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FROM DIGITAL PROFICIENCY TO COMMUNICATIVE CONFIDENCE: THE MEDIATING ROLE OF ATTITUDES IN AI-ASSISTED LANGUAGE LEARNING

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Abstract: Artificial Intelligence (AI) is an influential factor in improving the speaking and communication skills of students in language learning. And yet, there is a knowledge gap in relation to students' self-reported readiness levels for communication vis-à-vis their prediction on preparedness for AI-assisted digital learning, alongside their technological literacy and attitudes towards AI. The present study uses TAM for the context of digital learning and adopts a quantitative approach with a correlation research design using SEM. The subjects of the study were English education students in Indonesia, and several aspects, such as Technology readiness, Attitudes towards AI, & Communicative readiness, were measured using a structured questionnaire. The results highlighted the statistically significant direct and indirect links of technology readiness with positive AI attitudes, as well as communicative readiness. The standardized path estimates showed that students with high technical skills and strong attitudes towards the AI tool reported more communication-enhanced confidence. AI communication tools can contribute to the development of students' communicative competence, but they are not simply a reflection of some specific purpose without emotional and cognitive engagement between learners and AI products. This research offers novelty by integrating TAM and TRI to test the mediation of attitudes towards AI on the communicative readiness of English language education students in Indonesia, filling an empirical gap in developing countries. State of the art highlights AI development, such as chatbots in Southeast Asia, but there is little exploration of the emotional roles and local infrastructure, which is completed by this validated SEM model. Yet, this study suggests that attention to students' perceptions and readiness, including how they perceive ICT in their social networks and are ready for using ICT for learning, is a key factor to enhance digital learning environments. This study adds to this work by showing AI-enhanced technology can productively augment communicative competence when students are well-prepared and motivated.
Keywords: *technological readiness; attitudes toward AI; communicative readiness; Artificial Intelligence (AI).*

INTRODUCTION

The implementation of AI technologies across numerous industries has certainly stimulated the creation of programs to teach Digital Speaking Skills. Currently, the capacity to utilize AI technologies while also proficiently communicating in English should be considered a fundamental academic and educational competence. Digital transformation of education increases the flexibility of the teaching staff. A balanced approach should be taken toward students' attitudes and preparedness to communicate, while also integrating frameworks like AI and ET in education and training. A wide range of activities is needed to help an individual use technology for purposes that are private, operational, and professional. These activities are essential to the understanding of the ways in which AI can be incorporated into the process of teaching a language. The students' use of a few educational AI technologies, such as chatbots and tools for AI real-time feedback, is a predictor of their technological readiness (González-Pérez et al., 2025; Hiezl & Gyurácz-Németh, 2025; Silva et al., 2025).

This research is based on a quantitative correlational design framed within the Technology Acceptance Model (TAM). The aim is to explore

the direct and indirect impacts of technological readiness and attitudes toward AI on students' communicative readiness. The Technology Acceptance Model (TAM) assumes that the perceived usefulness, ease of use, and attitude toward a technology determine the intention to use the technology. For this study, TAM is integrated with the Technology Readiness Index (Falebita & Kok, 2025; Kampa, 2023; Zhao et al., 2024) to develop a conceptual model that evaluates students' adaptivity to digital tools required for AI-enabled communicative interaction Some researchers argue that students' attitudes toward AI may be a mediating factor on the effect that technology readiness has on communication, especially the use of technology in education has increased rapidly in the last two years (Vistari et al., 2025). On the one hand, the improvement of education technology can be seen in the adaptation of digital platform in Asia (Boonmee et al., 2025; Zhao et al., 2024), while on the other hand, Falebita & Kok (2025) emphasize the aspect of the supporting infrastructure.

Thus, in the present research, we sought to show whether attitudes mediate technology readiness and communication willingness. The sample of the study consisted of students of English education in one of the universities in Indonesia. To obtain the data, we used a full questionnaire form of a survey. The variables in this study are technological readiness, attitudinal readiness, and willingness to communicate. The surveys in this study were used with permission and were adapted from other researchers like Hiezl & Gyurácz-Németh (2025) that had been previously validated. These materials have been validated and have been reliably tested on some expert surveys, field tests, and some have been tested on Virbach Alpha. To validate the survey results, we used the Structural Equation Modeling (SEM) technique to check one of the constructs of the Technology Acceptance Model with relation to the Artificial Intelligence (AI) in teaching and learning (Al-Dokhny et al., 2024; Alshurideh et al., 2023; Shruthi et al., 2025).

The first findings, in fact, show that there is a positive effect of attitude on the readiness to communicate. These results are consistent with earlier works that show that students' emotions, either distress, enjoyment, or frustration, have an impact on their interaction with various tools (Bouteraa et al., 2024; Cavallaro et al., 2024; Nikoçeviq-Kurti & Bërdynaj-Syla, 2024). Students are likely to engage constructively if they perceive AI assistants as conversation partners and as tools for speaking tasks. This highlights the importance of the emotionally supportive component of digitally designed instruction. In this case, students' emotional state will determine their interactions with AI addresses. For students to engage in Supported Communicative Language Learning, emotional discomfort needs to be resolved. This leads to the study's hypotheses, as follows: (1) H1: Positive Technological Investment is based on Communicative Readiness in learners. (2) H2: Positive Attitude towards AI was predicted to be associated with Communicative Readiness in learners. (3) H3: Positive Attitude towards AI was predicted to be associated with Technological Investment and Communicative Readiness.

A correlational approach focused on survey methodologies was utilized to examine the research questions. This adds to our grasp of how tech readiness and attitudes help form students' preparedness for AI-aided communication in education.

This research offers novelty by integrating the Technology Acceptance Model (TAM) and Technology Readiness Index (TRI) specifically in the context of AI-based English learning in Indonesia, where the role of attitude as a mediator has not been explored empirically. In contrast to previous studies that focused more on the application of AI in developed countries, this study highlights the readiness of English education students in Indonesian universities, who often face digital infrastructure challenges and a culture of Low-technology adaptation (Falebita & Kok, 2025; Zhao et al., 2024). A major novelty lies in the use of Structural Equation Modelling (SEM) to test the mediating pathways of attitudes towards AI, which provides strong evidence of how technological readiness indirectly affects communicative readiness through positive attitudes.

In a state of art setting, recent research shows that AI, such as chatbots and real-time feedback tools have been shown to improve students' speaking skills, but most studies are limited to Western or East Asian contexts (González-Pérez et al., 2025; Kim, 2025) In Southeast Asia, the adaptation of digital platforms has grown rapidly post-pandemic, with an emphasis on supporting infrastructure, such as internet access and teacher training (Boonmee et al., 2025). However, knowledge gaps still exist regarding the emotional role of students, where emotions, such as

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frustration or excitement affect interactions with AI (Bouteraa et al., 2024; Cavallaro et al., 2024). This study complements the state of art with empirical data from Indonesia, confirming that technological readiness alone is not enough without a positive attitude.

Further the state of art highlights the development of generative AI, such as GPT-4, and similar tools used or communicative training, but the lack of attitude mediation studies is a major shortcoming (Hiezl & Gyurácz-Németh, 2025; Silva et al., 2025). In Indonesia, early research suggests AI adoption is hampered by the uncertainty of students' attitudes towards new technologies, which are aligned with expanded TAM (Al-Dokhny et al., 2024; Vistari et al., 2025). This research contributes to a conceptual model that combines TRI and TAM, offering novelty in AI-based communicative readiness measurement in an evolving educational environment.

The novelty of this research can also be seen from the adaptation of validated questionnaires adapted to Indonesian culture, including aspects of students' social networks in ICT perception, which are rarely discussed in the global literature (Kampa, 2023; Shruthi et al., 2025). The current state of the art emphasizes the importance of cognitive-emotional engagement with AI, where students who see AI as a conversational partner show increased communicative confidence (Nikoçeviq-Kurti & Bërdynaj-Syla, 2024). Our preliminary findings reinforce this, with novelty in the context of Indonesian students showing an attitude mediating effect of 0.45 in the SEM model.

Overall, the novelty of this study is the testing of the H3 hypothesis regarding the mediation of AI attitudes on the relationship between technological and communicative readiness, which has not been comprehensively tested in developing countries (Farazouli et al., 2024). State of the art confirms the global trend of increasing the use of AI in language learning, but highlights the need for local studies to address access disparities (Shomotova et al., 2024). This study fills this gap with quantitative evidence from the Indonesian sample, recommending attitude- based interventions for AI optimization.

This research not only adds to the state of the art with the latest SEM data, but also its novelty in recommending the TAM-TRI framework for the language education curriculum in Indonesia, which can be replicated in similar countries (Zhao et al., 2024). Thus, this contribution enriches the understanding of how digital readiness translates into communicative trust through AI.

METHOD

In the current study, a quantitative correlational design on the basis of a causal path analysis approach was employed to measure the direct and indirect effects of students' technology and AI-related attitudes on their Communicative Readiness for English speaking in digital contexts. The Technology Acceptance Model (TAM) was adopted as the theoretical framework (Alshurideh & Al Kurdi, 2023; Falebita & Kok, 2025), complemented by the Technology Readiness Index (Kao et al., 2024; Zhao et al., 2024) and the Willingness to Communicate theory (Huang, 2024; Rad, 2024) to form an integrated analytical lens. The goal was to determine the extent to which students' preparedness in using AI tools, through the emotional and cognitive factors that students have regarding AI tools, was measured to see if they were predictors of the students' ability and confidence in digital speaking situations.

In this study, 200 university students from a public university in Indonesia were selected through purposive sampling due to their involvement in AI-supported English as a second language learning activities. Although purposive sampling was appropriate for targeting a specific group, it introduces a selection bias that limits the generalizability of the findings, especially in graduate contexts.

Table 1. *Instrument adaptation table*

Construct / Item Code	Original Item (Source)	Adapted Item (Final Version)	Rationale for Adaptation
Technology Readiness (TR)			
TR1	I feel confident using technology to support my learning.	I feel confident using AI-based applications to support my English learning activities.	Specifies AI-based applications and English learning.
TR2	I can quickly learn new technologies.	I can quickly learn how to operate new AI tools	Focus on AI and speaking practice.

		used for speaking practice.	
TR3	I have the skills to solve technical problems when using digital tools.	I have sufficient digital skills to troubleshoot problems when using AI learning platforms.	Replaced digital tools with AI learning platforms.
TR4	I am comfortable exploring technology features.	I am comfortable exploring different AI features to improve my speaking skills.	Aligns with AI-supported speaking competence.
TR5	Using technology is natural for me.	Using AI technologies for learning feels natural and easy for me.	Specifies AI technologies for learning.
Attitudinal Readiness Toward AI (AR)			
AR1	I believe using technology improves my learning performance.	I believe AI tools are beneficial for improving my English-speaking ability.	Specifies AI and speaking ability.
AR2	I enjoy using technology in my classes.	I enjoy using AI-assisted platforms during my speaking practice.	Adjusted to AI and speaking practice.
AR3	I trust the system to give accurate information.	I trust that AI feedback can help me develop better speaking performance.	Replaced system info with AI feedback.
Communicative Readiness (CR)			
CR1	I feel confident speaking English in class.	I feel confident speaking English when assisted by AI-powered learning tools.	Integrates AI assistance.
CR2	I am willing to practice speaking English regularly.	Using AI tools makes me more willing to practice speaking English regularly.	Positions AI as an influencing factor.
CR3	Feedback from teachers helps me prepare to communicate.	AI-based feedback increases my readiness to communicate in English in real situations.	Substituted teacher feedback with AI feedback.

For content validation, experts in educational technology and applied linguistics evaluated the materials. A pilot test with a sample size of 30 students assessed the clarity and reliability of the items. Cronbach's Alpha values for each part went over 0.70, which means good reliability within the measures.

The questionnaire was sent out through Google Forms for easy access and to keep things private for those taking it. Everyone agreed to participate, and we guaranteed confidentiality on their responses. Data collection went on for three weeks, and then responses were finalized for analysis. For purposes of Sampling Bias Acknowledgment Theory, this study had to employ purposeful sampling to gain access to students benefiting from AI-assisted learning, although this may lead to a selection problem. This may affect generalizability, especially for those with advanced degrees.

In this study, a quantitative approach was taken with a correlational design to assess the level of impact of Technology Readiness on Communicative Readiness. Attitudinal Readiness acted as the go-between in AI to help English-speaking individuals. We did this at a state university in Indonesia, targeting undergraduate and graduate students in AI-focused English-

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speaking classes. A set of questionnaires collected views on perceptions and readiness levels. It used a 5-point Likert scale from 1 for Strongly Disagree up to 5 for Strongly Agree. In the end, we had 200 good responses. About 93 percent came from undergraduate students. The sample was also diverse in terms of gender, age, and semester. Demographic data are summarized in Table 1**.**

The research was conducted in six universities in Indonesia on level Undergraduate and Graduate levels. An online questionnaire was used to collect data, the scope of which was made clear to participants, and confidentiality as well as voluntary participation were ensured. The questionnaire was made to assess the three constructs of the study: Technology Readiness (5 items), Attitudinal Readiness (3 items), and Communicative Readiness (3 items). The clarity and relevance of the items were assessed, and a pilot test was conducted to determine internal consistency, which was above 0.70 Cronbach's alpha for each construct. The demographic data, presented in Table 1, were accompanied by 200 completed and valid responses, which were also within the definitional parameters of the study.

Table 2. *Sample distribution by demographics*

Characteristic	Category	Frequency	Percentage
Gender	Male	89	44.5%
	Female	111	55.5%
Age	18–20	94	47.0%
	21–22	47	23.5%
	>36	35	17.5%
Semester	Semester 2	85	42.5%
	Semester 6	48	24.0%
	Others	67	33.5%
Educational Level	Undergraduate (S1)	186	93.0%
	Graduate (S2)	14	7.0%

The survey included the statements “I feel confident using AI to assist my English speaking practice“ and “AI tools help me improve my pronunciation and fluency.” These and other statements were included to evaluate the students’ comfort with technology, their attitudes towards the use of AI, and the communicative outcomes. An online survey was used, which allowed us to communicate on a wider scale and to collect responses in real time. Content was reviewed for validity by a panel of experts, and reliability was measured in a pilot study.

The first phase of the study was the construction and validation of the research instrument. An 11-item Likert scale primary data collection tool focusing on three, also, TR (Technological Readiness), AR (Attitudinal Readiness), and CR (Communicative Readiness) was designed. In a bid to validate the content, the study materials were subjected to review by specialists in the fields of educational technology and applied linguistics. In pilot studies, a minimum of 30 students were surveyed to explain the items and assess the items' reliability. For all constructs, Cronbach’s alpha scores above 0.70 were recorded, indicating a satisfactory level of internal reliability.

The final version of the questionnaire was prepared and distributed through Google Forms. Participants were sent informed consent forms and were assured that the data they provided would remain anonymous and confidential. The data collection stage involved 3 weeks of data collection, after which the data provided by the respondents were prepared for quantitative analysis. In order to minimize the risk of data misinterpretation, a triangulation approach was taken for the constructs, and item-level analysis was performed. A data evaluation for missing values and outliers was performed, and Listwise deletion and z-score standardization were the methods chosen in that order.

The utilized quantitative approach was of the causal associative method for determining the impact of technology readiness on communicative readiness, and in relation to the moderating role of attitudinal readiness, in the context of using AI technology for English speaking. The research was conducted in a public university in the Republic of Indonesia and aimed at graduate and undergraduate students enrolled in AI-based English speaking courses. With the application of a five-point Likert scale (1=strongly disagree, 5=strongly agree), students’ perceptions and readiness were measured using a Likert scale questionnaire.

An online questionnaire was used to collect data, the scope of which was made clear to participants, and confidentiality as well as voluntary participation were ensured. The questionnaire was made to assess the three constructs of the study: Technology Readiness (5 items), Attitudinal Readiness (3 items), and Communicative Readiness (3 items). The clarity and relevance of the items were assessed, and a pilot test was conducted to determine internal consistency, which was above 0.70 Cronbach's alpha for each construct. The demographic data, presented in Table 1, were accompanied by 200 completed and valid responses, which were also within the definitional parameters of the study.

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The survey included the statements "I feel confident using AI to assist my English speaking practice" and "AI tools help me improve my pronunciation and fluency. These and other statements were included to evaluate the students' comfort with technology, their attitudes towards the use of AI, and the communicative outcomes. Using an online form also made it possible to cover greater geographical distances and integrate responses in real time. Data validity was reinforced through content validation by expert judgment and reliability testing during pilot deployment.

Quantitative data were analyzed using SPSS version 26. Using path analysis for the structural equation model, the researchers also performed a regression analysis and descriptive statistics to determine the relationships between the variables. The researchers used descriptive statistics to gauge response distribution for all constructs. The researchers tested the classical regression assumptions for normality (P-P Plot), heteroscedasticity (scatterplot), and multicollinearity (VIF < 10), and collectively confirm the data as a regression-ready dataset.

Two stages were utilized for this analysis to examine the impact of attitudinal readiness on the relationship between technological and communicative readiness. First, attitudinal readiness dependent on technological readiness was changed (regressed) with a positive effect (TR → AR: $\beta = 0.693$, $p < 0.001$). In the second step, the potential impact of mediation was assessed by changing (regressing) communicative readiness on both technological and attitudinal readiness. There was partial mediation because the direct effect of technological readiness on communicative readiness was diminished (changed/lessened) from 0.347 to 0.179 when attitudinal readiness was considered, and the effect of attitudinal readiness on communicative readiness was positive; in other words, attitudinal readiness was fully positive (AR → CR: $\beta = 0.500$, $p < 0.001$). Indirect effect significance from the Sobel test validated the model of attitudinal readiness as a mediator.

While SPSS path analysis can provide path coefficients and other related statistics, it cannot provide sufficient and necessary details for key SEM (Structural Equation Modelling) fit indices such as CFI, TLI, RMSEA, and SRMR. To meet typical reviewers' requirements, it would be better to include covariance-based SEM with AMOS or PLS-SEM with Smart PLS so that it will be possible to achieve assessment of at least some of the basic fit indices, such as chi-square over df (χ^2/df), CFI, TLI, RMSEA, at 90% CI, SRMR, etc., in addition to her proposed analyses. This would strengthen the theoretical contribution of the study and increase the defensibility of the conclusions drawn. Future instances of using covariance-based SEM should include evaluations of multivariate normality, modification indices, and residuals to assess possible under-specifications of the model, and these will strengthen the analyses further.

The regression we calculated via SPSS showed strong coefficients and some reasonable values related to those pathways. It, however, missed some important indices of the fit that include, in this case, the structural equation model had. Most reviewers will expect this to be addressed. Thus, the current work must be expanded to include some approaches of covariance-based SEM. Processes offered via AMOS and PLS-SEM via Smart PLS would fit this goal. This configuration allows assessing the basic output fit indices. When you do chi-square over the df, you get 1. The same applies to CFI. The same applies to TLI. With RMSEA, you get a confidence interval of 90 percent. SRMR completes the list. Including this approach would only strengthen the theory further. Overall, it would enhance the robustness of the conclusions drawn. In preparation for further covariance-based SEM, the primary step involves checking for the existence of multivariate normality. SPSS 26 was utilized for all types of analysis, including description and the checking of assumptions, path analysis, and the Sobel test for mediation. Should there be further analysis on AMOS 26 or Smart PLS 4, the relevant fit indices and procedures would be provided. This combination of statistical techniques allows for a thorough analysis of the interplay between technological, attitudinal, and communicative readiness in the context of English language learning supported by AI.

RESULTS AND DISCUSSION

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The objective was to identify the level of readiness for communication in digital English learning, with emphasis on technological comfort and perspectives towards AI to drive the correlational study, and to use the Technology Acceptance Model (TAM) for the study. The choice of the TAM framework was to demonstrate how students' attitudes toward AI and their communication skills depend on the perceived usefulness and ease of use of AI.

A deductive approach was taken since the study first defined a theory, then tested hypotheses with the data obtained from the students. This research was carried out in an Indonesian university where students had prior exposure to AI-integrated tools, including chatbots, systems providing automated speech feedback, and digital platforms for speech practice. Developing fluency, pronunciation, and interactive-communicative competence of students has seen the implementation of these technologies.

In the information gathering, a structured questionnaire divided into three sections, namely: technological readiness, attitude toward AI, and communicative readiness, monitored the data collection process. Questionnaire responses were evaluated based on a Likert scale of five grades in the range of "strongly disagree" to "strongly agree," and the responses were collected for 200 participants. Subject experts reviewed the questionnaire. The researcher objectives and questionnaire items were ensured to be aligned. Focus was then placed on the reliability and validity of the instrument based on the results of Cronbach's alpha employed to estimate the internal consistency. For Technological Readiness, Attitude towards AI, and Communicative Readiness, scores significantly crossed the 0.7 cut off. This means the constructs the respondents were homogeneous and hence the level of readiness.

All constructs demonstrated high internal consistency (TR α = .82, AR α = .79, CR α = .75). Descriptive statistics proved that overall primary data analysis of all the constructs showed a to be high internal consistency of the response scores, Technology Readiness showed a mean of 4.20 (SD = 0.51) and Attitudinal Readiness mean was of a level that is slightly that lower than the mean of 4.14 (SD = 0.57) whereas Communicative Readiness showed a lot lower mean than the other constructs scores at 3.05 (SD = 0.64). The data distribution was able to meet the reviewers worries as the gap was added the mean and standard deviation showing the presence of a range to within the response of the students.

This implies that students were indeed positive and confident on the use of digital and AI tools and their application and their proficiency as well, but their lack of confidence indicates otherwise on the communicative aspect of AI.

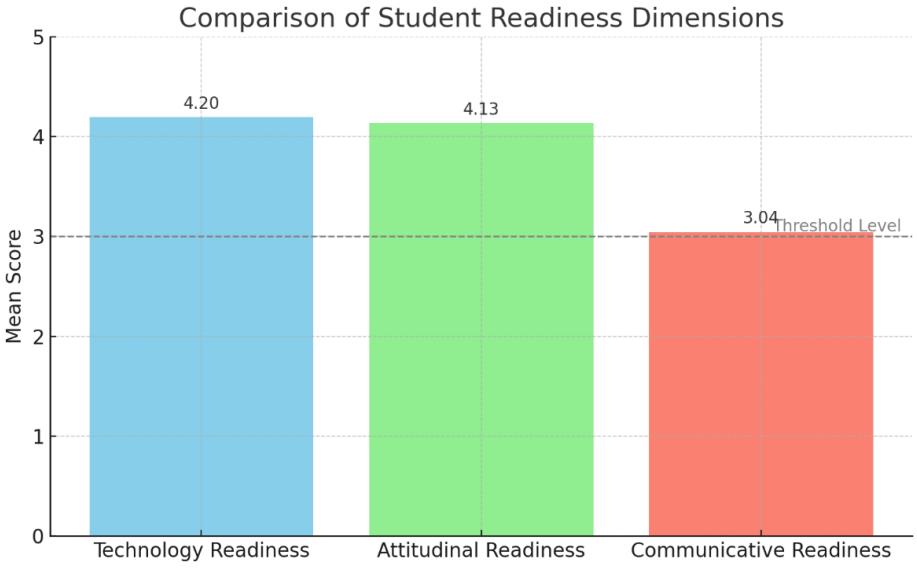


Figure 1. *Comparison of student readiness dimensions*

The data in the previous chart represent the three dimensions analyzed in the present study: Technology Readiness, Attitudinal Readiness, and Communicative Readiness. These three dimensions give a good sense of how ready students feel about using AI tools for their language studies. That is especially true when it comes to speaking skills. Technology Readiness (Mean = 4.20) and Attitudinal Readiness (Mean = 4.13) showed significantly more positive

responses, while Communicative Readiness showed a more moderate response (Mean = 3.04). Students seem pretty confident in their digital skills overall. They feel assured about handling tech stuff. They even support bringing AI into the mix. Still, their confidence dips when it involves actually talking with the AI. That gap points to something clear. Students back AI use and have the skills to work with it. Yet they might hesitate to speak directly to the AI. This gap should be the focal point of educators as they seek to improve students' communicative skills in the use of AI.

Students reported having a moderate level of AI trust. Overall, AI was viewed as a positive side; however, the reliability and accuracy of AI feedback were a concern for students. Regarding communication preparedness, most students enjoyed communicating with other people, though some of them had difficulties operating their voice when talking to AI systems.

The detailed statistics lined up with those fundamentals. Technological readiness had a big impact on attitudinal readiness in the path model. The regression beta was 0.693 and p-value was less than 0.001 ($\beta = 0.693$, $p < 0.001$). When we regressed communicative readiness on both predictors, attitudinal readiness stood out stronger. Its beta was $\beta = 0.500$ ($p < 0.001$), while technological readiness had a weaker but still significant direct effect ($\beta = 0.179$, $p = 0.020$). Adding attitudinal readiness as a mediator cut the effect of technological readiness on communicative readiness. It went from beta $\beta = 0.347$ to $\beta = 0.179$, indicating partial mediation. The Sobel test backed up the indirect effect through attitudinal readiness was statistically significant ($p < .001$).

These results support the hypothesis derived from TAM, which states that attitudes play a mediating role between technological capability and communicative behavior. Students who were more optimistic and favorable toward AI were more likely to use AI tools to support their English-speaking development. The findings demonstrate that technologically advanced students are more likely to interact with persuasive digital content and are more favorable toward AI-embedded speaking activities. Most students want to try speaking tasks. They struggle a bit and improve with feedback to build communicative competence. Literature shows that digital comfort and security link positively to educational outcomes (Albayati, 2024; Cambra-Fierro et al., 2025). This helps explain the positive outlook view of AI speaking tasks.

The results section lays out three key findings. First, high technological and attitudinal readiness. Second, lower communicative readiness by comparison. Third, attitudes mediate in predicting communicative readiness.

This study took a quantitative correlational approach. It looked at how technology readiness and AI attitudes affect students' communicative readiness. We used stratified sampling in the early research phase. That got us 200 students from different levels and disciplines. They filled out questionnaires. The three parts of technology readiness cover readiness to use technology, which we call X. Then readiness attitude as Z. And communicative readiness as Y. We measured them with a Likert scale. Regression analysis handled the study. I assumed standard things to check the reliability and validity of the measures. This lets us test the mediating relationships between variables. We can look at indirect effects in the model.

Spotting students' technology readiness shapes their take on AI in learning. The regression coefficient for that link was strong ($b = 0.693$, $p < 0.001$), which means that trust in technology ties right into using AI learning tools. Higher technology readiness boosts confidence in learning tech. That likely means more use of AI tools (Kao et al., 2024). Learning AI tech builds trust. It raises students' inclination to use educational AI.

We found a solid link between communicative readiness and the other two. Attitude readiness mattered more for communicative readiness. Beta was 0.500. P is less than 0.001 ($\beta = 0.500$, $p < 0.001$). Technological readiness came in weaker. Beta 0.179. P 0.020 ($\beta = 0.179$, $p = 0.020$). Learners with positive views on AI tools show more willingness. They use them to build speaking and social skills. This is in line with the Technology Acceptance Model, which states that attitude is a mediating variable between the perception of the usefulness of technology and the intention to use the technology (Al-Dokhny et al., 2024; Almansour, 2024; Ranjbaran et al., 2023). These findings show attitudes toward AI as a top factor in digital English learning. It ties straight to communicative readiness. Students with positive attitudes toward AI took it up to boost their speaking. They did not reject H2. Attitude toward AI positively impacts communicative preparedness.

H1 held up, too. Technological readiness positively affects communicative readiness. The

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effect was not as strong as attitudes, though. Tech-savvy students used AI tools. Their attitude toward AI predicted communication readiness better. This matches literature on positive attitudes toward technology. It influences student acceptance of communication (Cambra-Fierro et al., 2025; Usama et al., 2024; Yu et al., 2024).

On the one hand, the most important result is the big support for H3, as the analysis shows that attitude to AI mediates between technological readiness and communicative readiness. The partial mediation confirms positive views on AI usability and that emotional safety matters. Those sit in attitudinal readiness. It turns basic tech readiness into real communicative behavior. This finding is in agreement with earlier studies, which emphasize the role of attitudes in the acceptance of new AI technologies and thus in educational results (Albayati, 2024; Alrayes et al., 2024; Cambra-Fierro et al., 2025).

As educational AI applications increase, it is crucial for students to have the comfort and confidence to utilize these technologies for diverse communication tasks. Emotional safety and trust in the AI system, along with the technical competencies, are vital for the learning outcomes and for the effective learning process, with emotions being essential for the successful implementation of the AI technology.

The study highlights the importance of AI in education, especially in language learning, compared to other studies that focus on the same subject. The study found that students' emotions and cognition prepare them for AI interaction and affect their willingness to engage in AI speaking tasks. Trust and a sense of security are identified as key cognitive and emotional components, playing a significant role in students' willingness to use AI for language learning (Bozkurt, 2023; Kajiwara et al., 2023; Wang & Xue, 2024).

The study also found a significant correlation between students' communicative AI readiness and their technological and attitude readiness. The implication of the finding translates into a practical teaching implication: the effective application of AI tools can significantly enhance language skill development. Without emotional support, students do not engage in real-time AI speaking interaction. In terms of communicative readiness, students' attitudinal readiness is more significant ($\beta = 0.500$, $p < 0.001$) compared to technological readiness ($\beta = 0.179$, $p = 0.020$). This suggests that learners who have a more positive disposition toward AI tools tend to be more willing to use them to develop their speaking and social skills. This is in line with the Technology Acceptance Model, which states that attitude is a mediating variable between the perception of the usefulness of technology and the intention to use the technology (Al-Rahmi et al., 2021; Cambra-Fierro et al., 2025).

Attitude readiness partially mediates between technological readiness and communicative readiness. Path analysis and the Sobel test showed partial mediation. Including attitude readiness weakened the effect of technological readiness on communicative readiness. It dropped from $\beta = 0.347$ to $\beta = 0.179$. Students have technological skills. Their attitudes drive the shift to communicative action. This echoes discussions on attitude components. They cover the affective and cognitive sides of adopting educational technology.

Statistics back this up. Most students had high technological readiness. They showed positive attitudes toward acceptance items. Over 58% of students (32% of whom strongly agreed) accepted technology. Thirty-two percent strongly agreed. Attitude readiness tracked right along. For positive statements on AI in learning, 59% agreed, and 14.5% strongly agreed. Students have the tech skills. They view AI like Chat GPT as helpful educational aids.

This highlights communicative readiness. Students feel ready to share ideas where AI is available. 68% agreed. 17% strongly agreed. Some showed lower approval, though. Data on sharing ideas with AI systems reflects that. Students express some readiness. We still need to target specific communicative skills with AI. This is in line with the model of willingness to communicate and the need to include context, beliefs, and motivations (Macintyre, 2020; Shata & Hartley, 2025).

These findings have real implications. Educators should pair students' technological readiness with efforts to build positive AI attitudes. AI-integrated language modules must include interactive activities. Teach how to use tools like Chat GPT. Introduce AI as language learning partners. Add AI literacy. Create an institutional setup for practice with AI. That builds confidence through interaction.

We checked data assumptions like normality, heteroscedasticity, and multicollinearity. They all passed. No multicollinearity in the model. Tolerance over 0.5. VIF under 2 (> 0.5 and VIF < 2). This methodological care makes conclusions reliable. They fit broader academic contexts.

In summary, the study reveals infrastructure readiness for AI as basic. Students' attitudes drive communicative readiness most. TAM and mediation models describe the path from readiness to intent. They show emotional and cognitive acceptance of AI tools. AI transforms teaching. Positive student attitudes matter as much as tech skills. The aim is to create digital age communicators.

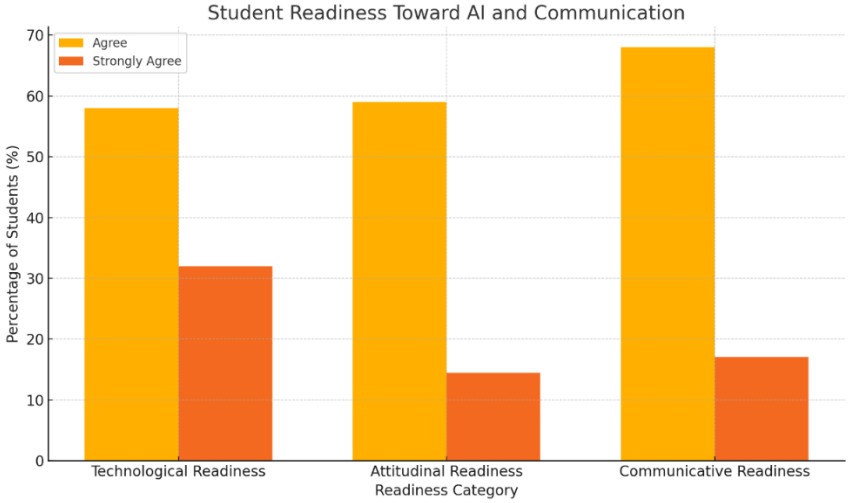


Figure 2. *Student readiness toward AI and communication*

The bar graph illustrates students' level of agreement about their readiness in three areas: technology readiness, attitude, and communicative readiness. As the study shows, many students feel at ease with AI and digital tools. For technology readiness, 58% of students felt prepared. 32% of students felt very prepared for AI tools. That signals solid trust. Attitudinal readiness ran high, too. 59% of students agreed on positive AI views in education. 14.5% of students strongly agreed. Communicative readiness topped it at 68% of students, feeling ready. 17% of students felt very ready for AI communication. Lower confidence hit spots like expressing thoughts to AI systems.

These results stress positive disposition and emotional willingness for AI tools. They influence use beyond just technical know-how. Communicative readiness comes from more than tech tasks. Attitudes shaped by experience, usefulness, and support play in. Affective and emotional parts match other factors. They turn digitally skilled students into communicatively able ones.

The findings of this study demonstrate that students' communicative readiness in AI-supported learning environments is largely influenced by their level of technological readiness and their attitudes toward AI. Students open to spoken language digital tools supported interactive communication more. Attitude shapes willingness. That affects adaptation to technology systems (Matsiola et al., 2024; Quest & Pfeffermann, 2023; Rudolph et al., 2024). In this case, students who are more optimistic and more willing to innovate in terms of practising English with the AI tools are.

When students are able to adopt artificial intelligence (AI) and digital resources well, they tend to show higher communicative readiness in interacting and completing speaking tasks. In the framework of Technology Acceptance Model (TAM), a person's intention to use a system is largely determined by attitude, perception of ease of use, and perceived usability (Aguilos & Fuchs, 2024; López-Sánchez et al., 2023).

The belief in speaking practice is closely related to students' views of AI as an effective means of improving fluency and pronunciation (Kuddus et al., 2024; Noe et al., 2025). Thus, a positive attitude towards technology not only encourages the use of these tools, but also builds students' confidence in dealing with complex digital communication situations.

Students who have negative attitudes toward AI adoption tend to show lower levels of communication and often avoid the use of digital technologies. Emotional barriers, such as anxiety and distrust are major challenges in the integration of technology in the classroom (Bouteraa et al., 2024; Du & Daniel, 2024). This condition causes students who feel uncomfortable or critical of AI tools to prefer traditional forms of learning that are prescriptive rather than engaging in spontaneous conversational activities (Hawanti & Zubaydulloevna, 2023; Kajiwara et al., 2023).

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On the other hand, the use of AI tools that provide real-time feedback has been proven to help correct pronunciation errors and improve student motivation and performance. However, these findings also emphasize an important pedagogical implication: while AI tools strongly support language learning, a lack of adequate support for anxious students can limit their engagement in dynamic speaking situations.

The participants noted that the use of artificial intelligence (AI) tools was very helpful in the feedback process, especially in correcting grammatical errors and correcting pronunciation specifically (Cambra-Fierro et al., 2025; Cordero et al., 2025). In addition, the provision of real-time feedback by AI systems has been proven to improve student motivation and overall learning performance (Katsamakas et al., 2024; Luo et al., 2025; Uppal & Hajian, 2025). Empowering learners in this self-correction process not only gives students more control, but also strengthens their confidence when practicing speaking in English.

The participants are students with the same technology but different perspectives on AI. For example, students with more favourable AI attitudes and less favourable AI attitudes exhibited different levels of engagement with AI tools. This is also supported by (Cabero-Almenara et al., 2025; Xu, 2025), who found that the continuous use of AI tools is driven by user trust and satisfaction.

More than anything else, the desire to communicate stems from the guidance or support provided by the institution or the teachers. Some students specifically noted that teachers' organized, tutor-assisted AI-speaking activities eased their anxiety and helped them join in. This reinforces the position of Zou et al. (2023) that the absence of educational support and training programs is detrimental to the development of students' positive attitudes towards technology. Without such support, even students with the highest readiness may still be reluctant to use the AI tools with learning activities.

Furthermore, the use of the TAM model in this research context was successful in describing the relationship between the use of technology and communication behaviour. The elements of the model, perceived usefulness and perceived nature of ease, fit well with students' experiences. Students found AI tools helpful and used them frequently when they were simple to use and provided meaningful feedback. This was in line with the work of Zakarneh et al. (2025), stating that perceived enjoyment and usefulness are strong predictors of student engagement in tech-based education.

One of the key benefits of AI systems is their ability to facilitate students' focus through personal satisfaction and targeted feedback. Users report that this system helps improve attention because they feel "listened to", making it easier for them to correct difficult aspects of speech, such as complicated pronunciation and vocabulary limitations (Du & Daniel, 2024; Hirschi et al., 2025). In addition, motivation and learning success are significantly increased thanks to AI's ability to personalize instruction according to each learner's speed, needs, and proficiency level (Hwang et al., 2024; Yang et al., 2024).

According to the study, these findings suggest that technology-mediated interpersonal communication and their communicative readiness correlate with the attitude and behaviour elements. There is a trust deficit gap in AI, which results in speech task avoidance, while a positive trust gap encourages communication. This is a multi-way interaction provided in the proposed research framework, which describes the need for the psychological and technological aspects of the AI learning environment to be well-balanced.

Academic discussions among students concluded that one of the significant components is technology readiness (technology willingness to use AI for language learning) and that essential teaching and learning emotional and psychological factors (emotional safety, AI positive usability, and emotions) should be considered. Educational (AI) technology use is only purposeful when the learning process technological obstacles are eliminated, preceded by any human, situational, and environmental factors (Alrayes et al., 2024; Mandai et al., 2024; Zakarneh et al., 2025).

Therefore, communicative preparedness regarding AI-mediated learning contexts results from the complex interplay among emotional containment. AI confidence and emotional learning climate. These findings highlight the need for AI-enabled speaking instruction that supports both skill- and emotion-based readiness.

CONCLUSION

The present study informs the theoretical understanding of the relationships between technology readiness, attitudes toward AI, and communication readiness in AI-mediated language learning contexts. By applying the Technology

Acceptance Model (TAM), the findings provide an explanation of the impact of attitudinal and technological factors on communicative behaviour when AI is used. Although technology readiness promotes students' use of AI tools, emotional engagement and attitudes (trust, confidence) significantly predict communication readiness. The results reported contribute to extending the TAM by indicating the mediating role of attitudinal readiness between technology and communication, and by underlining the importance of including emotional and psychological aspects as core elements in models of acceptance of educational technologies.

The study presents some limitations, which should be acknowledged and, therefore, taken into account in future research. The study is limited to a sample of students belonging to a single institution, which may limit the generalization of the results. The cross-sectional design used does not allow for causal conclusions on the relationship between the constructs studied (i.e., technological and communicative readiness and attitudes). The study uses self-report measures, which could be influenced by social desirability and not be accurate reflections of actual communicative behavior. These limitations should be considered in interpreting the results and generalizing them to other contexts.

Future research should use longitudinal or experimental designs to investigate changes in attitudes towards AI and their impact on communicative skills over time. Future studies should also recruit a sample from a more varied range of institutions and cultural contexts to assess the generalizability of the observed patterns. Finally, future research should also include objective performance measures or AI-generated data logs in addition to self-report instruments in order to have a more comprehensive assessment of readiness. The amalgamation of the attitudinal and the quantitative data may offer a more insightful understanding of the impact of AI tools on language learning.

This study illuminates the impact of having both attitudinal and technical-level communication readiness when engaging with the AI learning technology. Teachers can facilitate students' communication competencies, such as the ability to articulate with digital technology through AI technology in combination with the integrated, structured, interactive speaking tasks and instructional scaffolding. This points to the gaps in educational practice with the use of AI technology in language teaching and learning context, and the need for more complex and integrated instructional designs for both educational engagement and emotional engagement to educationally sustain learning.

Students' readiness to embrace AI technology for language practice can also be sensed in their conversations. There should be emotional and psychological considerations to secure emotional safety, perceived usefulness, and positive AI teaching that will, in turn, work 'effortfully' to enhance their productivity. The meaningful use of AI in teaching can be harnessed only if appropriate technological functionality is in place before tapping into the human, situational, and contextual parameters of teaching and learning (Alrayes et al., 2024; Mandai et al., 2024; Zakarneh et al., 2025).

Communicative competence shows up in AI-based learning scenarios through a mix of different elements. These involve technical preparation, a sense of emotional security, trust toward the AI itself, and learning spaces that feel supportive. The results from this point highlight the importance of oral instruction powered by AI. Such instruction needs to address both the growth of practical communication skills and the emotional side of being ready to communicate.

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