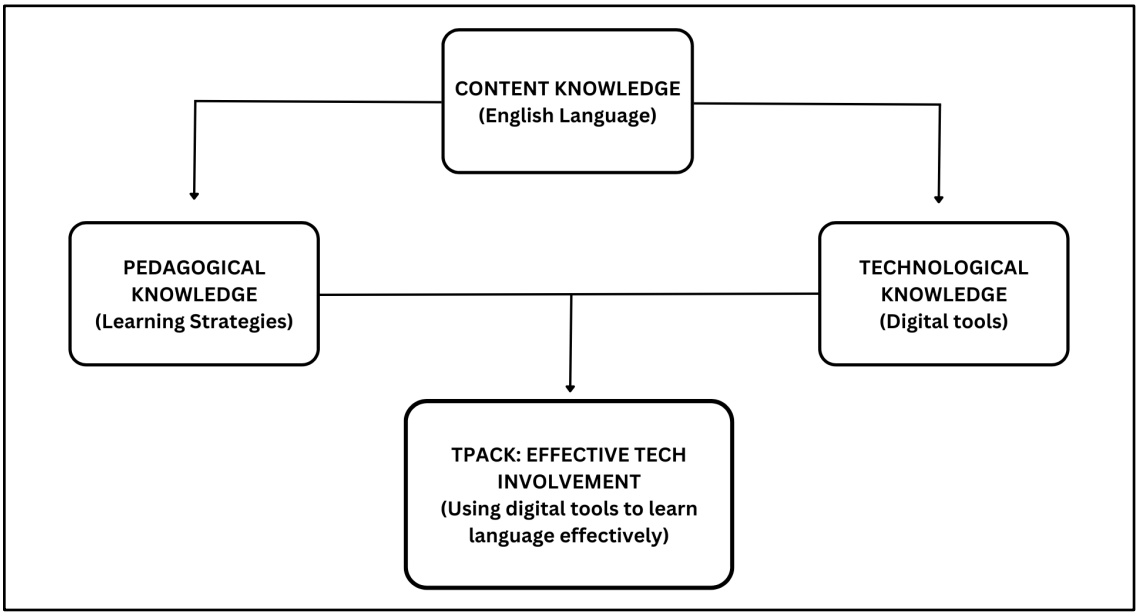
Negative Attitudes Towards Technology in Learning English

In contrast to the positive attitudes, some students may show negative attitudes towards technology in English learning, as there may be several barriers and limitations they have to encounter. In the affective aspect, some students may feel burdened, anxious or overwhelmed when technology comes in line with new learning methods, which is called technostress (Saleem et al., 2024). Furthermore, in the cognitive aspect, technology may seem an ineffective or useless tool as they believe traditional learning methods offer better outcomes in their learning (Masalimova et al., 2024). While in the behavioural aspect, there are students who avoid using technology completely (Mohamad et al., 2022). Negative attitudes towards technology can cause students to create barriers to fully optimising their potential in learning English using technology.

Theoretical Framework: Technological Pedagogical Content Knowledge (TPACK)

Figure 2.0

Theoretical Framework: Technological Pedagogical Content Knowledge (TPACK)



The Technological Pedagogical Content Knowledge (TPACK) framework was introduced by Mishra and Koehler (2005) (Schmidt et al., 2009). Shulman's (1986) concept of Pedagogical Content Knowledge (PCK) was the one that built TPACK, where he mixed Technological Knowledge (TK) together with TPACK (Schmidt et al., 2009). According to Schmidt et al. (2009), they mentioned that this theory compresses three main factors: first, Content Knowledge (CK) refers to the subject matter, like the English language. Second, Pedagogical Knowledge (PK) refers to the approaches of teaching. Third, Technological Knowledge (TK) refers to the ability to properly utilise digital tools.

Therefore, based on this study, TPACK is considered the most suitable theory to explain how students use technology in their English learning process. In summary, TPACK has the potential to help readers understand how students' attitudes towards technology enhance their English learning experience most logically.

METHODOLOGY

This study employs a quantitative research design through the distribution of structured questionnaires that have been adopted and adapted from past research that aimed to find the effects of technology on learning English as a Foreign Language among female EFL students at Effat College (Alsulami, 2016). The population consists of 100 final-year students from ten non-English major programmes across three faculties at UPTM. Non-probability convenience sampling is used when it involves non-random based on purposive or other criteria, which may allow easy access for the researcher to collect data (McCombes, 2019). The questionnaire consists of three sections: demographic information, types of technology used, and attitudes toward technology in English learning. The three sections are asked in two different types of questions, Multiple-Choice and Likert Scale questions. All collected data were analysed as descriptive analysis using IBM SPSS Statistics 29.0.2 to determine frequencies and percentages.

Table 3.1
Data Analysis Analysis

Section	Details	Types of questions	Proposed Data Analysis
Section A	**Question 1–8** (Gender. Age, Primary language, Faculty, Course, Technology definition, Do participants use technology in learning English, and How often participants use technology in learning English)	Multiple-Choice	Descriptive Analysis
Section B	**Questions 9-13** (Types of technology used in learning English)	Multiple-Choice	Descriptive Analysis
Section C	**Questions 14-23** (Attitudes towards using technology in learning English)	Likert Scale	Descriptive Analysis

FINDINGS AND DISCUSSION

Findings of Section A: Demographic Questions

The demographic analysis of the 100 respondents revealed several key characteristics. In terms of gender, 55% of the participants were female, while 45% were male. The majority of the respondents were between the ages of 21 and 23, which aligns with the typical age range of final-year undergraduates. Regarding primary language, a large portion of the students (86%) reported Malay as their first language, followed by English (12%) and Tamil (2%). Students came from three faculties: 40% were from the Faculty of Business and Accountancy (FABA), another 40% from the Faculty of Computing and Multimedia (FCOM), and the remaining 20% from the Faculty of Education, Social Sciences and Humanities (FESSH). Each faculty was represented by specific non-English major programmes, with 10 students from each programme. When asked about their familiarity with the term "technology," the majority demonstrated an accurate understanding. Most respondents also reported using technology to learn English and indicated frequent usage, suggesting that digital tools have become an integral part of their academic routines. This demographic profile provided a diverse yet relevant sample for investigating students' attitudes toward using technology in English language learning.

Findings of Section B: Research Question 1: Types of Technology Used in Learning English

Table 4.0

Findings of Section B: Research Question 1: Types of Technology Used in Learning English

No.	Types of Technology Used in Learning English	Findings
1.	Computer software for the learning English category	For the category computer software for learning English, Merriam-Webster Dictionary had the lowest score among all choices of answer, as the findings show only 6 (6.0%) respondents. In contrast, Grammarly starts with a progressive score with score of 48 (48.0%) respondents. Followed by ChatGPT with 89 (89.0%) respondents and Google Translate with a slightly higher score of 91 (91.0%) respondents.
2.	Social networking sites category	WhatsApp has the highest score among all the social networking sites, with 95 (95.0%) respondents. Followed by Instagram and X (Twitter), with slight differences between the two, where Instagram has 48 (48.0%) respondents and X (Twitter) has 43 (43.0%) respondents. The lowest score here is Discord, with only 33 (33.0%) respondents.
3.	Online audio and visual tools category	The findings collected from this questionnaire indicate that the majority of the respondents chose TikTok as their preferred online audio and visual tool, as TikTok has the highest score among all respondents, which is 93 (93.0%). Second place is YouTube with 89 (89.0%) respondents. The third place is Spotify, with 33 (33.0%) respondents. The least preferred among these online audio and visual tools is Podcasts, with only 24 (24.0%).

4.	Smartphone or tablet apps category	According to the data gathered, a significant number of respondents, totalling 79 (79.0%), chose Duolingo as their choice of smartphone and tablet apps. This is the highest score, as the second choice shows a great difference in votes, where only 25 (25.0%) respondents chose Busuu. While BBC Learning English has only 16 (16.0%) respondents, and Hello English has only 13 (13.0%) respondents.
5.	Word processing category	The findings of the questionnaire indicate that 98 (98.0%) of the respondents picked Google Docs as the highest-scoring word processing tool, which gained 98 (98.0%) of the vote from the respondents. Followed by Microsoft Word with 40 (40.0%) respondents. Starting from WPS Office Writer, a significant difference in respondents can be seen compared to Google Docs, where WPS Office Writer only collected 24 (24.0%) respondents. Lastly, only 11 (11.0%) of respondents chose Apple Pages as their preferred word processing tool.

Discussion of Research Question 1: Types of Technology Used in Learning English

Based on the findings obtained, it shows that students are not only familiar with technology but also have a sense of comfort in navigating around these digital tools while learning English in their academic progress. In this case, the findings proved that technology is widely used by students nowadays, which this statement aligns with a past study's argument that the availability and accessibility of digital tools may provide students with better opportunities in terms of diverse and flexible English learning (Al-Sharqi & Abbasi, 2020).

In exploring the types of technology used in learning English, students demonstrated different levels of engagement across the five main categories mentioned. For the computer software category, Google Translate and ChatGPT were among the most frequently used digital tools. This is due to their user-friendliness, immediate response, and accessibility. This is supported by a finding from a past study that noted students are more likely to use tools that provide them ease in use and immediate help (Al-Sharqi & Abbasi, 2020). In theoretical terms, the TPACK framework proposed by Mishra and Koehler (2005) aligns well with these findings. It emphasises the importance of mixing content knowledge, pedagogical approaches, and technological skills to create effective learning experiences (Schmidt et al., 2009). The digital tools are not being used unintentionally by the students, they serve their own purposes, like enhancing English skills. This shows the advantageous synergy between content (English), pedagogy (learning approaches), and technology (digital tools) (Schmidt et al., 2009). The attitudes shown by the students are evidence that technology can have an impactful effect when it aligns with students' needs and objectives, as the TPACK framework suggests. In contrast, Merriam-Webster Dictionary software was less frequently used. It might be cause of students' preference to use quicker tools with AI-based features. This can be concluded that traditional digital dictionaries are shifting to smart tools like ChatGPT.

In addition, the findings show that social networking sites have recorded that WhatsApp has the highest usage, which aligns with a past study mentioned in Chapter 2: Literature Review. According to Porcel et al. (2024), WhatsApp has the most effective ways of facilitating indirect English learning and informal communication. Conversely, X (Twitter) was the least used social networking site in contributing to English learning. Students may prefer a more active interaction rather than passive content and communication.

For online audio and visual tools, TikTok and YouTube was the most preferred platforms, strongly following past studies conducted by previous researchers, where they emphasised the role of audio and video content in improving the four main skills in English language learning, which are listening, speaking, reading, and writing, as well as overall comprehension (Rufino, 2024; Alvarez et al., 2024). Meanwhile, Podcasts and Spotify received the lowest responses. This might be due to

students' preference for having visual content and materials rather than audio content for English learning purposes. This difference is evidence that visual materials like videos and pictures can be more effective and engaging for students.

Besides, for the next category, smartphone and tablet apps, tools like Duolingo showed that tools that are gamified received the highest vote, as it is more fun with its structure. Findings like these are consistent with a past study that mentioned mobile apps support engaging self-learning based on their ability to personalise learning patterns (Paulinsyah et al., 2024). However, there is an application, Busuu, that received the lowest vote among all of the given applications. This is possibly due to the lower visibility or fewer localised features that were discussed in a previous study that analysed students' preferences (Amin, 2021).

Last but not least, in the word processing category, Google Docs received the highest engagement from the students. This is very likely caused by its accessibility, real-time sharing features, and auto-save to drive features that offer smooth project writing and editing. This supports a finding from a past study by an author who argued that effective learning tools should not only be educationally advantageous but also should be accessible and convenient for the students (Basak et al., 2018). To show differences, Apple Pages had the lowest engagement rate among the students. Apple Pages is exclusively available for Apple device owners, specifically the MacBook or the iMac (computer). This is a limitation for it to reach other users without Apple devices. Gottschalk et al. (2023) emphasised that accessibility with barriers can influence the engagement of the digital tools and students' usage.

In other words, students' attitudes towards technology in learning English are not only determined by how informative the tools are, but accessibility, availability, and relevance also play a major role in this correlation. The digital tools selected by the students are mostly popular, user-friendly, and suitable to be used for students' revision routines in learning English.

Findings of Section C: Research Question 2: Attitudes Towards Using Technology in Learning English

Table 4.1

Findings of Section C: Research Question 2: Attitudes Towards Using Technology in Learning English

No.	Attitudes Towards Using Technology in Learning English	Findings
1	I enjoy using technology while learning the English Language.	The data reveals that a significant majority of respondents chose strongly agree, with a total of 74 (74.0%) respondents. The second highest is the agree option, with 25 (25.0%) respondents. Lastly, only 1 (1.0%) respondent disagreed with the statement.
2	I know that technology can help me improve my English language learning.	The majority of the respondents agree and strongly agree with the statement. 67 (67.0%) of the respondents strongly agree, while the other 33 (33.0%) of them chose to agree with the statement.
3	I prefer using technology to enhance my speaking, reading, writing, and listening skills.	According to the questionnaire, three different opinions can be seen. 71 (71.0%) of the respondents strongly agree with the statement attached, while 28 (28.0%) of the respondents agree with it. However, there is 1 (1.0%) of the respondents decided to disagree with the statement given.
4	I think using technology in mastering the English language is necessary.	The findings show 66 (66.0%) of the respondents strongly agree, while the other 34 (34.0%) of the respondents agree with the statement given.
5	I believe that technology tools are more effective in improving my language skills.	The data collected from the findings follows: 68 (68.0%) of the respondents strongly agree, while 31 (31.0%) of the respondents agree, but only 1 (1.0%) of the respondents disagree with the statement in this question.

Discussion of Research Question 2: Attitudes Towards Using Technology in Learning English

Based on the findings obtained from the analysis, all the students illustrate positive attitudes towards technology in learning English overall. Statements such as “I enjoy using technology while learning English” (M = 4.72, SD = 0.514) from Table 5.0 and “I know that technology can help me improve my English” (M = 4.67, SD = 0.473) from Table 5.1 show that the majority of the students selected agree and strongly agree options. Mohd Sulaiman & Wan Ibrahim (2024) argued that behavioural attitudes are reflected in students’ consistent usage of technology, which is supported by these findings that

indicate a strong willingness to use technology in their English learning activities. Not only that, but other previous studies also align with these findings, where students motivate themselves with independent and personalised learning approaches. These students most likely choose digital tools that support vocabulary, grammar, and comprehension skills. Gamified applications and AI-assisted learning can also reflect the growing trend of self-ruling technology tools in English learning.

However, contrasts can be seen from the findings. As noted by Sari & Abrar (2024), some students might be unable to have the same positive attitudes as the majority of the students. They might face barriers like internet access, limited knowledge in using technology, or limited access to suitable devices (Sari & Abrar, 2024). Even though this study does not highlight the barriers as superior, it is important to acknowledge that the positive attitudes might be influenced by specific reasons according to the UPTM context. Besides, similar findings from other past studies warned that frequent usage of technology does not equal effective learning (Chan & Hu, 2023). Chan & Hu (2023) also emphasise that without proper knowledge in using technology, engagement towards it may remain at the surface level. This highlights how important it is for future studies to explore whether positive attitudes towards technology truly contribute to English skills improvements in language proficiency.

CONCLUSION

In conclusion, this study reveals that the majority of final-year undergraduates at UPTM show positive attitudes towards technology in learning English based on the findings collected. The students demonstrate active engagement with different digital tools such as computer software, social networking platforms, online audio and visual tools, smartphone and tablet apps, also word processing tools in their learning routines. The consistency in the technology usage reflects on their constant trial of improvement for their English skills, specifically, listening, speaking, reading, and writing. The blending of technology and English learning suggests that these students view these digital tools as accessible, relevant, and advantageous for their academic performance. Students who know how to maximise their technological usage are more likely to be involved in activities such as vocabulary building, grammar practice, and interactive communication. This study concludes that promoting and maintaining students' positive attitudes towards technology is important in forming effective English language learning environments. Therefore, tertiary education institutions are fully encouraged to provide continuous support that can promote meaningful, independent, and technology-based language learning experiences.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to Universiti Poly-Tech Malaysia for providing the resources and support necessary to complete this study. We would also like to thank all participants who contributed their time and insights to this research. Special appreciation is extended to colleagues and peers who offered valuable feedback during the development of this manuscript.

If applicable, this research was supported by [**Funding Agency/Grant Number, if any**].

CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in the paper.

AUTHOR CONTRIBUTION STATEMENT

Author 1 contributed to the conceptualization, research design, and writing of the original draft.
Author 2 was responsible for data collection, analysis, and validation of the results.
Author 3 provided supervision, critical review, and editing of the final manuscript.

All authors have read and approved the final version of the manuscript.

ETHICS STATEMENT

This research was conducted in accordance with the ethical standards of Universiti Poly-Tech Malaysia and adhered to the principles outlined in the Declaration of Helsinki. Ethical approval was obtained from the [**Institutional Ethics Committee/Review Board**] under reference number [**Approval Number, if applicable**]. All participants were informed about the purpose of the study and provided written informed consent prior to participation. Participants' privacy and confidentiality were strictly maintained, and data collected were used solely for academic purposes.

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