

The Extent Of AI Usage in EFL Learners, The Case Study of TNI Students in Non-English Majors

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Abstract— The rapid development of artificial intelligence (AI) has significantly influenced English language education, particularly in the context of English as a Second Language (ESL) learning. This study investigates students' perceptions of AI chatbot tutors in TOEIC learning, focusing on their perceived usefulness in finding answers, providing explanations, and supporting overall understanding. A mixed-methods approach with an emphasis on quantitative analysis was employed. Data were collected from 53 second-year students at the Thai-Nichi Institute of Technology through questionnaires, and follow-up semi-structured interviews were conducted with selected participants to gain deeper insights. The quantitative findings revealed that students held highly positive attitudes toward the use of AI in TOEIC learning, particularly in helping them find answers and recognizing the difficulty of TOEIC tasks. Students also reported strong motivation to use AI tools. However, they were less convinced that AI alone is sufficient for achieving full understanding of TOEIC content, indicating a more cautious view of AI as a standalone learning resource. Qualitative findings supported these results, suggesting that students view AI as a supportive tool that enhances learning efficiency but cannot fully replace teachers in developing deeper understanding. The findings are interpreted through Cognitive Load Theory and Constructivist Learning Theory, suggesting that AI reduces cognitive burden and supports learning efficiency, but meaningful understanding still requires human guidance and interaction. Overall, the study concludes that AI chatbot tutors are perceived as valuable supplementary tools in TOEIC learning rather than complete replacements for traditional instruction. The study highlights the importance of balanced AI integration in ESL education, particularly in the Thai higher education context.

Keywords: Artificial Intelligence, TOEIC, ESL learning, ChatGPT, student perception, Cognitive Load Theory, Constructivism

I. INTRODUCTION

Integrating educational technology tools can enhance student engagement and contribute to improved language learning results. As a result, it can be argued that the use of technology in instruction offers numerous benefits for language educators [1]. In today's context, technology plays a vital role not only within classroom settings but also in learning beyond the classroom. Its use has become increasingly sought after across all educational contexts, including higher education institutions in Thailand, where English language proficiency is increasingly emphasized for

academic and professional development [2]. In the Thai EFL context, particularly in tertiary education, technology-enhanced learning is often used to support students who may have limited exposure to English outside the classroom. The fast advancement of artificial intelligence (AI) has significantly impacted many sectors, including education. In the area of language learning—especially English as a Second Language (ESL)—AI-powered chatbots like ChatGPT, are becoming more widely used to assist with teaching. These systems can imitate human interaction, provide instant feedback, and deliver customized support to students. As they become more common, AI chatbot tutors are starting to reshape the conventional approaches to teaching and learning.

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One of the most significant effects of AI chatbot tutors concerns the role of teachers in the classroom. In the past, ESL teachers were the main providers of language input, corrective feedback, and cultural insights. With AI tools now able to respond to students' questions and support language practice, teachers are increasingly taking on different responsibilities, such as acting as facilitators, supervisors, or even co-learners [3]. This shift is particularly relevant in Thailand, where large class sizes and mixed-ability learners are common in public and private higher education institutions, requiring teachers to adopt more flexible and student-centered approaches.

Although incorporating artificial intelligence into language education offers many benefits, it also brings challenges that educators need to address thoughtfully [4]. For instance, excessive dependence on technology may limit diverse learning styles by encouraging standardized methods of instruction [5]. In the Thai educational context, where examination-oriented learning such as TOEIC preparation is highly emphasized for graduation and employment requirements, overreliance on AI tools may further reinforce

answer-focused learning rather than communicative competence. Because successful language acquisition relies strongly on communication and interaction, too much reliance on AI tutors could restrict students' ability to develop authentic conversational skills.

In addition, the implementation of AI in education raises ethical issues, particularly in relation to data privacy and algorithmic bias [6]. These concerns are especially important in Thailand, where institutional policies regarding AI governance and digital literacy are still developing at different rates across universities. Gathering detailed data about learners' profiles may increase the risk of unauthorized access or misuse of personal information. Furthermore, biased data within AI systems could create unequal learning opportunities by advantaging certain groups of students over others. While AI-driven tools have the capacity to make language education more accessible across different socioeconomic and geographic contexts in Thailand, gaps in technological infrastructure between urban and rural institutions may actually widen existing inequalities [7].

In addition, AI technologies are transforming teaching approaches in ESL classrooms. Research indicates that AI chatbots can support students in developing their grammar, vocabulary, and speaking abilities through continuous interaction and immediate corrective feedback [8]. Nevertheless, this development raises questions about the extent to which AI assumes instructional duties and how educators must modify their teaching practices in response, particularly in Thai higher education settings where curriculum standards are still largely exam-oriented and teacher-centered.

Teachers' responsibilities and lesson preparation processes are also influenced by these tools. Although AI can produce instructional materials and recommend practice activities—thereby lightening certain aspects of planning [9]—it simultaneously requires teachers to become familiar with new technologies and adjust their lesson designs. In Thailand, where digital transformation in education is progressing but still uneven across institutions, teachers may experience varying levels of readiness and support in integrating AI into their classrooms. As a result, incorporating technology may either reduce or increase teachers' workload depending on institutional training and infrastructure support.

This research investigates the influence of AI chatbot tutors—such as ChatGPT, Cici, Siri, Alexa, and Google Assistant—on ESL (English as a Second Language) instruction at the Thai-Nichi Institute of Technology. Adopting a mixed-methods approach with an emphasis on qualitative analysis, the study analyzes how technology shape teaching practices, teachers' responsibilities, classroom interaction, and educators' attitudes toward AI integration within the Thai higher education context. Information was gathered through questionnaires and interviews conducted with ESL instructors during the 2024–2025 academic year. Moreover, this study also focuses on the implementation of AI-integrated lessons for ESL learners and how such tools can be effectively applied in Thailand's tertiary education system to enhance learning outcomes while maintaining pedagogical balance. Through data analysis, the study explores how English teachers and AI can co-exist productively, rather than

allowing unrestricted AI use that may reduce students' independent learning and long-term academic development.

Considering both its advantages and drawbacks, interest has increasingly grown in examining how AI influences language learning from cognitive and psychological perspectives [10]. In Thailand, this interest is particularly relevant as universities increasingly adopt digital learning platforms and AI-assisted tools to support English proficiency development. Nevertheless, the scattered nature of existing studies on AI applications in English language education highlights the need for a thorough review of previously published research. Findings across these studies often vary, as researchers apply different methodologies, involve diverse participant groups, and use a range of assessment instruments.

Conducting a synthesis of these varied results makes it possible to determine overall effect sizes and identify key moderating variables that shape outcomes. By integrating evidence from multiple investigations, educational institutions in Thailand and beyond can develop a more comprehensive understanding of AI's role in education and make informed, evidence-based decisions when implementing AI-driven teaching practices.

II. BACKGROUND

A number of international investigations have examined the role of AI in educational settings. For example, Cui and Zhang investigated the impact of AI chatbots on learner motivation in Chinese EFL classrooms [11]. Fryer et al. discussed educators' concerns about the possibility of intelligent tutoring systems replacing their professional roles [12]. Godwin-Jones explored the theoretical potential of AI for ESL instruction [13], whereas Yin et al. focused on the factors that influence teachers' willingness to adopt AI in mainstream classrooms [14]. More recently, Perlado Lamo de Espinosa et al. analyzed the use of AI chatbots in European university language programs, identifying both their benefits and constraints [15]. While these studies provide valuable insights, their implications are also relevant to Southeast Asian contexts such as Thailand, where AI adoption in education is still emerging and shaped by institutional readiness and technological infrastructure.

Recent empirical research has further confirmed the complex role of AI in EFL environments, demonstrating its effectiveness across various language skills and learner groups. For example, AI-based initiatives have shown positive results in rural educational contexts from the study by Anuradha et al. in 2023 [16], pronunciation improvement in the study of Chung & Bong in 2024 [17], and the enhancement of critical thinking skills from the study of Liu & Wang in 2024 [18], highlighting the technology's flexibility. However, findings regarding the impact of AI-generated feedback by ElEbyary et al. in 2024 and emotional or affective outcomes by Zheng in the same year remain inconsistent, as their success largely depends on how feedback is delivered and applied in specific contexts [19], [20]. In Thailand, where English learning outcomes are often influenced by exam-driven education systems and varying access to digital tools, these mixed results further emphasize the importance of contextualized research. Collectively, these studies offer practical insights into how educators can effectively integrate AI's instructional goals with automated systems to maximize mutual benefits.

III. METHODOLOGY

A. Research Questions

The aims of this study are the following questions:

(1) How do non-English major EFL students use AI chatbots to assist their TOEIC preparation, and what patterns of reliance on AI can be identified?

(2) What are students' perceptions of the effectiveness and limitations of AI chatbots in explaining TOEIC content compared to teacher explanations?

B. Participants

The sample consists of 53 respondents from 71 2nd-year students who studied ENL-212 TOEIC Preparation in the academic year 2025 at TNI from 3 non-English-related majors, thus, the response rate is 74.65%. The sample consists of 23 male students and 30 female students. All of the participants are from the Faculties of BA (Business Administration) which are DM (Digital Marketing), DBS (Development of Business and Startup), and LD (Logistics and Digital Supply Chain). However, some of the participants who submitted TOEIC score of 500 or above to pass the subject are not included the data since they do not attend the classes and this research involves the AI usage as a tool for teaching and studying.

C. Instruments

There are 2 instruments used in this study: 1) the survey and 2) interviewing.

1) Survey on Google Form

A set of statements on Google Form is designed around the topic of using AI in classroom and is sent to the students using convenience sampling. The set contains 5 questions adapted from the research of Krasaeson et al. in 2023, namely *Using AI Platforms toward English Language Learning: A Case Study of English Program Students* [21]. The scores use to measure range from 0 (the lowest) to 5 (the highest). The statements are as follows.

1. TOEIC is too difficult to figure out the answers on my own.

2. I think AI can be used to help find the answers.

3. AI can explain the questions and the answers very well.

4. I am motivated to use AI and rely on AI to find the answers.

5. AI alone is enough to give me understanding for TOEIC.

2) Interviewing

The interview is held for only some students that are requested for further information and voluntarily decided to participate using purposive sampling. The interviewees are separated into 2 groups: 1) the respondents who pick 4 or 5 that takes the final exam which converted to TOEIC score in the range of 225-550 (the A2 learners), for second statement (consists of 32 respondents) and 2) the respondents who pick 0 to 2 that takes the final exam which converted to TOEIC score in the range above 550 (above the range of B1) for fifth statement (consists of 5). By conducting interview in this manner, it is possible to find out how average to below-average learners use AI to find answers and also how competent learners depends less on using AI. Every

interviewee is asked using set of interview questions related to the corresponding statement. The questions are as follows:

1. "Can you describe a situation where you used AI to help answer a TOEIC question?"

2. "What exactly did the AI do that helped you?"

3. "Do you use AI more for getting the answer, or for understanding the explanation?"

4. "Which part is more useful: the final answer or the explanation?"

5. "In what situations do you think AI is NOT enough for learning TOEIC?"

6. "What can teachers or textbooks do that AI cannot?"

7. "Why do you agree or disagree that AI alone is enough for TOEIC learning?"

The duration of each question is 3 minutes. All interviewees in the first group is asked using item 1-4 while the second group is asked using item 5-7. Throughout the interview, the audio is recorded while taking notes of interviewees' answers.

IV. RESULT

A. Survey on Google Form

The following table is the data of the survey:

TABLE I. THE SUMMARY OF THE SURVEY

Statements	Average score	Median	S.D.
TOEIC is too difficult to figure out the answers on my own.	4.68	4	0.80
I think AI can be used to help find the answers.	4.83	4	0.73
AI can explain the questions and the answers very well.	4.24	4	0.78
I am motivated to use AI and rely on AI to find the answers.	4.15	4	0.75
AI alone is enough to give me understanding for TOEIC.	3.87	3	0.85

Reliability Statistics

Cronbach's Alpha	N of items
0.73	5

First of all, the second statement shows the highest score and implies that the students who cannot find the answers by themselves mostly use AI to find the answers. Another interesting point is the first statement takes the second place and shows the relation between difficulties, helplessness, and relation to the second statement, which infers that most of the students that ends up using AI is the result of their incapacilities to find answers. However, the third, fourth, and fifth statement which are related to the efficiency of AI ends up the lowest among of the statements. This illustrates that the students that decide to use AI to find out the answers most of the time ends up having no better understanding and are not actually willing to use AI, thus, would rather hear explanations from teachers for higher possibilities of acquiring knowledge on the matter.

B. Interviewing

After seeing the result in the Table I, using qualitative analysis method, the author needs further explanation as to why the score of the second statement is the highest, thus, showing that the students end up decide to use AI to assist them throughout the classes as an effective and easy tool, but the scores on the fifth statement is the lowest among all of them which also shows certain degree of dependency on teachers instead of AI by showing that AI is seen as helpful but not sufficient enough. The frequent answer regarding this is about the fact that “AI pick the correct answers for me, but I don’t understand the explanations.” Moreover, some of them decide to ask AI for explanations in some cases which are mostly lexical rather than grammatical and could not get better understanding from the explanations, thus, this leads to further reliance on teachers’ explanations.

V. CONCLUSION

(1) ESL instructors can further used AI for straightforward explanations with addition of further and even better explanations by instructors themselves.

(2) AI chatbots can be used as a time-efficient tools in many cases and the explanations by AI can be used as a tentative explanation.

VI. DISCUSSION & LIMITATION

The findings of this study indicate that students hold highly positive perceptions of AI as a supportive tool for TOEIC learning, particularly in helping them find answers and provide explanations. However, they do not fully agree that AI alone is sufficient for developing complete understanding. This pattern can be interpreted through established learning theories, especially Cognitive Load Theory and Constructivism.

From the perspective of Cognitive Load Theory, learners have limited working memory capacity when processing complex language tasks. TOEIC questions, which often require grammar analysis, reading comprehension, and inference skills, can impose a high intrinsic cognitive load. The high mean scores for AI-assisted items suggest that students perceive AI as a tool that reduces extraneous cognitive load by providing immediate answers and explanations. In this sense, AI functions as a cognitive support system that helps learners manage difficult tasks more

efficiently. However, the relatively lower score for the statement “AI alone is enough to give me understanding for TOEIC” suggests that students may still recognize the need for deeper cognitive processing that AI alone cannot fully facilitate.

This interpretation is further supported by Constructivist Learning Theory, which emphasizes that learning is an active process in which learners construct knowledge through interaction, reflection, and social engagement. While AI can provide information and explanations, it does not fully replace the interactive and contextual learning experiences provided by teachers and peers. The interview findings and questionnaire results suggest that students still value human guidance in clarifying complex concepts and developing deeper understanding. Therefore, AI is perceived more as a supplementary tool rather than a complete instructional substitute.

When compared with previous studies, the findings are consistent with research indicating that AI chatbots are effective in supporting language learning but have limitations in replacing human teachers. For example, previous studies have shown that AI tools can enhance learner engagement and provide immediate feedback, improving efficiency in language practice. However, other research has emphasized that AI lacks the pedagogical judgment and contextual awareness required for deeper language instruction. This aligns with the current study, where students strongly agreed that AI is helpful for finding answers (highest mean score), yet showed more moderate agreement regarding AI’s ability to independently ensure full understanding.

The relatively low mean score for the item “AI alone is enough to give me understanding for TOEIC” ($M = 3.87$) can be explained by students’ recognition of these limitations. Although AI provides accessible explanations and instant assistance, students may perceive that it does not fully address the complexity of language learning, particularly in areas requiring critical thinking, contextual interpretation, and communicative competence. The higher standard deviation for this item also indicates variation in student opinions, suggesting that while some learners may rely heavily on AI, others remain cautious about overdependence.

Overall, these findings support the argument that AI should be viewed as a complementary learning tool rather than a replacement for teachers. While AI can effectively reduce cognitive load and support independent learning, it cannot fully replicate the role of teachers in guiding learners toward deeper conceptual understanding and meaningful interaction. This reinforces previous research suggesting that the most effective approach to AI integration in language education is a blended model, where AI supports but does not replace human instruction.

Despite the insights gained from this study, several limitations should be acknowledged. First, the study relies on a relatively small and context-specific sample of 53 respondents drawn from 2nd-year students at a single institution. As a result, the findings may not be generalizable to other groups of learners, such as first-year students, advanced learners, or students from different universities in Thailand or other countries. The specific academic environment of the Thai-Nichi Institute of Technology may

also influence students' exposure to AI tools and TOEIC preparation practices, which could affect their perceptions.

Second, the study uses a cross-sectional design, meaning that data were collected at only one point in time. Therefore, it cannot capture how students' perceptions of AI might change over time with increased exposure or experience. Longitudinal studies would be more suitable for examining whether attitudes toward AI become more positive or critical as students continue using these tools in their learning process.

Third, the questionnaire data are based on self-reported perceptions, which may be influenced by response bias. Students might overestimate or underestimate their actual use of AI or provide socially desirable answers, especially in an academic setting where AI use can be viewed positively. This may affect the accuracy of the reported attitudes toward AI in TOEIC learning.

Fourth, although interviews were conducted to gain deeper qualitative insights, the number of interview participants was limited. This may restrict the depth and diversity of perspectives captured in the qualitative findings. A larger and more diverse interview sample could provide richer explanations of how students actually interact with AI tools in real learning situations.

Fifth, the study focuses primarily on general perceptions of AI use rather than measuring actual learning outcomes, such as TOEIC score improvement or language proficiency development. Therefore, while students perceive AI as helpful, the study cannot confirm whether AI use directly leads to improved academic performance.

Finally, the study does not differentiate between different types of AI tools or usage patterns in detail. Students may use AI in various ways (e.g., for translation, explanation, or answer generation), but these differences are not deeply analyzed. Future research could examine how specific types of AI use influence learning outcomes and student autonomy more precisely.

Overall, these limitations suggest that the findings should be interpreted with caution and highlight the need for further research with larger samples, longitudinal designs, and more detailed analysis of AI usage behaviors.

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