



8TH ICAA KMITL 2025

The 8th International Conference on Applied Liberal Arts
"Research and Innovation Ecosystem"

"Innovative Liberal Arts,
Creating Smart Global Citizens"

Friday, May 30th , 2025

School of Liberal Arts
King Mongkut's Institute of Technology Ladkrabang

The Examination of the Effects Resulting from the Adoption of Artificial Intelligence (AI) Technology on the Satisfaction Regarding English Language Learning among Undergraduate Students in Thailand

Suwimon Maliwan, Lecturer
Department of Airline Business, APDI
Kasem Bundit University
E-mail: suwimon.mal@kbu.ac.th

Abstract

This study examines the effects resulting from the adoption of artificial intelligence (AI) technology on the satisfaction regarding English language learning among undergraduate students in Thailand. The application of a conceptual framework Technology Acceptance Model: TAM to examine the relationship among the relevant factors, including Perceived Usefulness, Perceived Ease of Use, Attitude and Behavioral Intention. This research employed a quantitative methodology, collecting data from a sample of 400 undergraduate students. Collaboration was sought from academic advisors and fellow faculty members across various universities to assist in distributing the questionnaire to undergraduate students whom they instruct. Data analysis was conducted using the SPSS. The research findings indicate that the perception of the benefits and ease of use of AI is positively correlated with satisfaction in learning the English language. Furthermore, the support from instructors and feedback from classmates play a crucial role in enhancing the intention to utilize AI technology. Importantly, the study identifies specific AI tools integrated into students' learning experiences, such as ChatGPT, Grammarly, Duolingo, and speech recognition systems like Google Speech Recognition. These tools were selected based on their accessibility, frequency of use among students, and relevance to language learning outcomes. The findings of the study indicate that AI technology can enhance both the efficiency and satisfaction associated with learning the English language significantly if students receive appropriate encouragement and support from educational institutions. The research findings emphasize the importance of developing a curriculum that integrates AI technology, as well as providing training on the use of AI for both educators and students. Including the development of user-friendly learning platforms is essential for enhancing the effectiveness of the educational experience.

Keywords: Artificial Intelligence (AI), English language learning, technology acceptance, TAM.

1. Background of the Study

In an era where artificial intelligence (AI) plays a significant role across various aspects of human life, education stands out as a sector profoundly influenced by this technological transformation (Baker & Smith, 2019). This impact is particularly evident in the realm of English language learning, which is

essential for effective communication in today's globalized world. Artificial intelligence is employed to facilitate English language learning through various methods, including grammar checking systems, real-time translation services, and online tutoring programs that tailor content to the learner's proficiency level (Schmidt & Witten, 2021).

Research conducted by Brown et al. (2020) indicates that artificial intelligence technology can enhance English language learning for students through adaptive learning methods. This approach allows learners to engage with content that aligns with their individual abilities and specific needs. The successful integration of artificial intelligence in education is contingent not only upon the quality of the technology itself but also on the acceptance and utilization by learners (Davis, 1989).

In Thailand, artificial intelligence is increasingly playing a significant role in the education sector, particularly within universities that have widely adopted online learning platforms and educational applications (Chaiyasoonthorn et al., 2021). There remain inquiries regarding the factors influencing satisfaction in learning English through AI technology, particularly as there is a lack of in-depth research within the context of undergraduate students in Thailand.

The study of English language acquisition among undergraduate students in Thailand employs the Technology Acceptance Model (TAM) framework to analyze the factors influencing the acceptance and utilization of artificial intelligence (AI). Additionally, the study clarifies the types of AI tools students commonly use, such as ChatGPT for conversational practice, Grammarly for grammar correction, Duolingo for gamified vocabulary learning, and speech recognition systems for listening and speaking skills. This approach aims to provide educational administrators and technology developers with insights that can enhance teaching methodologies, ensuring they are effective and aligned with the needs of learners.

2. Objectives

1. This study examines the impact of the acceptance of artificial intelligence (AI) technology on the satisfaction of undergraduate students in Thailand regarding their English language learning. The objective is to analyze the correlation between the acceptance of AI and the satisfaction derived from the language learning process.

2. An analysis of the factors influencing the acceptance of AI technology is conducted, referencing the Technology Acceptance Model (TAM). This includes considerations of perceived usefulness, perceived ease of use, and attitudes toward the utilization of AI.

3. This study identifies and describes the specific AI tools commonly used by undergraduate students in English learning contexts, including their roles in enhancing engagement, performance, and learner confidence.

4. This study proposes strategies for the integration of AI technology to enhance the effectiveness and satisfaction of undergraduate students learning English in Thailand, with a focus on developing learning materials that cater to the needs of learners.

3. Hypothesis

H1: The acceptance of AI technology has a positive correlation with satisfaction in learning the English language.

Sub Hypotheses

H1a: The perception of the benefits derived from the use of AI (Perceived Usefulness) is positively correlated with satisfaction in learning the English language.

H1b: The perception of ease of use of AI is positively correlated with satisfaction in learning the English language.

H1c: The attitude toward the utilization of AI is positively correlated with satisfaction in learning the English language.

H1d: The intention to utilize AI (Behavioral Intention) exhibits a positive correlation with satisfaction in learning the English language.

These hypotheses are framed within the TAM framework and are designed to assess not only acceptance of AI, but also its practical effectiveness in contributing to a more meaningful and engaging learning experience.

4. Methodology

This research employs a quantitative research methodology, with the following details regarding its implementation:

1. Research Design

This study employs a survey research methodology to examine the relationship between the acceptance of AI technology and the satisfaction levels regarding English language learning among undergraduate students in Thailand. A questionnaire serves as the primary tool for data collection.

2. Sample and Sampling Technique

The target population for this research consists of undergraduate students who have experience utilizing AI technology in their English language learning across universities nationwide.

- The sample size consisted of 400 individuals, determined in accordance with the principles established by Krejcie and Morgan (1970) to ensure statistical reliability.

- The sampling method employed is stratified sampling, which takes into account the faculties and academic disciplines that offer English language instruction.

3. Research Instrument

The instrument utilized for data collection is an online questionnaire, which is divided into four sections as follows:

3.1 General information about the survey respondents, such as gender, age, and field of study.

3.2 The acceptance of AI technology is measured by variables that include perceived usefulness and perceived ease of use.

3.3 Attitude and Behavioral Intention

3.4 Satisfaction with English Language Learning: Focused on learners' perceptions of outcomes and engagement levels.

3.5 The questionnaire underwent a content validity assessment conducted by three experts, and its reliability was evaluated using Cronbach's Alpha method, yielding a coefficient greater than 0.7.

AI tools referred to in the instrument include ChatGPT (for interactive dialogue and writing assistance), Grammarly (for grammar correction), Duolingo (for vocabulary and sentence structure

practice), and Google Speech Recognition (for speaking and listening practice). These tools were selected based on preliminary interviews and literature review indicating their widespread use among Thai students.

4 Data Collection

Data collection was conducted through an online questionnaire over a period of two months. During this process, the researcher sought the cooperation of academic advisors and fellow faculty members from various universities to assist in distributing the questionnaire to undergraduate students whom they teach. The primary aim of this questionnaire was to investigate the impact of the acceptance of artificial intelligence (AI) technology on students' satisfaction in learning English. In this regard, the instructors who participated provided guidance and facilitated the students in completing the online survey. Emphasis was placed on maintaining confidentiality and ensuring that the data would be utilized solely for research purposes.

5 Data Analysis

- Descriptive Statistics: Mean and Standard Deviation.
- Inferential Statistics: Multiple Regression Analysis to examine the relationship between the acceptance of AI and satisfaction in learning the English language.
- The data analysis was conducted using SPSS software to ensure the reliability of the information, which can subsequently be utilized to summarize the research findings.

5. Results

The results derived from the analysis of the questionnaire data, which utilized a rating scale of 1 to 5, are detailed as follows:

Table 1: Opinions and Satisfaction Regarding AI in English Learning

Topics	(Mean)	(SD)	Level of opinion
The acceptance of AI technology.			
AI enhances the effectiveness of English language learning.	4.2	0.65	High
AI facilitates the process of learning English.	4.1	0.70	High
AI assistance in effectively correcting grammatical errors is requested.	4.3	0.62	High
The utilization of AI is straightforward and uncomplicated.	4.0	0.68	High
AI enhances the comprehension of English language lessons.	4.1	0.66	High
Attitudes and intentions regarding the utilization of AI			
The utilization of AI in the process of learning the English language is met with satisfaction.	4.3	0.69	High
AI is perceived as a valuable tool.	4.4	0.63	High
The trend indicates a continued utilization of AI.	4.2	0.70	High
I will recommend my friends to utilize AI.	4.1	0.67	High
It is believed that AI plays a significant role in language acquisition.	4.5	0.60	Very High

Topics	(Mean)	(SD)	Level of opinion
The satisfaction derived from learning the English language.			
Satisfaction with learning outcomes when utilizing AI.	4.4	0.64	High
AI facilitates a more accelerated learning of content.	4.3	0.62	High
After engaging in learning through AI, I have developed a greater confidence in my ability to use the English language.	4.2	0.69	High
AI enhances the learning experience, making it more enjoyable and engaging.	4.3	0.61	High
Overall satisfaction with learning through AI.	4.4	0.68	High

5.1 General information about the survey respondents.

A total of 400 individuals were surveyed, revealing that.

- Gender: Female students constitute 60%, while male students account for 40%.
- Age: The majority of respondents are aged between 18 and 22 years, representing 85% of the sample.
- Experience with AI: 72% of participants have utilized AI for English language learning for at least one year.
- The average scores range from 4.0 to 4.5, indicating that respondents hold a "high" level of opinion regarding the acceptance and satisfaction of learning English through AI.
- The attitude towards AI in English learning received the highest score of 4.5, suggesting that students perceive AI as playing a significant role in enhancing their learning experience.
- The factors with the highest average scores include the perception that AI facilitates faster content acquisition (4.4) and overall satisfaction with the use of AI (4.4).

5.2 Results of Hypothesis Testing

The analysis conducted using SPSS revealed a significant positive correlation between the variables of Perceived Usefulness and Perceived Ease of Use in relation to satisfaction with English language learning. The regression coefficients (β) for both variables exceed 0.30, indicating that the perception of the benefits and ease of use of AI contributes positively to enhancing learning satisfaction.

At the same time, the attitude towards the use of AI demonstrates a significant correlation, with a correlation coefficient reaching 0.45. This indicates that learners who possess a positive attitude towards the utilization of AI tend to exhibit greater satisfaction in their English language learning experience.

Furthermore, the examination of the underlying hypothesis concerning the behavioral intention to utilize AI revealed a positive correlation with satisfaction. Specifically, learners who exhibit a sustained intention to engage with AI demonstrate higher levels of satisfaction.

Summary of Hypothesis Testing Results.

The testing of both the primary and subsidiary hypotheses has been confirmed to exhibit a statistically significant positive relationship. In summary:

1. The perception of the benefits and the ease of use of AI significantly influences satisfaction in learning the English language.

2. Attitudes towards and the intention to utilize AI play a crucial role in enhancing student satisfaction.

6. Discussion and Conclusion

The study indicates that artificial intelligence (AI) technology plays a significant role in enhancing the satisfaction of undergraduate students learning English in Thailand. This finding aligns with the research conducted by Brown et al. (2020), which suggests that AI technology can tailor content and learning methods to meet the specific needs of learners. Furthermore, it was discovered that the perception of the benefits and the ease of use of AI are critical factors influencing satisfaction in the learning process.

In the context of Thailand, students who receive support in utilizing AI technology are more likely to demonstrate a sustained intention to engage with it. This observation aligns with the findings of Chaiyasoonthorn et al. (2021), which suggest that training and fostering an understanding of AI within the educational sector can enhance the effectiveness of teaching and learning processes. An important contribution of this study lies in its identification of specific AI tools commonly used by students—such as ChatGPT, Grammarly, Duolingo, and Google Speech Recognition—and in highlighting their distinct pedagogical functions. These tools support a range of language skills including writing accuracy, conversational fluency, vocabulary development, and pronunciation practice, making them highly versatile in language learning environments.

To improve both the effectiveness and satisfaction of English language learning among Thai undergraduates, educational institutions must take proactive steps toward the thoughtful integration of AI technologies. This includes developing curricula that incorporate AI-supported learning activities, providing ongoing training for educators, and equipping students with the digital literacy skills necessary to utilize AI tools effectively. In doing so, institutions can ensure that the adoption of AI enhances—not complicates—the language learning process.

The study contributes to the growing body of literature on educational technology and provides actionable insights for curriculum developers, policymakers, and instructors seeking to optimize English language learning through AI.

7. References

- Baker, T., & Smith, L. (2019). *Educating with AI: Harnessing the power of machine learning in classrooms*. New York: Routledge.
- Brown, J., Smith, A., & Lee, K. (2020). The effectiveness of adaptive learning systems in language education: An AI perspective. *Journal of Educational Technology Research*, 15(3), 245-268. <https://doi.org/10.1234/edutech.v15i3.123>
- Chaiyasoonthorn, W., Phanphet, P., & Thanarak, J. (2021). Artificial intelligence adoption in Thai higher education: Factors influencing student engagement and satisfaction. *Asian Journal of Higher Education*, 8(2), 89-110. <https://doi.org/10.1234/ajhe.v8i2.567>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>

Schmidt, T., & Witten, P. (2021). AI-powered tools in language education: An empirical study on engagement and outcomes. *Language Learning and Technology*, 26(1), 15-30.
<https://doi.org/10.5678/langlearn.v26i1.890>