

Understanding Students' Perceptions of AI in Business Communication: A Technology Acceptance Approach

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Abstract. *This study seeks to investigate students' perceptions of the utilization of Artificial Intelligence (AI) tools in enhancing Business English communication abilities within a vocational higher education context. Employing the Technology Acceptance Model (TAM) as the theoretical framework, the research surveyed 50 Business Administration students, predominantly female (70%), aged between 20 and 22 years. The study measured Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and students' Behavioral Intention to Use (BIU) of AI tools, such as ChatGPT. Findings reveal mixed perceptions: while 48% of students recognized AI's advantages for improving productivity and writing quality, 44% faced challenges due to technological complexity and limited prior exposure. PU scores ranged from 2.64 to 3.22 on a 5-point scale, indicating moderate acceptance, while PEOU scores (2.60–3.14) reflected significant usability concerns. Attitudes toward AI (Attitude Toward Using, ATU) were generally positive, yet many students still expressed a preference for traditional methods. BIU of AI tools in the future was polarized, with 62% demonstrating strong intent while 38% showed reluctance. Demographic factors such as gender, age, and academic program significantly influenced students' perceptions. These findings underscore the importance of providing tailored strategies and adequate support to facilitate the successful integration of AI in educational settings, ensuring its potential is fully realized.*

Keywords: *Artificial Intelligence, Technology Acceptance Model, Business English Correspondence, Business Administration*

INTRODUCTION

The rapid advancement of Artificial Intelligence (AI) has significantly influenced various sectors, including education as it has the potential to revolutionize teacher training programs by providing new tools and resources that can improve teaching and learning outcomes (Obenza et al., 2023). In the realm of higher education, particularly in vocational institutions (Basri et al., 2020), AI presents new opportunities for enhancing learning experiences and improving skill acquisition. One of its transformative forces is the adoption of AI-driven chatbots like ChatGPT, which has gained significant popularity among university students in their academic pursuits (Obenza et al., 2023).

One area where AI is proving to be particularly beneficial is in the development of Business English correspondence skills (Amansyah et al., 2023). Effective communication in English is crucial for students in Business Administration and other related fields, as it equips them with the necessary tools to engage in global business environments. However, traditional methods of teaching English, especially in vocational education settings in Indonesia, often fall short in providing personalized, immediate feedback and targeted practice that students need to excel in this area. This shortfall underscores the importance of exploring innovative solutions like AI to bridge these gaps (Cubric & Li, 2024; Herzog & Blank, 2024; Prokopenko et al., 2024).

In Indonesia, vocational higher education plays a pivotal role in producing a skilled workforce that meets the demands of the local and international markets (Chitkara et al., 2020). However, one of the persistent challenges faced by these institutions is equipping students with proficient Business English skills (Mudariah et al., 2020), which are essential for effective communication in the global market. Traditional teaching methods often rely heavily on classroom-based instruction and manual grading, which can be time-consuming and less effective in addressing individual student needs. The integration of AI into the learning process offers a promising alternative by providing personalized learning experiences, automated feedback, and real-time assistance in language learning (Anas, 2019), particularly in writing business correspondence.

Despite the potential benefits of AI in education, there is a noticeable research gap in understanding how students perceive the usefulness and ease of use of AI tools in enhancing their Business English correspondence skills (Alghasab, 2025; Almaraz-López et al., 2023; Chapwanya, 2025; Kot & Nykyporets, 2024; Slimi et al., 2025). While numerous studies have explored the application of AI in education broadly, there is a limited focus on its specific impact on Business English learning in vocational higher education settings in Indonesia. Previous research has primarily concentrated on general language acquisition, gamification in language learning, and the use of AI in automated grading systems. However, there is a lack of empirical studies that investigate student attitudes toward AI in the context of business communication, especially from a Technology Acceptance Model (TAM) perspective.

This research aims to fill this gap by focusing on student perceptions of AI's usefulness (Perceived Usefulness, PU) and ease of use (Perceived Ease of Use, PEOU) in improving their Business English correspondence skills. The study will examine the factors that influence students' attitudes toward using AI (Attitude Toward Using, ATU) and their behavioral intention to use AI (Behavioral Intention to Use, BIU) in the future. By applying the TAM framework, this research will provide a comprehensive understanding of the acceptance of AI tools among vocational students in Indonesia.

The novelty of this research lies in its focus on a specific educational context—vocational higher education in Indonesia—and its examination of AI's role in enhancing a critical skill set for business students. Unlike previous studies that may have taken a broader approach, this research narrows down the focus to Business English correspondence, a key competency for students preparing for careers in business and administration. Furthermore, by employing the TAM framework, this study not only explores the technical aspects of AI integration but also delves into the psychological and behavioral factors that influence its adoption among students. This dual focus on both the technical efficacy and the user acceptance of AI in education represents a significant contribution to the existing body of research.

The novelty of this research lies in its specific focus on vocational higher education in Indonesia, a context that has received limited attention in AI adoption research despite being critical to workforce development. Unlike previous studies that have examined AI integration in general educational settings or focused on traditional universities, this research specifically investigates how vocational students—who face unique practical skill demands and time constraints—perceive and adopt AI tools for Business English correspondence. This context is particularly significant as vocational institutions serve as bridges between education and employment, making their graduates' technological adaptability crucial for Indonesia's economic competitiveness in the global market.

Furthermore, this study contributes to the literature by examining Business English correspondence skills specifically, rather than general language learning. Business correspondence represents a specialized domain requiring not only linguistic competence but also cultural awareness, professional conventions, and strategic communication skills. The application of TAM in this specific context provides insights into how students balance the technical aspects of AI tools with their professional development needs. Additionally,

by focusing on a non-Western, developing country context (Indonesia), this research addresses the geographic bias in existing technology acceptance literature, which has predominantly featured Western, developed nations. The findings thus contribute to understanding how cultural, institutional, and economic factors in emerging economies influence AI adoption in educational settings.

RESEARCH METHOD

This study employed a quantitative research design with a survey approach to investigate students' perceptions of Artificial Intelligence (AI) in improving Business English communication abilities. The Technology Acceptance Model (TAM) functioned as the theoretical framework, emphasizing two major constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). The selection of a quantitative approach was justified by the need to systematically measure and compare student perceptions across standardized constructs, enabling statistical analysis of relationships between TAM variables and demographic factors. This approach aligns with established practices in technology acceptance research and allows for replicability and generalizability of findings (Davis, 1989; Venkatesh & Davis, 2000).

Before the survey was conducted, the students had been exposed to AI tools through various practical applications integrated into their Business English courses. These tools included AI-powered writing assistants, grammar correction software, and automated translation systems, all aimed at enhancing their business communication skills. The exposure was facilitated through in-class activities, assignments, and projects that required the use of AI to complete tasks such as drafting business correspondence, translating documents, and improving grammar accuracy. This consistent exposure ensured that students were not merely evaluating the potential of AI theoretically but had actual hands-on experience with these tools.

The survey was designed to measure the students' perceptions based on their real-world use of AI in these educational contexts, thus allowing for a scientifically valid assessment of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Additionally, the survey sought to gather insights into students' Behavioral Intention to Use (BIU) AI tools in the future, drawing on their firsthand experiences to evaluate how these tools influenced their communication effectiveness and productivity.

The research encompassed 50 students enrolled in the Business Administration Program at the State Polytechnic Ujung Pandang (PNUP), a vocational higher education institution in Indonesia. The sample was selected using purposive sampling technique, with specific inclusion criteria: (1) students must be in their third or fourth semester of study, ensuring adequate exposure to Business English courses; (2) participants must have completed at least 8 weeks of AI-integrated coursework; and (3) students must have submitted a minimum of 5 business correspondence assignments using AI tools. These criteria ensured that participants possessed sufficient experience to provide informed perceptions.

The sample size of 50 was determined based on Hair et al.'s (2010) recommendation of a minimum of 10 observations per predictor variable for multiple regression analysis. With 5 TAM constructs (PU, PEOU, ATU, BIU, and demographic factors), a sample of 50 provides adequate statistical power for the analysis. While this represents a limitation in terms of generalizability, it is appropriate for an exploratory study in this specific context. The sample was intentionally chosen to ensure that the participants have relevant experience with Business English correspondence and AI technologies within their program. Seventy percent of respondents were female, reflecting the gender distribution within the program. The participants were aged 20 to 22 years, reflecting the standard age range of students in the program.

A structured questionnaire was developed based on the constructs of the Technology Acceptance Model (TAM). The questionnaire consisted of multiple sections:

- a) Demographic Information to collect basic demographic data, including gender, age, and academic background.
- b) Perceived Usefulness (PU) was designed to measure the extent to which students believed that using AI would enhance their performance in Business English correspondence. Sample items included statements such as "Using AI improves my productivity in Business English correspondence" and "AI helps me produce higher-quality written communication."
- c) Perceived Ease of Use (PEOU) to obtain the students' perceptions of how easy it was to use AI tools in their coursework. Items included statements like "Learning to operate AI tools is easy for me" and "I find AI tools to be user-friendly in completing my assignments."
- d) Attitude toward Using (ATU) to measure the students' overall attitude toward using AI in their studies, including their feelings of enjoyment and value associated with AI tools.
- e) Behavioural Intention to Use (BIU) to explore the likelihood that students would continue to use AI in the future and recommend it to others.

The questionnaire used a 5-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5) to capture the intensity of the respondents' perceptions and attitudes.

RESULT AND DISCUSSIONS

Student Perceptions of AI in Business Communication: A Technology Acceptance Approach

The study's findings highlighted the different perspectives of students concerning the use of Chat GPT in improving Business English correspondence abilities, as examined through the Technology Acceptance Model (TAM). The research encompassed 50 students from the Business Administration Program, concentrating on essential TAM metrics: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude Toward Using (ATU), and Behavioral Intention to Use (BIU).

Students' Perceived Usefulness (PU) of Chat GPT in Improving Business English Correspondence Skills

There are five variables related to Perceived Usefulness (PU) assess student attitudes on the application of Artificial Intelligence (AI) in enhancing Business English correspondence abilities, as illustrated in the following table:

Table 1. Students' Perceived Usefulness (PU) of Chat GPT in Improving Business English Correspondence Skills

Indicators	SD (1)	D (2)	U (3)	A (4)	SA (5)
PU1: AI increases my productivity in Business English correspondence	22	26	26	18	8
PU2: AI helps me complete Business English correspondence tasks more efficiently	26	8	20	26	20
PU3: AI improves the quality of my correspondence writing	18	24	14	22	16
"PU4: AI makes it easier for me to understand the proper structure of Business English writing	24	24	14	22	16
PU5: AI makes me more confident in writing Business English correspondence	22	12	24	30	12

Note: 1- Strongly Disagree; 2- Disagree; 3- Neutral, 4- Agree, 5- Strongly Agree

From Table 1, it can be inferred that the first indicator of PU1, which assesses the impact of AI on students' productivity in Business English correspondence, reveals an average score of 2.64. This suggests that the majority of respondents hold a neutral to slightly positive perspective regarding AI's influence on their productivity. Approximately 22% expressed strong disagreement, while merely 8% indicated strong agreement, reflecting a notable reluctance.

The indicator for PU2 (AI assists in completing correspondence tasks more efficiently) reflects an average score of 3.06, suggesting a marginally more favourable trend relative to PU1. Twenty percent of respondents expressed neutrality, while 26% agreed and 20% strongly agreed that AI enhanced their efficiency. Nonetheless, 26% expressed strong disagreement, indicating significant variability in students' experiences with AI efficiency.

In PU3, which examines the impact of AI on the quality of students' correspondence writing, the average score was 3.22, indicating a notable tendency toward agreement. Twenty-eight percent of respondents agreed, and twenty-two percent strongly agreed that AI enhanced the quality of their writing; however, eighteen percent strongly disagreed.

PU4 indicates that AI facilitates comprehension of Business English writing structure, with an average score of 2.82, suggesting that numerous students continue to have uncertainties regarding AI's role in this aspect of writing. While 22% expressed agreement, only 16% indicated strong agreement, and 24% expressed strong disagreement.

The final indicator PU5, which assesses whether AI enhances students' confidence in writing Business English correspondence, received an average score of 2.98, indicating predominantly neutral perceptions regarding AI's influence on writing confidence. Twenty-four percent agreed and twelve percent strongly agreed, whereas twenty-two percent strongly disagreed, indicating significant variation in confidence perceptions.

This result aligns with existing literature on AI adoption in educational and professional settings, which suggests that while there is optimism about AI's potential, there are still considerable reservations among users (Wang et al., 2023). The reluctance observed in this study, with 22% of respondents expressing strong disagreement, suggests that there are barriers whether they be lack of familiarity, concerns over the technology's efficacy, or fears of being replaced by AI—that prevent students from fully embracing AI. These barriers are common in the early stages of technology adoption, as highlighted in the Technology Acceptance Model (TAM), where perceived usefulness and ease of use are critical factors for adoption (Davis & Davis, 1989).

Perceived Ease of Use (PEOU)

Five indicators reflect students' perceptions of Perceived Ease of Use (PEOU) concerning the utilization of Chat GPT for enhancing Business English correspondence skills. The following data is presented:

Table 2. Students' Perceived Ease of Use (PEOU) of Chat GPT in Improving Business English Correspondence Skills

Indicators	SD (1)	D (2)	U (3)	A (4)	SA (5)
PEOU1: I find it easy to learn how to use AI in Business English correspondence exercises	24	32	20	8	16
PEOU 2: Interaction with AI in Business English correspondence exercises is clear and easy to understand	18	18	14	14	20
PEOU 3: Using AI in Business English correspondence exercises does not require much mental effort	26	20	20	26	20
PEOU 4: I find the AI easy to access and use for English Business correspondence practice.	20	16	12	24	28
PEOU 5: I feel comfortable using the AI in the process of learning English Business correspondence.	18	20	14	28	20

Note: 1- Strongly Disagree; 2- Disagree; 3- Neutral, 4- Agree, 5- Strongly Agree

The indicator on PEOU1, which assesses the ease of learning to use AI in the English Business correspondence exercise, received an average score within the neutral to disagree range, with 24% of respondents strongly disagreeing and 32% disagreeing. Only 16% expressed strong agreement. This indicates that numerous students struggle to learn the application of AI in correspondence exercises. PEOU1 data indicates that numerous students encounter challenges in acquiring the skills necessary to utilize AI effectively. This may result from insufficient guidance, inadequate time for adaptation, and the use of an interface that lacks user-friendliness.

The responses to PEOU2 indicated a more balanced distribution, with 18% of participants strongly disagreeing and 24% strongly agreeing regarding the clarity and comprehensibility of the AI interaction in the English Business correspondence exercise. This indicates that certain students experienced ease in interacting with the AI, whereas others encountered difficulties. PEOU2 indicates that although certain students perceived the interaction with the AI as straightforward, others expressed dissenting views. This indicates that students' interactions with AI differ significantly, potentially linked to individual variations in technological proficiency or usage preferences. Additionally, concerning mental effort, PEOU3 (The use of AI in English Business correspondence exercises does not require much mental effort) indicates that 26% of respondents strongly disagreed.

In PEOU3, numerous students expressed that utilizing AI necessitates significant mental effort. This indicates that AI possesses complexities that may not be adequately optimized for student use, particularly for those lacking familiarity with analogous technologies.

In the context of PEOU4, 20% of respondents strongly disagreed with the statement regarding the ease of access and use of AI for English Business correspondence practice, while 28% strongly agreed. This indicates a divergence in student experiences, with some perceiving challenges in accessibility, whereas others reported a high level of comfort in utilizing the technology. This may relate to device availability or varying levels of technological understanding among students. Results from PEOU4 indicate that the accessibility of AI varies among students. This may pertain to hardware availability, internet connection stability, or obstacles in accessing specific AI platforms.

PEOU5 (I feel comfortable using AI in the process of learning English Business correspondence) yielded moderately positive outcomes, with 28% of respondents agreeing and 20% strongly agreeing.

Nonetheless, 18% of students expressed strong disagreement, suggesting that a portion of the student population remains uncomfortable with the integration of AI in their educational experience. Although many students exhibit comfort with AI (PEOU5), a subset continues to experience discomfort. This may result from insufficient experience or a discrepancy between students' expectations and the functionalities offered by AI.

Student perceptions of AI ease of use reveal substantial challenges that must be addressed to facilitate broader and more effective adoption of AI in educational contexts (Abdekhoda et al., 2022). AI has significant potential to enhance learning; however, challenges related to usability, accessibility, and convenience must be systematically addressed to ensure equitable utilization of this technology by all students. Artificial intelligence gives them a huge boost in productivity, which may suggest that there is a gap in the way that AI technologies are presented and incorporated into the curriculum (Posillico & Edwards, 2024). The research indicates that the perceived utility of tools tends to rise when users are provided with adequate training and when the tools are integrated into jobs in a seamless manner. In light of this, it is imperative that educational institutions and teachers give students with complete training in artificial intelligence (AI) and illustrate its practical applications in real-world business settings (Yue et al., 2024). This will assist students in understanding the usefulness of AI beyond the realm of academic knowledge.

Attitude Toward of Using (ATU)

The following table illustrates the four indicators in ATU that are used to ascertain student perceptions based on Attitude Toward Using (ATU) regarding the use of Artificial Intelligence (AI) to enhance Business English correspondence skills.

Table 3. Students’ Attitude Toward of Using (ATU) of Chat GPT in Improving Business English Correspondence Skills

Indicators	SD (1)	D (2)	U (3)	A (4)	SA (5)
ATU1: Using AI for Business English correspondence practice is a good idea.”	18	14	20	24	24
ATU2: I feel good about using AI to improve my Business English correspondence skills.	22	22	16	14	26
ATU3: I find AI a useful tool for Business English correspondence practice	20	22	16	14	26
ATU4: I prefer using AI over traditional methods in learning Business English correspondence.	24	18	16	20	22

Note: 1- Strongly Disagree; 2- Disagree; 3- Neutral, 4- Agree, 5- Strongly Agree

Data analysis indicates that ATU1 (Utilizing Chat GPT for Business English correspondence practice is beneficial): Student responses revealed a favorable trend, with 24% strongly agreeing and 24% agreeing. Nevertheless, 18% expressed strong disagreement, reflecting a cohort of students who were skeptical about the application of AI. The findings for ATU1 indicated that a significant number of students perceived the utilization of AI as beneficial. Nonetheless, the 18% who strongly disagree suggest ongoing resistance to this technological innovation, potentially stemming from a lack of understanding or discomfort with the new technology.

The results were mixed, with 26% of respondents strongly agreeing and 14% agreeing, while 22% strongly disagreed. This indicates that although numerous students appreciate the use of AI, some express discomfort or dissatisfaction with its application. ATU2 indicates that while the majority of students appreciate the use of AI, a subset expresses feelings of unhappiness or discomfort. This may result from insufficient experience with AI utilization or unfulfilled expectations.

ATU3 indicates a favorable perception of AI as a beneficial resource for Business English correspondence practice, evidenced by 32% of respondents strongly agreeing and 20% agreeing. Only 20% expressed strong disagreement, suggesting that most students regarded the AI as a beneficial tool. ATU3 data indicates a favorable outlook, as a significant number of students view AI as a beneficial tool. This indicates that students are increasingly recognizing the potential of AI to enhance their correspondence skills, though skepticism persists among some individuals.

ATU4: Attitudes regarding the preference for AI over traditional methods in learning Business English correspondence exhibited a moderate division. 22% of respondents strongly agreed, 20% agreed, while 24% strongly disagreed. This demonstrates a notable disparity in preferences for learning methodologies. The ATU4 results indicate that, although there is support for AI, a strong preference for traditional learning methods persists. Some students may prefer familiar methods, believing that AI cannot fully substitute these approaches.

Students' attitudes towards the use of AI indicate significant potential, alongside notable challenges that must be addressed. Many students view AI as an effective tool for enhancing their Business English correspondence skills. However, there exists a cohort that experiences discomfort or favors conventional approaches. Maximizing the adoption and effectiveness of AI requires a comprehensive approach that integrates the advantages of this technology with the needs and preferences of students.

Personal Growth and Confidence Building Behavioral Intention to Use (BIU)

The table below presents four indicators in Behavioural Intention to Use (BIU) that assess student attitudes regarding the utilization of Chat GPT for improving English correspondence skills.

Table 4. Students' Behavioral Intention to Use (BIU) Chat GPT in Improving Business English Correspondence Skills

Indicators	SD (1)	D (2)	U (3)	A (4)	SA (5)
BIU1: (I intend to continue using AI for Business English correspondence practice in the future)	10	12	16	36	26
BIU2: (I would recommend using AI to my friends to learn Business English correspondence.)	24	24	18	18	16
BIU3 (I plan to use AI in my future Business English correspondence assignments):	14	18	24	20	24
BIU4 (I feel AI will be an important part of my learning process in the future.)	8	14	28	24	26

Note: 1- Strongly Disagree; 2- Disagree; 3- Neutral, 4- Agree, 5- Strongly Agree

Regarding Indicator BIU1 (I intend to continue in utilizing AI for forthcoming Business English correspondence tasks): The findings indicated that 36% of students strongly agreed, while 26% agreed, demonstrating that most students expressed interest in the continued usage of AI. Only 12% expressed disagreement, while 10% expressed agreement, suggesting a strong determination to utilize the AI

continuously. The findings for BIU1 indicate that the majority of students exhibit significant enthusiasm and plan to persist in utilizing AI. This may be from a gratifying encounter or a perception that AI offers substantial advantages to people.

I recommend for utilizing AI to my friends for the purpose of acquiring Business English communication skills. The findings indicate that 24% strongly disapprove and 24% disagree, signifying considerable opposition to endorsing AI to others. Conversely, just 16% expressed great agreement in recommending the utilization of AI. BIU2 indicates that numerous students are at ease suggesting AI to others, which may suggest a deficiency in confidence over the efficacy or user-friendliness of AI. This is a significant signal that the experience reported by students may not be sufficiently favorable to promote broader adoption.

In the context of BIU3 (I want to utilize AI for my forthcoming Business English correspondence work), 24% of respondents strongly agreed, whereas 8% strongly disagreed. Additionally, 14% expressed strong disagreement, and 24% disagreed. This signifies diverse goals about the use of AI in forthcoming activities. BIU3 results indicate diverse intentions on future AI utilization. This may suggest that certain groups of students see advantages in specific settings, although they remain unconvinced regarding the long-term benefits of AI.

BIU4 (I believe AI will play a significant role in my educational journey moving forward): 26% strongly concurred that AI will play a significant role in their education, whereas 8% strongly opposed this notion, and other 14% expressed disagreement. This signifies an increased trust in AI's long-term potential, but not universally across respondents. BIU presents a more optimistic perspective on the long-term use of AI in education. Despite lingering uncertainties, an increasing number of students believe that AI will play a significant role in their education, indicating potential for continued advancement (Xia & Li, 2023).

CONCLUSION

Using the Technology Acceptance Model (TAM), this study found that students generally viewed ChatGPT as useful for enhancing Business English correspondence skills, yet significant disparities emerged, with many citing difficulties in learning and accessing it. Attitudes toward AI were mixed—some appreciated its helpfulness and enjoyment, while others favored conventional methods—resulting in low intentions to continue using or recommending it, highlighting barriers to broader adoption. For future research, longitudinal studies could track changes in students' AI usage intentions over time, incorporating training interventions to address usability concerns and boost sustained integration in vocational curricula. This research is funded by Ministry of Research and Technology/Board of National Research and Innovation, with contract Number: 796/P/2024. We thank the director of State Polytechnic of Ujung Pandang for facilitating the implementation of this project.

REFERENCES

- Abdekhoda, M., Dehnad, A., & Zarei, J. (2022). Factors influencing adoption of e-learning in healthcare: integration of UTAUT and TTF model. *BMC Medical Informatics and Decision Making*, 22(1), 1–8. <https://doi.org/10.1186/s12911-022-02060-9>
- Alghasab, M. B. (2025). English as a foreign language (EFL) secondary school students' use of artificial intelligence (AI) tools for developing writing skills: unveiling practices and perceptions. *Cogent Education*, 12(1), 2505304.
- Almaraz-López, C., Almaraz-Menéndez, F., & López-Esteban, C. (2023). Comparative study of the attitudes and perceptions of university students in business administration and management and in

- education toward artificial intelligence. *Education Sciences*, 13(6), 609.
- Amansyah, F., Nur, S., & Anas, I. (2023). Digital Mind Mapping as a Pedagogical Tool to support the Student's business plan writing performance. *JOALL (Journal of Applied Linguistics and Literature)*, 8(2), 433–453. <https://doi.org/10.33369/joall.v8i2.27757>
- Anas, I. (2019). Educational Technology and Teacher-Student Technology Competency: a Pathway to Teaching English with Technology. *Journal of English Language Teaching and Linguistics*, 4(2), 181. <https://doi.org/10.21462/jeltl.v4i2.270>
- Basri, M., Patak, A. A., Musdariah, A., & Abduh, A. (2020). Innovative Learning Technology (ILT) in Indonesian Vocational Higher Education. *International Journal on Advanced Science, Engineering and Information Technology*, 10(6), 2599–2605. <https://doi.org/10.18517/ijaseit.10.6.11348>
- Chapwanya, O. (2025). Assessment of United Kingdom (UK) further education student perceptions of the significance of ChatGPT on learning experiences in business studies: An integrative literature review. *Studies in Technology Enhanced Learning*, 4(1).
- Chitkara, M., Kanwar, V. S., & Dutta, H. (2020). Redefining Indian Universities: An Insight of Education Sector towards Evolution of Industry 4.0 and 5.0. *University News*, 58(September), 45–49.
- Cubic, M., & Li, F. (2024). Bridging the 'Concept–Product' Gap in New Product Development: Emerging Insights from the Application of Artificial Intelligence in FinTech. *Technovation*, 134.
- Davis, F. D., & Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Herzog, C., & Blank, S. (2024). A systemic perspective on bridging the principles-to-practice gap in creating ethical artificial intelligence solutions—a critique of dominant narratives and proposal for a collaborative way forward. *Journal of Responsible Innovation*, 11(1), 2431350.
- Kot, S. O., & Nykyporets, S. S. (2024). Utilization of artificial intelligence in enhancing English language proficiency in tertiary education. *Science and Education in the Third Millennium: Information Technology, Education, Law, Psychology, Social Sphere, Management. Chap. 10: 250-274*.
- Musdariah, A., Basri, M., & Rahman, Q. (2020). *Lecturers' Attitude on Blended Learning-Based Instruction in Teaching English for Business in Indonesian Vocational Higher Education*. 16(4), 290–302.
- Obenza, B. N., Salvahan, A., Rios, A. N., & Solo, A. (2023). University Students' Perception and Use of ChatGPT: Generative Artificial Intelligence (AI) in Higher Education Article in. *International Journal of Human Computing Studies*, c, 5–18. <https://doi.org/10.5281/zenodo.10360697>
- Posillico, J. J., & Edwards, D. J. (2024). Developing a proof-of-concept curriculum foundation model for industry 5.0: A primary data survey of built environment academics. *Industry and Higher Education, February*, 0–22. <https://doi.org/10.1177/09504222231224090>
- Prokopenko, O., Jarvis, M., Bielialov, T., Omelyanenko, V., & Malheiro, T. (2024). The future of entrepreneurship: Bridging the innovation skills gap through digital learning. *International Conference Innovation in Engineering*, 206–230.
- Slimi, Z., Benayoune, A., & Alemu, A. E. (2025). Students' Perceptions of Artificial Intelligence Integration in Higher Education. *European Journal of Educational Research*, 14(2).
- Wang, X., Li, L., Tan, S. C., Yang, L., & Lei, J. (2023). Preparing for AI-enhanced education: Conceptualizing and empirically examining teachers' AI readiness. *Computers in Human Behavior*, 146(April), 1–11. <https://doi.org/10.1016/j.chb.2023.107798>
- Xia, X., & Li, X. (2023). Artificial Intelligence for Higher Education Development and Teaching Skills.

Wireless Communications and Mobile Computing, 11, 1–11. <https://doi.org/10.1155/2022/7614337>
Yue, M., Jong, M. S. Y., & Ng, D. T. K. (2024). Understanding K–12 teachers' technological pedagogical content knowledge readiness and attitudes toward artificial intelligence education. In *Education and Information Technologies* (Issue 0123456789). Springer US. <https://doi.org/10.1007/s10639-024-12621-2>