
Exploring Teachers' Perceptions Toward the Integration of AI Tools in the Language Classroom

Rusma Kalra
Faculty of Arts
Assumption University

Received: 22 Feb, 2024

Revised: 25 Mar, 2024

Accepted: 1 May, 2024

Abstract

This research investigates English instructors' perceptions of the benefits and challenges associated with the integration of AI application tools into an English classroom at an international university in Thailand. Two primary research questions guide the study: (1) How do English instructors perceive the benefits of AI application tools? and (2) How do they perceive the challenges of integrating AI tools? The research mainly adopts a quantitative approach, utilizing a structured survey questionnaire developed based on existing literature. Additionally, semi-structured interviews with 20 randomly selected instructors provide qualitative insights. The findings indicate widespread adoption of AI-powered tools among instructors teaching English at this international university. Notably, language learning applications are the most utilized and the most notable challenge identified by participants is the apprehension that learners may develop excessive reliance on AI tools. This research provides comprehensive insights into perceptions surrounding the integration of AI application tools in English language classrooms at an international university in Thailand. These insights contribute to a deeper understanding of the benefits and challenges associated with AI tools in educational settings.

Keywords: AI in Education; teacher's perceptions of AI; English classroom

Introduction

Initial efforts to integrate technology into language education depended on conventional tools such as projectors and blackboards (Chun et al., 2016). The advent of computers in the 1970s and 1980s marked the initiation of a new era for educators who explored Computer-Assisted Language Learning (CALL) (Beatty, 2013; Chapelle, 2001; Levy, 1997). With the widespread use of the Internet in the 1990s, there was a global increase in language resources, incorporating multimedia elements to enhance interaction (Thorne & Phane, 2005). The introduction of mobile devices in the twenty-first century led to the creation of language learning applications (Mobile-Assisted Language Learning), enabling students to study languages flexibly and independently, at any time and location of their choice (Godwin-Jones, 2011; Kukulska-Hulme & Shield, 2008; Kukulska-Hulme & Viberg, 2018). There is currently a notable upswing in the interest in Artificial Intelligence (AI) within the education and training sector,

primarily attributed to its potential to transform the learning process. AI enables personalized learning, dynamic assessments, and meaningful interactions across online, mobile, or blended learning settings, making it a pivotal concept in the field (Zhang & Aslan, 2021). In the realm of English language learning and teaching, the spotlight is on AI-driven tools, such as the recently introduced Chat GPT, prompting considerable attention as stated by Alsadoon (2021).

Numerous studies have delved into the application of AI-powered tools in English-language learning, as evidenced by research conducted by Alhalangy and AbdAlgane (2023), Alharbi (2023), and Alsadoon (2021). Numerous studies indicate that incorporating AI tools into foreign language learning yields positive effects on learners' motivation (Moybeka et al., 2023), engagement, and academic performance (Khan et al., 2021; Kim et al., 2021). Specifically, AI-driven writing tools such as Quillbot have proven highly beneficial in offering instant feedback and correction suggestions for grammar, punctuation, and expression. They contribute to optimizing sentence structures, word choices, and tones, thereby enhancing the overall quality of the written content (Farhi et al., 2023; Xuyen, 2023). The integration of AI tools into English language learning has also been reported to enhance learners' listening, reading, and speaking skills (Adilbayeva et al., 2022; Ma, 2021). However, despite these positive aspects, some scholars have expressed concerns regarding potential negative impacts of AI tools on language learning, arising from overreliance, lack of human interaction, and a potential decline in critical thinking skills (Bui, 2022; Zimmerman, 2006). According to scholars, the effective implementation of new instructional technologies is closely tied to the attitudes of the teachers leading the lesson (Fernández-Batanero et al., 2021). Despite decades of professional development focused on integrating educational technology, a significant number of teachers still harbor negative views toward incorporating technology in the classroom and are reluctant to adopt it (Kaban & Ergul, 2020; Prensky, 2008b). Instead, they persist in using familiar materials and teaching methods, resisting anything that might lead to unfavorable outcomes (Tallvid, 2016). Furthermore, the anxiety associated with adopting new technologies can pose a hindrance (Bui, 2022; Zimmerman, 2006), impeding teachers' efforts to introduce technology within the learning environment.

Previous studies (Chen et al., 2020; Chounta et al., 2021; Francis et al., 2000) have primarily concentrated on assessing the effects of AI tools in language learning and teaching through the viewpoints of teachers, faculty members, and experts. However, there is a scarcity of research specifically investigating the perceptions of English language teachers in an international university context. With the ongoing progression of AI technology, its impact on the learning of foreign languages, particularly English, is gaining greater significance. It is essential to evaluate the perspectives of English language teachers regarding the incorporation of AI tools. Evaluating English language teachers' perspectives on AI tools is crucial for several reasons: understanding their effectiveness in teaching, guiding training programs for educators, enhancing student engagement through innovative methods, addressing ethical considerations related to AI use in education, allocating resources effectively, and overcoming potential barriers to adoption. This research aims to investigate the English instructors' perception of AI-driven language learning tools in the context of

EFL education at an international university in Thailand. The study seeks to understand instructors' perspectives on the benefits and challenges associated with these tools, as well as their expectations regarding the integration of AI tools into English language teaching and learning. The findings may contribute significantly to pedagogical practices by informing the development of tailored professional development programs for instructors. It can also guide the seamless integration of AI into curricula, support personalized learning approaches, and address ethical considerations crucial for effective and responsible use of AI in education.

The study aims to address two research questions:

1. How do English instructors perceive the benefits of AI application tools in English classrooms at an international university in Thailand?
2. How do English instructors perceive the challenges of AI application tools in English classrooms at an international university in Thailand?

Literature Review

Artificial Intelligence

AI is defined as a computer program or system that has intelligence (Chapelle, 2001). This includes artificially implemented computer programs that have human learning, reasoning, and perceptual abilities, since, as posited by Turing (1950), even machines can think like humans. Currently, the widespread use of AI is predominantly driven by machine learning algorithms, which dynamically generate and employ data-based models. Education, including STEM education, extensively employs AI to assist teachers in their roles as learning facilitators, academic assessors, and counselors through the analysis of education-related big data gathered from students, teachers, and schools (Cukurova et al., 2022). Furthermore, AI enhances assessment methods in traditional classrooms by furnishing timely information on students' learning progress, success, or challenges through the analysis of their learning patterns based on big data (Sánchez-Prieto et al., 2020). AI can provide insights inaccessible through traditional evaluation methods, identifying correct answers and revealing the learner's process leading to them.

Despite demonstrating its potential as an educational tool, questions persist on how AI facilitates meaningful and effective learning. Prior to AI's implementation in education, computer-based learning support systems, also known as intelligent tutoring systems (ITS), appeared promising. ITS was aimed to deliver personalized and step-by-step tutorials using information from expert knowledge models, student models, and tutoring models in well-defined subjects such as mathematics (Holmes et al., 2019). ITS is often considered a precursor to AI in education, offering valuable insights into the application of AI within the educational domain (Paviotti et al., 2013). ITS has been successfully employed in instructing various STEM subjects. For example, Beal (2013) utilized ITS to assess students' math skills by identifying problem-solving errors and presenting relevant problems. These problems were tailored to students' zone of proximal development and supported by integrated help resources. Similarly, Butz et al. (2006) demonstrated the effectiveness of ITS in enhancing students' engineering design skills. Their ITS incorporated an expert system that evaluated students' problem-

solving approaches and offered additional tutoring through interactive materials, thereby assisting students in achieving their learning objectives.

A common theme in several studies, including the examples stated above, is ITS's effort to provide scaffolding. Scaffolding is employed to make learning tasks more manageable and accessible (Hmelo-Silver et al., 2007), aiding students in improving their deep content knowledge and higher-order thinking skills. Scaffolding interventions can take various forms, such as feedback, question prompts, hints, and expert modeling (Kim et al., 2021) similar to what human tutors do in STEM education. The impact of each scaffolding format can vary depending on different learning contexts, performance levels, STEM disciplines, and anticipated outcomes.

Advantages and Disadvantages on AI-based Instruction

Al-Bakri (2021) examined the impact of AI on higher education within Arab countries. The study involved a sample of 100 participants comprising faculty members and students from various universities in the Arab region. Employing a quantitative approach, the study utilized a questionnaire as its primary research tool. Findings indicated several benefits of AI in higher education, including enhanced student engagement, facilitation of personalized learning, and improved efficiency. Nonetheless, the study also identified drawbacks, such as potential job displacement and ethical considerations surrounding the utilization of AI.

Al-Mashaqba (2020) explored the influence of AI on students' learning outcomes at Jordanian universities, involving a sample of 150 university students. Adopting a quasi-experimental approach, the researcher employed pre- and post-tests as the primary research tools. The findings indicated a positive impact of AI on students' academic performance. Specifically, students who engaged with educational tools based on AI demonstrated greater improvement in their academic achievements. The study recommended that Jordanian universities should incorporate AI tools into their educational systems to enhance student outcomes. Additionally, it emphasized the importance of providing adequate training and support for faculty members and staff to effectively utilize these tools.

Tsai, Kovanović and Gasevic (2019) explored the potential benefits and challenges associated with the integration of AI into higher education. The research involved a sample of 18 experts specializing in both AI and education. Adopting a qualitative approach, the study utilized semi-structured interviews as its primary research tool. The findings highlighted several advantages of AI in higher education, such as facilitating personalized learning, enhancing student engagement, and offering intelligent lesson systems. However, the study also identified certain challenges, including the necessity for extensive training for faculty members and staff to effectively utilize AI-based educational tools and concerns about potential biases in AI algorithms.

The research suggested that higher education institutions should carefully evaluate both the benefits and potential drawbacks of integrating AI into their educational systems before adoption. It also emphasized the importance of offering increased support and training to faculty members and staff on effectively utilizing AI-based educational tools, as well as addressing the legal and ethical concerns associated

with the use of AI in education. While previous studies have explored the impact of AI on student engagement, learning outcomes, and the challenges associated with AI adoption, this study focuses specifically on the perspectives of English language teachers regarding the incorporation of AI tools. By evaluating teachers' perceptions, this research aims to identify their concerns about the ethical and pedagogical implications of using AI tools in language teaching.

Teachers' Perceptions of Using Artificial Intelligence

A great deal of research has emphasized the significant role of a teacher's stance on technology use as a pivotal element in successful technology integration. Woodrow (1992) underscored the importance of maintaining a favorable attitude toward incorporating technology into teaching, while Prensky (2008a) asserted that the resistance or lack of enthusiasm among teachers toward technology presents a hindrance to effective integration.

The integration of AI into classrooms faces resistance primarily due to a considerable number of teachers, who harbor negative perceptions toward technology, opting not to employ it (Kaban & Ergul, 2020; Prensky, 2008a). Reasons for such reluctance include teacher apprehension about adopting new technologies (Zimmerman, 2006) and their inclination to adhere to familiar materials and methodologies, thus remaining within their comfort zone (Tallvid, 2016). This resistance poses challenges to the introduction of technology on-site.

Numerous studies exploring educators' perceptions of AI in education have consistently found that teachers commonly anticipate AI's capability to (a) enhance the teaching and learning process by utilizing digitalized learning materials and facilitating multimodal human-computer interactions and (b) address diverse learning challenges faced by individual students, tailoring instruction to their needs even in large classroom settings (Holmes et al., 2019).

Despite these educators' positive expectations of AI in education, researchers have indicated that before adopting AI in the classroom, teachers first need to learn how to use the technology and, most importantly, how to successfully integrate it into their curricula. They also need to understand the importance of AI and the affordances that it can bring to instruction so that they are open to integrating advanced technology into their lessons. Additionally, a great number of teachers and school officials have not yet experienced AI-based learning support and might simply recognize it as slightly more advanced educational technology, which can underestimate the AI's role in the classroom. Consequently, before a successful application of an AI support system into education, it is necessary for teachers to first utilize it themselves so that they can fully understand how it can scaffold learning.

Despite the many advantages, some challenges remain in using AI technology. Ethical considerations regarding data privacy and security must be addressed to protect intellectual property (Lund & Wang, 2023; Ray, 2023; Rodrigues, 2020). Additionally, students need to develop critical thinking skills to evaluate the quality and reliability of AI-generated content and avoid over-reliance on automated tools. Proper training and education on using AI technology effectively and responsibly are crucial (Chan, 2023; Tlili et al., 2023).

Methodology

To answer the research questions, this study adopted a mixed-method research design. The participants were English instructors teaching at the university level. The levels they teach were not classified into beginner, pre-intermediate, and so forth, as the focus of the study was on their experiences, perceptions, and expectations regarding the integration of AI tools in English language learning. Therefore, classification based on teaching levels was not applicable in this context. While the study did not classify participants based on the levels they teach, understanding the levels taught by instructors could be significant in other research contexts. It could provide insights into how AI tools are utilized across different proficiency levels, the specific challenges and benefits associated with each level, and the customization required in AI-driven language learning tools to cater to the diverse needs of students at various proficiency levels.

A total of 208 English instructors participated in the quantitative component of the study by completing the structured survey questionnaire distributed online via Google Forms in January 2024. The questionnaire was developed based on relevant literature and on existing research by Baker (2021), Eaton et al. (2021), Else (2023), Dhawan and Batra (2020), Mintz (2023), and Zhai (2022) with 29 close-ended questions in the form of five-point Likert scale. The questionnaire was divided into three main parts. Part 1 consisted of three items to investigate English instructors' experiences in using different AI-powered language learning tools. Part 2 included 21 Likert-scale questions aiming to evaluate participants' perceptions toward the effectiveness and the challenges associated with AI tool integration in their English language learning at university level. Part 3 consisted of five items to understand the participants' expectations regarding AI tool integration into English language learning. The questionnaire was distributed to the participants online using Google Forms in January 2024. The collected data was then analyzed using the IBM SPSS version 25 to calculate the descriptive statistics.

The overall Cronbach's α of the questionnaire was 0.907 (>0.9), indicating the high overall reliability of this study. Moreover, the reliability coefficients of all dimensions were higher than 0.7, indicating the good internal consistency of the questionnaire. The Kaiser–Meyer–Olkin (KMO) test was 0.879, and χ^2 of Bartlett's test of sphericity reached the 0.01 significance level. In other words, common factors exist among relevant matrixes of questions, indicating the good validity of the questionnaire.

Moreover, a semi-structured interview was conducted with 20 randomly selected instructors. Randomly selecting instructors for research interviews enhances the study's validity by minimizing sampling bias and ensuring a diverse representation of perspectives. This approach captures a broader range of experiences and opinions, and increases the reliability and credibility of the research outcomes regarding AI-driven language learning tools in EFL contexts from different years of teaching experience. Their responses were transcribed, coded, and categorized to identify similar patterns and themes. Mackey and Gass (2005) explained that interviews could reveal phenomena that cannot be seen with direct observations. Furthermore, qualitative data analysis was validated by a consensus of the two coders which showed high inter-rater reliability

between these two coders (Krippendorff's $\alpha = 0.95$), which is above the minimally acceptable level ($\alpha = 0.667$) (Krippendorff, 2004).

Two independent coders were responsible for transcribing, coding, and categorizing the interview responses to identify patterns and themes in the qualitative data. The criteria for selecting the coders included their expertise in qualitative data analysis and their familiarity with the research topic to ensure accurate and reliable coding of the interview data.

Semi-structured interviews were conducted with 20 English instructors selected randomly from the participant pool to provide in-depth qualitative insights. The semi-structured nature of the interviews enabled the researcher to elicit rich and deep data from the teacher participants. The open-ended questions encouraged participants to share their personal experiences, insights, and perspectives in their own words, allowing for a more detailed exploration of their thoughts and feelings regarding the integration of AI tools in language learning.

Overall, the study employed rigorous data collection and analysis methods, combining quantitative survey data with qualitative interviews, to provide a comprehensive exploration of English instructors' perspectives on the integration of AI tools in language learning, enhancing the validity, reliability, and credibility of the research outcomes.

Results and Discussion

The questionnaire was distributed to the participants online using Google Forms. The collected data was then analyzed using the IBM SPSS version 25 to calculate the descriptive statistics.

Table 1

Demographic Information of the Participants (N= 208)

Variable	Number	Percentage
Gender		
Male	88	42.5
Female	120	57.5
Years of teaching experience		
0-3	71	33.8
4-8	36	36.7
9-15	31	15
16 -20	19	9.2
21 and above	11	5.3
Proficiency level taught		
Beginner	49	23.7
Pre intermediate	83	40.1
Intermediate	99	47.8
Upper intermediate	71	34.3
Advanced	51	24.6

Table 1 shows the demographic information of the participants.

Figure 1
Instructors' Experiences in using AI Tools for EFL Learning

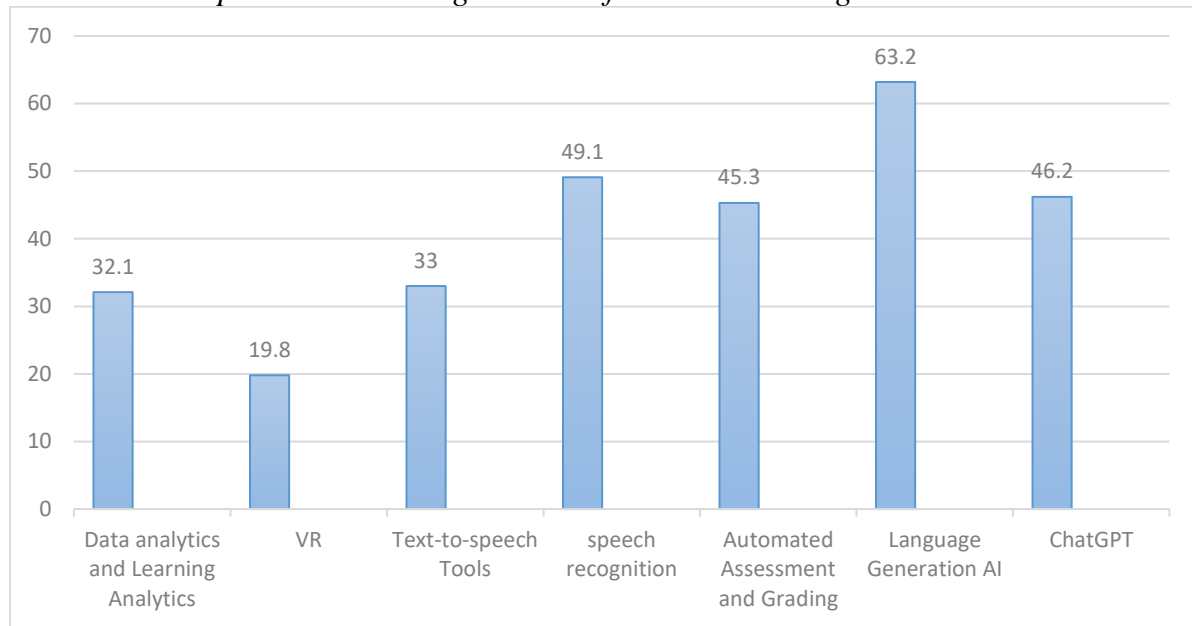


Figure 1 shows the AI-powered tools that instructors have used to facilitate their language classrooms. The findings indicate widespread adoption of AI-powered tools among instructors teaching English at this international university. Notably, language learning applications are the most utilized, accounting for 87.7% of the respondents. Additionally, language generation AI tools such as Grammarly enjoy popularity among 63.2% of the respondents. Automated assessment and grading tools, exemplified by Quizzes and Turnitin, are also prevalent, being used by 45.3% of the instructors. In contrast, virtual reality tools are the least frequently employed by language teachers.

Figure 2
Purposes of Using AI tools by the Instructors

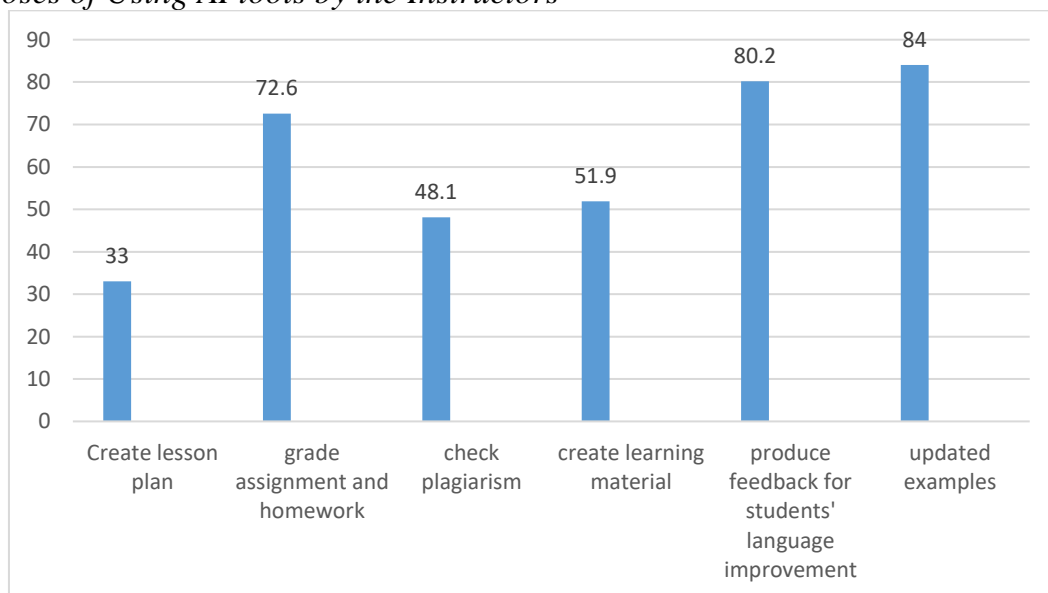


Figure 2 displays the purposes of using AI tools. The study suggests that English instructors use AI tools for various activities, with the majority (84%) using them to improve their English knowledge and skills, including vocabulary, grammar, speaking, listening, writing, and reading. AI tools are also popular for receiving feedback to improve their English (80.2%) and to help with English assignments (72.6%). However, creating learning plans using AI tools is the least common purpose (33%) among language instructors.

Table 2

Perceived Benefits of AI Tool Integration in English Language Learning

Items	Mean	SD
AI can help students save time	3.74	.75
AI can provide information in diverse fields	3.66	.69
AI can help student translate learning materials into different languages, making them easier to understand	3.47	.62
AI can help students better understand theories and concepts	3.53	.72
AI can illuminate ideas in writing and thus provide efficiency and productivity	3.53	.70
AI can provide personalized tutoring and feedback based on the students' learning needs and progress	3.56	.70
AI tools can help increase students' motivation to learn English	3.70	.62
Overall benefit of using AI for students' language learning in the classroom	3.88	.45

The most significant perceived benefit is the increase in motivation to learn (78%). Moreover, it is valued for time-saving (74%), personalized tutoring (72%), and overall classroom benefits (86%).

Table 3

Instructors' Perception of the Barriers of Using AI in English Language Learning

Items	Mean	SD
AI may provide unreliable information to the students	3.61	.73
AI can produce inaccurate or false references	3.63	.45
AI can produce responses exhibiting logical errors and contradictions	3.60	.67
AI promote cheating and plagiarism	3.72	.33
AI decrease students' abilities to brainstorm and think critically	3.75	.67
Overall challenges of AI	3.63	.35

The most significant challenge identified by the participants is the possibility that learners may become excessively reliant on AI tools (74.6%). This overdependence can negatively impact their critical thinking skills (68%). Additionally, many participants expressed their concerns about the accuracy, reliability, and bias of the information and knowledge provided by AI tools (67.9% and 61.9%).

Based on the semi-structured interview, AI-based teaching allows instructors to use more personalized teaching plans. In particular, computer vision, natural language processing, and data mining in AI technology provide instructors with technological possibilities. Personalized teaching plans can be produced for teachers according to the class condition or individual situation, including teaching plans, classroom exercises, and homework assignments. Moreover, many instructors interviewed reported that AI

tools have the potential to enhance the quality of teaching by enabling teachers to closely monitor students' activities. Through AI, educators can tailor precise practice recommendations for individual learners based on their proficiency levels, aiding them in mastering challenging concepts within the curriculum. Utilizing natural language processing and data mining capabilities, AI facilitates more efficient batch processing of homework assignments, particularly in the assessment of objective questions. Furthermore, AI's natural language processing capabilities enable teachers to respond effectively to personalized queries from students. By mimicking human interaction patterns, AI assistants engage in intelligent communication with learners, offering personalized responses and thereby alleviating instructors' burden in repetitive learning tasks.

I find that AI can be quite beneficial in enhancing students' engagement and motivation. However, it's crucial to strike a balance between technology and traditional teaching methods to ensure effective learning outcomes. (Interviewee 1)

AI-based teaching offers exciting possibilities for personalized learning. With computer vision and natural language processing, I can tailor teaching plans, classroom exercises, and homework assignments to meet the unique needs of each student, enhancing their learning experience and engagement. (Interviewee 2)

Using AI assistants with natural language processing capabilities has significantly reduced my workload by handling repetitive learning tasks. This enables me to focus more on facilitating meaningful interactions with students and addressing their individual learning needs. (Interviewee 3)

The results revealed that instructors' perception of using AI was above the average level. In general, they were positive about the application of the integration of AI into their classroom. Even though most instructors (over 86%) had a high level of satisfaction with the use of AI in educational settings, some challenges were recognized as shown in Table 1 and Table 2. Despite the potential benefits of AI, it is important to approach its implementation with careful consideration. While integrating AI into education holds promise, it also raises ethical concerns, questions of accessibility, and potential shifts in teacher roles (Akgun & Greenhow, 2022; Holmes et al., 2019). These aspects call for thorough evaluation and thoughtful discussion as we move toward an EFL classroom that incorporates AI.

Moreover, through the utilization of AI, instructors can achieve the personalized creation of test papers by employing data mining and text analysis. By examining and consolidating structured data from the question bank, they can tailor exams to different classes based on their learning conditions. It further offers insightful analyses of students' exam performances, diagnoses the reasons for mistakes, compiles class-wide exam results, generates analysis reports on exam performance, identifies recurring error patterns, and assists teachers in delivering targeted instruction. During invigilation, AI-powered computer vision technology comprehensively monitors students' actions in examination room videos. This technology aims to reduce the workload and stress of

invigilating teachers by providing thorough surveillance. In addition, it is designed to enhance the overall quality of invigilation by ensuring adherence to exam rules and promoting fairness in assessment processes.

To enhance the utility of AI for educational purposes, instructors have suggested potential solutions. These include validating AI responses by cross-referencing with reliable information sources, utilizing AI tools as a reference or consultation tool, providing guidelines for its usage, and advocating for academic integrity and ethical applications of AI within an academic context. Recognizing the potential risks it may pose to education, many instructors have proposed strategies to transform AI into an effective teaching and learning tool. These strategies encompass initiatives such as discerning AI-generated information, instructing students on appropriate utilization, and promoting academic integrity among students. Instructors' views on AI differ based on factors such as their teaching philosophy, teaching background, previous exposure to educational technology, and their assessment of the effectiveness and importance of specific technologies. These elements collectively shape their readiness to embrace new educational technologies, as noted by Ryu and Han (2018).

Limitations and Suggestions for Future Research

This study has several limitations that should be acknowledged when interpreting the results and findings. Firstly, the focus on language instructors at this particular international university in Thailand may limit the generalizability of the results to other educational institutions. To enhance the external validity of future research, it is recommended to include participants from diverse educational backgrounds to capture a broader representation. Secondly, the reliance on self-reporting measures, such as questionnaires and interviews, introduces the possibility of response biases and subjective interpretations. To mitigate these limitations, future studies could incorporate additional objective measures or observational methods to provide a more comprehensive and objective assessment of AI's effectiveness and challenges in diverse educational settings. Lastly, this study primarily focused on instructors' perceptions of AI, therefore future research should delve into the pragmatic consequences, obstacles, and levels of student perception linked to the integration of AI in authentic educational environments. Such investigations would facilitate a more profound comprehension of the determinants that impact the successful incorporation of AI in language classrooms, thereby offering guidance for its efficient implementation across diverse educational settings. By tackling these limitations in forthcoming studies, researchers can enhance a holistic understanding of AI application in education, delivering practical insights for its successful integration and utilization across various educational contexts.

To enhance the external validity and generalizability of the findings, future studies could include participants from diverse educational institutions, both within Thailand and internationally. Researchers could conduct multi-site studies involving multiple universities and language institutes to capture a broader representation of English instructors' perspectives on the integration of AI in language learning.

While this study primarily focused on instructors' perceptions of AI, future research should look into the pragmatic consequences, obstacles, and levels of student

perception linked to the integration of AI in authentic educational environments. Researchers could conduct mixed-method studies involving both teachers and students to explore the impact of AI on teaching and learning processes, student engagement, and learning outcomes. This would facilitate a more profound comprehension of the determinants that impact the successful incorporation of AI in language classrooms and offer practical insights for its efficient implementation across diverse educational settings.

Conclusion

There has been a concerted effort to bring about changes in teaching methods for the benefit of future generations. This involves incorporating advanced educational technology and promoting student-centered learning. This global trend holds the promise of enhancing students' performance while increasing their enthusiasm and motivation for learning. The goal of AI-assisted education is to foster students' critical thinking, creativity, problem-solving, and collaboration skills by infusing AI technology into all educational activities with language education (Lin et al., 2021). Achieving this objective relies significantly on the dedication and capabilities of teachers to lead AI education initiatives in their language classrooms.

With the assistance of AI, education has the potential to achieve unprecedented levels of excellence. A resilient educational framework can be implemented wherein instruction becomes more adaptable through the integration of AI-assisted technology. AI tools will facilitate students in gaining knowledge and enhancing the skills necessary in technologically advanced society. The results and findings of this research hold significant implications for English language educators, curriculum developers, and policymakers in the researcher's context and other similar educational settings globally. By understanding English instructors' perceptions of AI tools, educational institutions can make informed decisions regarding the integration of AI tools into language learning curricula.

Author

Rusma Kalra is a full-time lecturer in the Department of Business English, Faculty of Arts, Assumption University, Thailand with over 10 years of teaching experience at the tertiary level. Specializing in English for specific purposes and business communication writing, her research focuses on classroom-based studies, second language writing, and genre analysis.

References

- Adilbayeva, U., Mussanova, G. A., Mombekova, N. B., & Suttibayev, N. A. (2022). Digital communication technology for teaching a foreign language and culture through reading. *International Journal of Society, Culture and Language*, 10(3), 21-30.
- Akgun, S. & Greenhow, C. (2022). Artificial intelligence (AI) in education: Addressing ethical challenges in K-12 settings. *AI and Ethics*, 2(3), 431-440.

- Al-Bakri, M. (2021). Investigating the impact of artificial intelligence on higher education in the Arab countries. *The International Journal for Education Technology in Higher Education*, 18(1), 1-17.
- Alhalangy, A. G. I., & AbdAlgane, M. (2023). Exploring the impact of AI on the EFL context: A case study of Saudi universities. *Journal of Intercultural Communication*, 23(2), 41-49. <https://doi.org/10.36923/jicc.v23i2.125>
- Alharbi, W. (2023). AI in the foreign language classroom: A pedagogical overview of automated writing assistance tools. *Education Research International*, 2023(1), 4253331. <https://doi.org/10.1155/2023/4253331>
- Al-Mashaqba, S. (2020). The impact of artificial intelligence on the outcomes of students' learning in the Jordanian Universities. *The Journal of Education and Practice*, 11(1), 20-29.
- Alsadoon, R. (2021). Chatting with AI bot: Vocabulary learning assistant for Saudi EFL learners. *English Language Teaching*, 14(6), 135-157.
- Baker, R. S. (2021). Artificial intelligence in education: Bringing it all together. In OECD (Ed.), *OECD Digital Education Outlook: Pushing the Frontiers with Artificial Intelligence, Blockchain, and Robots* (pp. 43-54). OECD Publishing, Paris, <https://doi.org/10.1787/f54ea644-en>
- Beal, C. R. (2013). AnimalWatch: An intelligent tutoring system for algebra readiness. In R. Azevedo, & V. Aleven (Eds.), *International Handbook of Metacognition and Learning Technologies* (pp. 337-348). Springer New York. https://doi.org/10.1007/978-1-4419-5546-3_22
- Beatty, K. (2013). *Teaching & Researching: Computer-Assisted Language Learning*. Routledge.
- Bui, T. H. (2022). English teachers' integration of digital technologies in the classroom. *International Journal of Educational Research Open*. 3, 100204. <https://doi.org/10.1016/j.ijedro.2022.100204>
- Butz, B. P., Duarte, M., & Miller, S. M. (2006). An intelligent tutoring system for circuit analysis. *IEEE Transactions on Education*, 49(2), 216-223. <https://doi.org/10.1109/TE.2006.872407>
- Chapelle, C. (2001). *Computer applications in second language acquisition: Foundations for teaching, testing and research*. Cambridge: Cambridge University Press.
- Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education*, 20(1), 38. <https://doi.org/10.1186/s41239-023-00408-3>
- Chen, H. H. J., Yang, C. T. Y., & Lai, K. K. W. (2020). Investigating college EFL learners' perceptions toward the use of Google Assistant for foreign language learning. *Interactive Learning Environments*, 31(3), 1335-1350. <https://doi.org/10.1080/10494820.2020.1833043>
- Chounta, I., Bardone, E., Raudsep, A., & Pedaste, M. (2021). Exploring Teachers' Perceptions of Artificial Intelligence as a Tool to Support their Practice in Estonian K-12 Education. *International Journal of Artificial Intelligence in Education*, 32, 725-755.

- Chun, D., Smith, B. & Kern, R. (2016). Technology in language use, language teaching, and language learning. *The Modern Language Journal*, 100, 64-80. <https://doi.org/10.1111/modl.12302>
- Cukurova, M., Khan-Galaria, M., Millán, E., & Luckin, R. (2022). A learning analytics approach to monitoring the quality of online one-to-one tutoring. *Journal of Learning Analytics*, 9(2), 105-120.
- Dhawan, S., & Batra, G. (2020). Artificial intelligence in higher education: Promises, perils, and perspective. *Expanding Knowledge Horizon. OJAS*, 11, 11-22.
- Eaton, S. E., Mindzak, M., & Morrison, R. (2021, May 9 – June 3). *The impact of text-generating technologies on academic integrity: AI & AI*. [Conference Presentation]. Canadian Association for the Study of Educational Administration (CASEA), University of Alberta.
- Else, H. (2023). Abstracts written by ChatGPT fool scientists. *Nature*, 613,423(7944)
- Farhi, F., Jeljeli, R., Aburezeq, I., Dweikat, F. F., Al-shami, S. A., & Slamene, R. (2023). Analyzing the students' views, concerns, and perceived ethics about chat GPT usage. *Computers and Education: Artificial Intelligence*, 100180.
- Fernández-Batanero, J. M., Román-Graván, P., Reyes-Rebollo, M. M., & Montenegro-Rueda, M. (2021). Impact of educational technology on teacher stress and anxiety: A literature review. *International Journal of Environmental Research and Public Health*, 18(2), 548.
- Francis, L., Katz, Y., & Jones, S. (2000). The reliability and validity of the Hebrew version of the Computer Attitude Scale. *Computers & Education*, 35(2), 149-159.
- Godwin-Jones, R. (2011). Mobile apps for language learning. *Language Learning & Technology*, 15(2), 2-11.
- Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and achievement in problem-based and inquiry learning: A response to Kirschner, Sweller, and Clark (2006). *Educational Psychologist*, 42, 99-107. <https://doi.org/10.1080/00461520701263368>
- Holmes, W., Bialik, M., & Fadel, C. (2023). Artificial intelligence in education. In C. Stuckelberger, & P. Duggal (Eds.), *Data Ethics: Building Trust: How Digital Technologies Can Serve Humanity* (pp. 621-653). Globethics Publications.
- Kaban, A. L., & Ergul, I. B. (2020). Teachers' Attitudes towards the Use of Tablets in Six EFL Classrooms. In E. Podovšovnik (Ed.), *Examining the Roles of Teachers and Students in Mastering New Technologies* (pp. 284-298). IGI Global. <https://doi.org/10.4018/978-1-7998-2104-5.ch015>
- Khan, I. M., Ahmad, A. R., Jabeur, N., & Mahdi, M. N. (2021). A conceptual framework to aid attribute selection in machine learning student performance prediction models. *International Journal of Interactive Mobile Technologies (IJIM)*, 15(15), 4-19.
- Kim, H. S., Kim, N. Y., & Cha, Y. (2021). Is it beneficial to use AI chatbots to improve learners' speaking performance? *Journal of ASIA TEFL*, 18(1), 161-178. <https://doi.org/10.18823/asiatefl.2021.18.1.10.161>
- Krippendorff, K. (2004). Reliability in content analysis: Some common

- misconceptions and recommendations. *Human Communication Research*, 30(3), 411-433. <https://doi.org/10.1111/j.1468-2958.2004.tb00738.x>
- Kukulka-Hulme, A., & Viberg, O. (2018). Mobile collaborative language learning: State of the art. *British Journal of Educational Technology*, 49(2), 207-218. <https://doi.org/10.1111/bjet.12580>
- Kukulka-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, 20(3), 271-289.
- Levy, M. (1997). *CALL: Context and Conceptualization*. Oxford: Oxford University Press.
- Lin, L., Lam, W.-I., & Tse, S. K. (2021). Motivational strategies, language learning strategies, and literal and inferential comprehension in second language Chinese reading: A structural equation modeling study. *Frontiers in Psychology*, 12, 707538. <https://doi.org/10.3389/fpsyg.2021.707538>
- Lund, B. D., & Wang, T. (2023). Chatting about ChatGPT: How may AI and GPT impact academia and libraries? *Library Hi Tech News*, 40(3), 26–29. <https://doi.org/10.1108/LHTN-01-2023-0009>
- Mackey, A., & Gass, S. M. (2005). *Second Language Research: Methodology and Design*. Lawrence Erlbaum Associates Publishers.
- Mintz, S. (2023, March 6). ChatGPT: Threat or menace? *TeachOnline*. <https://teachonline.ca/webinar/chatgpt-threat-or-menace>
- Moybeka, A. M. S., Bosco, F. H., Apalem, C. R., Chandra, D. A. & Efendi, E. (2023). Developing EFL students' writing ability through contextual teaching and learning (a classroom action research study). *Journal of English Culture, Language, Literature and Education*, 11(1), 79-97.
- Nguyen, T. X. (2023). Using the online paraphrasing tool Quillbot to assist students in paraphrasing the Source Information: English-majored students' perceptions. In T. N. Tran (Ed.). *Proceedings of the 5th Conference on Language Teaching and Learning*, (pp. 21-27). AIJR Publisher.
- Paviotti, G., Lundqvist, K. O., & Williams, S. (2012) Data mining in education. In G. Paviotti, P. G. Rossi, & D. Zarka (Eds.), *Intelligent Tutoring Systems: An Overview* (pp. 85-100). Pensa Multimedia Editore.
- Prensky, M. (2008a). Backup education? Too many teachers see education as preparing kids for the past, not the future. *Educational Technology*, 48(1), 1-3.
- Prensky, M. (2008b). The role of technology in teaching and the classroom. *Educational Technology*, 48(6), 1-3.
- Ray, P. P. (2023). ChatGPT: A comprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope. *Internet of Things and Cyber-Physical Systems*, 3(2023), 121-154.
- Rodrigues, R. (2020). Legal and human rights issues of AI: Gaps, challenges and vulnerabilities. *Journal of Responsible Technology*, 4, 100005. <https://doi.org/10.1016/j.jrt.2020.100005>
- Ryu, M., & Han, S. (2018). The educational perception of artificial intelligence by elementary school teachers. *Journal of The Korean Association of Information Education*, 22(3), 317-324.

- Sánchez-Prieto, J. C., Cruz-Benito, J., Therón, R., & García Peñalvo, F. J. (2020). Assessed by machines: Development of a TAM-based tool to measure AI-based assessment acceptance among students. *International Journal of Interactive Multimedia and Artificial Intelligence*, 6(4), 80-86. <https://doi.org/10.9781/ijimai.2020.11.009>
- Tallvid, M. (2016). Understanding teachers' reluctance to the pedagogical use of ICT in the 1:1 classroom. *Education and Information Technologies*, 21, 503-519. doi: 10.1007/s10639014-9335-7
- Thorne, S. L., & Payne, J. S. (2005). Evolutionary trajectories, internet-mediated expression, and language education. *CALICO Journal*, 22(3), 371-397.
- Tlili, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D. T., Huang, R., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. *Smart Learning Environments*, 10(1), 1-24. <https://doi.org/10.1186/s40561-023-00237-x>
- Tsai, Y. S., Kovanovic, V., & Gasevic, D. (2019). Learning analytics adoption – Approaches and maturity. In J. Cunningham, N. Hoover, S. Hsiao, G. Lynch, K. McCarthy, C. Brooks, R. Ferguson, & U. Hoppe (Eds.). *Companion Proceedings of the 9th International Learning Analytics & Knowledge Conference* (pp. 147-148). Society for Learning Analytics Research.
- Turing, A. (1950). Computing machinery and intelligence. *Mind* 59, 433-460. <https://doi.org/10.1093/mind/LIX.236.433>
- Woodrow, J. E. (1992). The influence of programming training on the computer literacy and attitudes of pre-service teachers. *Journal of Research on Computing in Education*, 25(2), 200-219. <https://doi.org/10.1080/08886504.1992.10782044>
- Zhai, X. (2022). *ChatGPT user experience: Implications for education*. Available at SSRN 4312418. <https://doi.org/10.2139/ssrn.4312418>
- Zhang, K., & Aslan, A. B. (2021). AI technologies for education: Recent research & future directions. *Computers and Education: Artificial Intelligence*, 2, 100025. <https://doi.org/10.1016/j.caeai.2021.100025>
- Zimmerman, J. (2006). Why some teachers resist change and what principals can do about it. *Nassp Bulletin*, 90(3), 238-249. <https://doi.org/10.1177/0192636506291521>