

Acceptance of artificial intelligence tools as support for English language learning among first-level university students

Aceitação de ferramentas de inteligência artificial como apoio à aprendizagem da língua Inglesa entre estudantes universitários de primeiro nível

Aceptación de herramientas de inteligencia artificial como apoyo para el aprendizaje del idioma Inglés en estudiantes universitarios de primer nivel

Sotomayor Cantos Karina Fernanda¹
Universidad Técnica Estatal de Quevedo
ksotomayorc@uteq.edu.ec
<https://orcid.org/0000-0002-6134-1875>



Baños Coello María Belén²
Universidad Técnica Estatal de Quevedo
mbanos@uteq.edu.ec
<https://orcid.org/0000-0002-7312-3058>



Camacho León Luis Patricio³
Universidad Bolivariana del Ecuador
luis.camacho.leon@gmail.com
<https://orcid.org/0009-0004-1219-5674>



Camacho Castillo Luis Alfredo⁴
Universidad Técnica Estatal de Quevedo
lcamacho@uteq.edu.ec
<https://orcid.org/0000-0003-1192-2804>



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Abstract

The integration of artificial intelligence (AI) into higher education has created new opportunities to support English language learning. However, students' acceptance of these technologies is an important factor in determining their effective use. This study aimed to analyze the acceptance of AI tools as support for English language learning among first-level university students at the Universidad Técnica Estatal de Quevedo. A quantitative, descriptive, and non-experimental research design was employed. Data were collected through a questionnaire administered to 80 students from three first-level parallel classes. The instrument examined three dimensions based on the Technology Acceptance Model (TAM): perceived usefulness, perceived ease of use, and intention to use. A pilot test was conducted to assess the reliability of the instrument, and Cronbach's alpha coefficients indicated high internal consistency. The results showed that perceived usefulness obtained the highest mean score ($M = 3.45$), followed by perceived ease of use ($M = 3.375$) and intention to use ($M = 3.26875$). The complete instrument demonstrated high internal consistency ($\alpha = 0.957$). These findings indicate that students generally perceive AI tools as useful and relatively easy to use for supporting their English learning. However, the comparatively lower score for intention to use suggests that recognizing the benefits of AI does not necessarily translate into an equally strong intention to use these tools. The study concludes that AI has potential as a complementary resource for English language learning, provided that its integration is accompanied by appropriate pedagogical guidance and responsible use.

Keywords: Artificial Intelligence; English language learning; Technology acceptance; Perceived usefulness; Perceived ease of use, Intention to use.

Resumen

La integración de la inteligencia artificial (IA) en la educación superior ha generado nuevas oportunidades para apoyar el aprendizaje del inglés. Sin embargo, la aceptación de estas tecnologías por parte del alumnado es un factor importante para determinar su uso efectivo. Este estudio tuvo como objetivo analizar la aceptación de herramientas de IA como apoyo para el aprendizaje del inglés entre estudiantes de primer ciclo de la Universidad Técnica Estatal de Quevedo. Se empleó un diseño de investigación cuantitativo, descriptivo y no experimental. Los datos se recopilieron mediante un cuestionario aplicado a 80 estudiantes de tres clases paralelas de primer ciclo. El instrumento examinó tres dimensiones basadas en el Modelo de Aceptación de la Tecnología (TAM): utilidad percibida, facilidad de uso percibida e intención de uso. Se realizó una prueba piloto para evaluar la fiabilidad del instrumento, y los coeficientes alfa de Cronbach indicaron una alta consistencia interna. Los resultados mostraron que la utilidad percibida obtuvo la puntuación media más alta ($M = 3,45$), seguida de la facilidad de uso percibida ($M = 3,375$) y la intención de uso ($M = 3,26875$). El instrumento completo demostró una alta consistencia interna ($\alpha = 0,957$). Estos hallazgos indican que los estudiantes generalmente perciben las herramientas de IA como útiles y relativamente fáciles de usar para apoyar su aprendizaje del inglés. Sin embargo, la puntuación comparativamente más baja en la intención de uso sugiere que reconocer los beneficios de la IA no se traduce necesariamente en una intención igualmente fuerte de usar estas herramientas. El estudio concluye que la IA tiene potencial como recurso complementario para el aprendizaje del idioma inglés, siempre que su integración vaya acompañada de una orientación pedagógica adecuada y un uso responsable.

Palabras clave: Inteligencia artificial; Aprendizaje del idioma inglés; Aceptación de la tecnología; Utilidad percibida; Facilidad de uso percibida; Intención de uso.

Resumo

A integração da inteligência artificial (IA) no ensino superior criou novas oportunidades para apoiar o aprendizado da língua inglesa. No entanto, a aceitação dessas tecnologias pelos alunos é um fator importante para determinar seu uso eficaz. Este estudo teve como objetivo analisar a aceitação de ferramentas de IA como suporte para o aprendizado da língua inglesa entre alunos do primeiro ano da Universidade Técnica Estadual de Quevedo. Foi empregado um delineamento de pesquisa quantitativo, descritivo e não experimental. Os dados foram coletados por meio de um questionário aplicado a 80 alunos de três turmas paralelas do primeiro ano. O instrumento examinou três dimensões com base no Modelo de Aceitação da Tecnologia (TAM): utilidade percebida, facilidade de uso percebida e intenção de uso. Um teste piloto foi realizado para avaliar a confiabilidade do instrumento, e os coeficientes alfa de Cronbach indicaram alta consistência interna. Os resultados mostraram que a utilidade percebida obteve a maior pontuação média ($M = 3,45$), seguida pela facilidade de uso percebida ($M = 3,375$) e pela intenção de uso ($M = 3,26875$). O instrumento completo demonstrou alta consistência interna ($\alpha = 0,957$). Esses resultados indicam que os alunos geralmente percebem as ferramentas de IA como úteis e relativamente fáceis de usar para apoiar seu aprendizado de inglês. No entanto, a pontuação comparativamente menor para a intenção de uso sugere que reconhecer os benefícios da IA não se traduz necessariamente em uma intenção igualmente forte de usar essas ferramentas. O estudo conclui que a IA tem potencial como um recurso complementar para o aprendizado da língua inglesa, desde que sua integração seja acompanhada por orientação pedagógica adequada e uso responsável.

Palavras-chave: Inteligência artificial; Aprendizado da língua inglesa; Aceitação da tecnologia; Utilidade percebida; Facilidade de uso percebida; Intenção de uso.

Introduction

Artificial intelligence (AI) has been advancing at a fast pace, and this progress has already reshaped several aspects of education, particularly the way teachers and students find, process, and use information. Generative AI tools in particular have opened new possibilities for supporting teaching and learning, although they have also raised legitimate questions about how to bring them into educational settings in a way that is effective, responsible, and sustainable. Within English language learning specifically, these tools give students the chance to practice their language skills, get immediate feedback, receive support tailored to their needs, and interact with digital resources at their own pace (Wei, 2023; Walter, 2024).

This is part of why AI has drawn growing interest within English as a Foreign Language (EFL) education, since it has the potential to complement, rather than replace, traditional teaching practices. Tools powered by AI can support learning activities related to writing,

vocabulary, grammar, pronunciation, and communication. Recent studies point out that AI can help boost students' motivation, encourage self-regulated learning, and enrich their overall language learning experience (Wei, 2023). Along the same lines, Guan et al. (2025) argue that generative AI works best as a compliment to the interaction between teachers and students, not as a replacement for the teacher's role.

Even with all this potential, simply introducing AI education does not guarantee the students will accept or use it. Whether they do largely depend on how they perceive its usefulness, accessibility, reliability, and the risk it might involve. Davis (1989) address this question through the Technology Acceptance Model (TAM), Proposing that perceived usefulness and perceived ease of use are the two key factors shaping whether people accept a given technology. These two ideas still hold up in more recent research examining how AI is being used in educational contexts (Ibrahim et al., 2025).

Several recent studies confirm that technology acceptance models remain useful for understanding how AI is being adopted in higher education. Acosta-Enriquez et al. (2024), for example, point to a range of technological and contextual factors that help explain why university students accept AI. Mustofa et al. (2025) add that trust, ethics, and subjective norms also shape a student's willingness to adopt AI tools. Within English language learning specifically, other researchers have looked at how motivation and individual differences influence students' willingness and intention to use AI-support technologies (Sun et al., 2025).

That said, bringing AI effectively into English language education is not without its challenges. Both students and teachers need a solid level of AI literacy and critical thinking to evaluate and use AI-generate content appropriately. Walter (2024) stresses that AI literacy, prompt engineering, and critical thinking are all essential for integrating these tools into education responsibly. Almehmadi (2024) Also notes that, with so many AI tools now available, educators face the added challenge of choosing which ones actually fit their specific

pedagogical goals. All of this suggests that understanding how a student accepts AI is an important step before pushing for its broader integration into English language learning.

While AI acceptance has already been studied in higher education and language learning more broadly, less is known about how university students in specific institutional contexts perceive AI tools as support for English language learning. Gaining a clearer picture of these perceptions can give teachers and institutions valuable insight as they work to bring AI into their teaching practices in a meaningful and responsible way.

With this in mind, the present study aims to analyze the acceptance of artificial intelligence tools as support for English language learning among first-level university students at the Universidad Técnica Estatal de Quevedo. To reach this goal, it examines three dimensions drawn from the Technology Acceptance Model: perceived usefulness, perceived ease of use, an intention to use. Taken together, these dimensions are meant to offer a clearer picture of how students perceive AI tools and to contribute to a better understanding of how AI might be integrated into English language learning in higher education.

Theoretical Framework

Artificial Intelligence in Education and in Teaching and Learning

Teaching and learning nowadays has a novelty that was thought first just as experimental, however, artificial intelligence (AI) has come to constitute a relevant element in educational environments. Ever since the world was shaken by the emergence of AI tools, Chat GPT for instance, back in 2022, educational institutions started to reconsider important aspects such as policies, methodologies, and even the manner in which instructors and also learners interact when using technology (Walter, 2024).

Nevertheless, institutions are trying to manage the situation. While some of them restrict their use, some others are working hard to find a way to incorporate them in their practices. Still, further study is needed in order to understand the elements that influence both

acceptance and proper use people can make of it.

Personalized learning, quick feedback, and assistance for students with various learning requirements are just a few of the significant educational opportunities that AI presents. However, proper digital and AI literacy among educators and learners is also necessary for its successful incorporation (Walter, 2024). Therefore, these technologies' instructional usefulness rests not just on their technical prowess but also on users' capacity to use them responsibly and critically.

AI-supported solutions can offer chances for language practice, feedback, and access to educational materials in the context of English as a Foreign Language (EFL). Wei (2023) found that self-regulated learning, L2 motivation, and English learning achievement were all positively correlated with AI-mediated teaching. In a similar vein, Guan et al. (2025) highlight that generative AI can serve as a supplementary component in the interaction between teachers, students, and technology rather than taking the place of teachers through a mixed-methods study in EFL instruction.

Despite these opportunities, integrating AI is not without its difficulties. While teachers may struggle to choose the right tools and establish pedagogically effective uses, students may grow unduly reliant on AI-generated solutions. Walter (2024) emphasizes the significance of critical thinking, rapid engineering, and AI literacy for appropriate integration. Similarly, Almeahmadi (2024) notes that as the number of AI tools increases, it becomes more crucial for teachers to decide which technologies are suitable for particular teaching and learning goals.

Determining the potential function of AI tools as complementary resources in English language acquisition thus requires a knowledge of how students view and embrace these technologies.

Acceptance of Educational Technologies and the Technology Acceptance Model (TAM)

One of the most popular theoretical frameworks for understanding users' acceptance of

information technology is the Technology Acceptance Model (TAM), which was first put forth by Davis in 1989. According to the concept, perceived utility and perceived ease of use are two basic ideas that impact technology acceptance.

According to Davis (1989), perceived usefulness is the degree to which an individual believes that utilizing a specific technology will enhance their performance, while perceived ease of use is the degree to which an individual believes that utilizing the technology will require minimal effort. Users' attitudes and behavioral intentions toward technology use are influenced by these beliefs.

In studies on AI acceptance, the TAM is still pertinent. When Ibrahim et al. (2025) adapted the concept to artificial intelligence, they discovered that users' opinions toward AI are still largely explained by perceived utility. In a similar vein, Zhang et al. (2023) looked at aspects related to AI acceptability in their research of pre-service teachers and emphasized the importance of users' views in influencing their desire to use these technologies.

Traditional technology acceptance models have also been extended in recent research to include more variables. Acosta-Enriquez et al. (2024) highlight the significance of elements like social influence, perceived value, hedonic motivation, and habit in comprehending AI acceptance in university environments through a conceptual analysis based on UTAUT2 (Unified Theory of Acceptance and Use of Technology 2). Additionally, Wu et al. (2022) show that students' acceptance of AI-assisted learning settings can be influenced by perceived risks and advantages.

Other research has integrated psychological, ethical, and social aspects into models of technology acceptance. According to Mustofa et al. (2025), students' acceptance of AI tools is influenced by subjective norms, ethics, and trust. In a similar vein, Xu et al. (2024) discovered that educators' intention to employ AI tools is significantly influenced by effort expectation, which is conceptually linked to perceived ease of use.

The current study concentrates on the fundamental TAM elements that are most closely associated with the research goal, even though these expanded models offer more comprehensive explanations of technology acceptance. Therefore, three factors were chosen to analyze students' adoption of AI technologies as help for English language learning: perceived utility, perceived ease of use, and intention to use.

Perceived Usefulness, Perceived Ease of Use, and Intention to Use

Perceived Usefulness

A key concept in the TAM is perceived utility, which describes how much consumers think a technology may help them accomplish particular goals or enhance their performance (Davis, 1989).

When AI tools support tasks like writing, grammar, vocabulary, pronunciation, communication, or access to explanations and feedback, students may view them as helpful when learning English. Wei (2023) found good correlations between AI-supported instruction and a number of learning-related outcomes, highlighting the potential utility of AI in language learning.

According to more recent studies, acceptance of AI technologies can still be explained by perceived utility. While Mansoor et al. (2026) identify a number of external factors that may influence students' attitudes toward AI acceptance in English writing, including digital self-efficacy, institutional support, and technological literacy, Ibrahim et al. (2025) found that perceived usefulness plays a significant role in users' attitudes toward AI.

As a result, perceived usefulness is a crucial factor in determining whether students view AI as a beneficial supplemental tool for learning English.

Perceived Ease of Use

The degree to which consumers think using a technological system is simple and does not take a lot of work, is known as perceived ease of use (Davis, 1989). Students may be more

inclined to integrate accessible and user-friendly technologies into their learning processes in educational settings.

Studies on AI acceptance have shown how relevant this notion is. While Xu et al. (2024) discovered that effort anticipation was a significant factor linked to educators' intention to employ AI tools, Zhang et al. (2023) investigated acceptability among pre-service instructors.

However, successful educational use is not always ensured by ease of use. In order to assess the data produced by these technologies, students must also have adequate AI literacy and critical thinking abilities. While Almeahmadi (2024) emphasizes the difficulty of choosing appropriate AI tools for particular educational purposes, Walter (2024) stresses that users require the right abilities to interact with AI responsibly.

Perceived simplicity of use is therefore important since it can influence students' desire to integrate AI technologies into their English learning activities in addition to potentially facilitating technology acceptance.

Intention to Use

The willingness or intended propensity of an individual to utilize a specific technology is referred to as intention to use. Behavioral intention is a key predictor of future technology use in technology acceptance study (Davis, 1989).

Students' intentions to continue using AI tools as supplemental resources for their learning activities may be indicative of their willingness to do so in the context of AI-supported English learning. For instance, Sun et al. (2025) examined variables linked to college students' intentions to utilize generative AI chatbots for learning English and emphasized the significance of motivational factors in elucidating this aim.

However, elements other than utility and usability may have an impact on intention to use. While Acosta-Enriquez et al. (2024) uncover other elements linked with AI acceptability in university environments, Mustofa et al. (2025) highlight the significance of trust, ethics, and

subjective norms in AI adoption.

Therefore, a more focused understanding of students' adoption of AI technologies as support for English language learning can be obtained by looking at intention to use in addition to perceived usefulness and perceived ease of use.

Benefits and Challenges of Artificial Intelligence in English Learning

There are a number of possible advantages of using AI in English language instruction. These include opportunities for language practice, instant feedback, individualized support, and access to educational materials. Wei (2023) discovered that self-regulated learning, L2 motivation, and English learning achievement were all positively correlated with AI-mediated instruction.

Students' experiences with these tools may also be impacted by AI literacy. Zhang et al. (2025) discovered connections between EFL students' desire to speak, classroom anxiety, AI literacy, and AI learning self-efficacy. These results imply that students' experiences and inclination to participate in AI-supported language learning may be related to their comprehension and use of AI.

However, there are issues with using AI that must be taken into account. Concerns about unequal access, privacy, and potential over-reliance on AI-generated solutions are noted by Dugošija (2024). Almeshmadi (2024) further highlights how challenging it is to find suitable AI tools for particular educational objectives. These difficulties show that acceptability of AI shouldn't be determined only by the accessibility of technology.

Students must also learn to think critically and assess information produced by AI in order to use it responsibly. While Guan et al. (2025) contend that generative AI should enhance rather than replace teacher-student interaction, Walter (2024) highlights the significance of AI literacy and critical thinking.

These factors are especially crucial in university EFL settings, where AI can be a

helpful tool while preserving instructors' and students' active participation in the learning process.

Synthesis

AI is becoming more and more important in education, particularly in English language learning, as the studied literature shows. Potential advantages of AI technologies include chances for language practice, rapid feedback, and individualized guidance, but their successful integration also presents issues with digital literacy, critical thinking, trust, ethics, and responsible use.

A helpful theoretical foundation for comprehending how kids view these technologies is provided by the Technology Acceptance Model. TAM is especially pertinent to the current study since it directly addresses perceived utility, perceived ease of use, and intention to use, even if more contemporary models like UTAUT and UTAUT2 include additional variables.

The current study examines first-level university students at the Universidad Técnica Estatal de Quevedo's adoption of artificial intelligence tools as support for English language acquisition by focusing on these three dimensions based on this theoretical viewpoint. The theoretical basis for analyzing the students' answers and comprehending their opinions about the possible application of AI tools in their English learning environment is provided by this framework.

Methodology

Research Approach and Design

The present research study adopted a quantitative approach (Risemberg et al., 2026a; Pereira et al., 2018) as the data were collected and analyzed numerically through a structured questionnaire and using descriptive statistics with Column Graphics, Data classes, mean and variance values (Shitsuka et al., 2014a; Shitsuka et al., 2014b). It followed a descriptive scope, as its purpose was to analyze students' acceptance of artificial intelligence (AI) tools as support

for English language learning

A non-experimental, cross-sectional design was employed (Risemberg et al., 2026b). No variables were manipulated, and the information was collected at a single point in time from the selected participants.

Population and Sample

The population consisted of first-level English language students at the Universidad Técnica Estatal de Quevedo (UTEQ). Eighty pupils from three parallel first-level courses made up the sample. These categories reflected the study's accessible population and matched the classes given to two researchers. Consequently, a non-probabilistic convenience sampling strategy was applied.

A total of 80 students participated in the final application of the questionnaire.

Data Collection Instrument

A structured questionnaire created to examine students' acceptability of artificial intelligence tools as a means of assisting with English language acquisition was used to gather data.

The Technology Acceptance Model (TAM) put forward by Davis (1989) served as the main foundation for the questionnaire's development. The tool specifically took into account the concepts of perceived utility and perceived ease of use, which are essential factors in understanding the adoption of technology.

Subsequent studies on technology acceptance and artificial intelligence in educational settings, such as those by Venkatesh and Bala (2008), Acosta-Enriquez et al. (2024), Ibrahim et al. (2025), Mustofa et al. (2025), and more recent research on AI acceptance in English language learning contexts, also influenced the instrument.

The questionnaire comprised a primary piece with 12 topics intended to gauge acceptance of AI, as well as an initial section that addressed students' use of AI tools. Three

dimensions were used to arrange the twelve items:

Table 1.
Dimensions and Structure of the Questionnaire

Dimension	Items	Number of items
Perceived usefulness	6–9	4
Perceived ease of use	10–13	4
Intention to use	14–17	4
Total	6–17	12

Source: Research data, 2026

The items were measured using a five-point Likert scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, and 5 = Strongly agree.

Theoretical Basis of the Instrument

The Technology Acceptance Model (TAM) put forth by Davis (1989) served as the foundation for the questionnaire's creation. This approach identifies perceived utility and perceived usability as key beliefs linked to users' adoption of technology.

According to Davis (1989), perceived utility is the extent to which a person believes that utilizing a specific technology will enhance their performance, while perceived ease of use is the extent to which a person believes that utilizing a technology will require minimal effort.

The tool was modified to fit the unique environment of AI-assisted English language instruction. In order to assess students' desire to employ AI tools to help their English learning, the questionnaire includes intention to use as a third dimension in addition to the original TAM elements.

Subsequent research on technology acceptability and recent studies looking at students' intentions to use AI-based technologies in educational environments supported the inclusion of intention to use (Venkatesh & Bala, 2008; Sun et al., 2025; Mustofa et al., 2025).

Therefore, rather than being a direct replication of a previously published questionnaire, the instrument was designed based on the TAM framework and tailored to the context of AI-

supported English language acquisition.

Pilot Test

A pilot test was carried out with thirty students who shared characteristics with the target group prior to the final administration. The pilot test's objectives were to assess the questionnaire's comprehensibility and clarity, spot any potential problems with filling it out, and confirm its broad application.

To evaluate the instrument's internal consistency, the pilot stage responses were examined. Prior to its final distribution, the researchers were able to examine the questionnaire's general functionality and language through the pilot test.

The 80 students from the three first-level parallel classrooms chosen for the study were given the questionnaire after the pilot test.

Data Collection Procedure

The questionnaire was administered through an online survey to students from the three selected parallel classes.

Before completing the questionnaire, participants were informed about the general purpose of the study and participated voluntarily. Once the responses were collected, the data were organized and coded for statistical analysis.

The responses to the Likert-scale items were coded numerically from 1 to 5, maintaining the order of the response categories.

Data Analysis

Microsoft Excel was used to process the gathered data. The frequencies, means, and variances for each item and the three dimensions examined were determined using descriptive statistics.

Cronbach's alpha coefficient was used to evaluate the questionnaire's internal consistency. Reliability was computed for the entire 12-item test as well as for each dimension.

The reliability results were as follows:

Table 2.
Internal Consistency of the Questionnaire

Dimension	Items	Cronbach's alpha
Perceived usefulness	6–9	0.919
Perceived ease of use	10–13	0.916
Intention to use	14–17	0.942
Complete instrument	6–17 (12 items)	0.957

Source: Research data, 2026

The perceived usefulness dimension obtained a Cronbach's alpha of 0.919, while perceived ease of use obtained 0.916. The intention to use dimension presented a coefficient of 0.942.

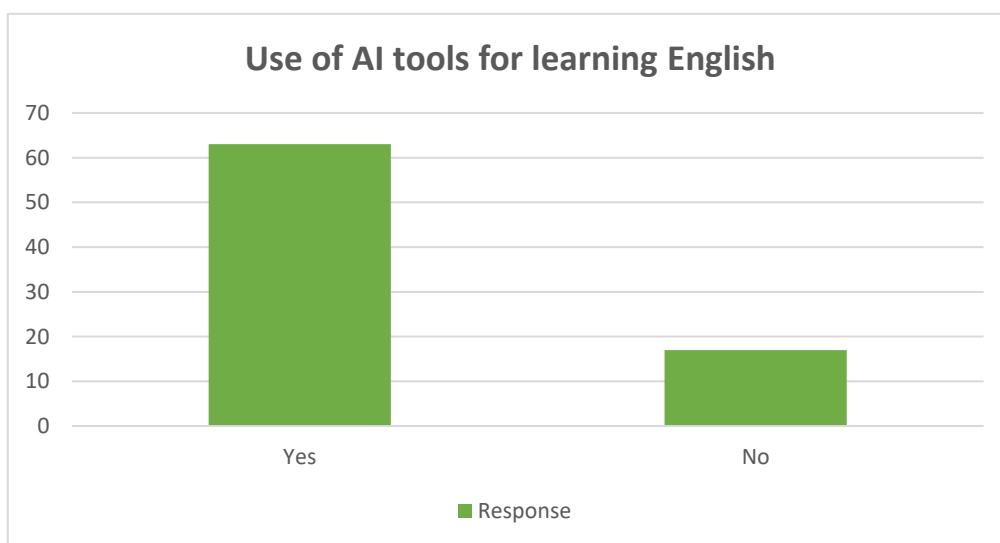
For the complete instrument, consisting of 12 items, the Cronbach's alpha coefficient was 0.957, indicating a high level of internal consistency among the items included in the instrument.

Overall, the statistical analysis made possible to describe students' perceptions of AI acceptance and to identify the relative behavior of the three dimensions examined: perceived usefulness, perceived ease of use, and intention to use.

Results

Use of Artificial Intelligence Tools for English Learning

The first part of the questionnaire examined whether students used artificial intelligence (AI) tools to support their English language learning. The results obtained from the 80 participants are presented in Figure 1.

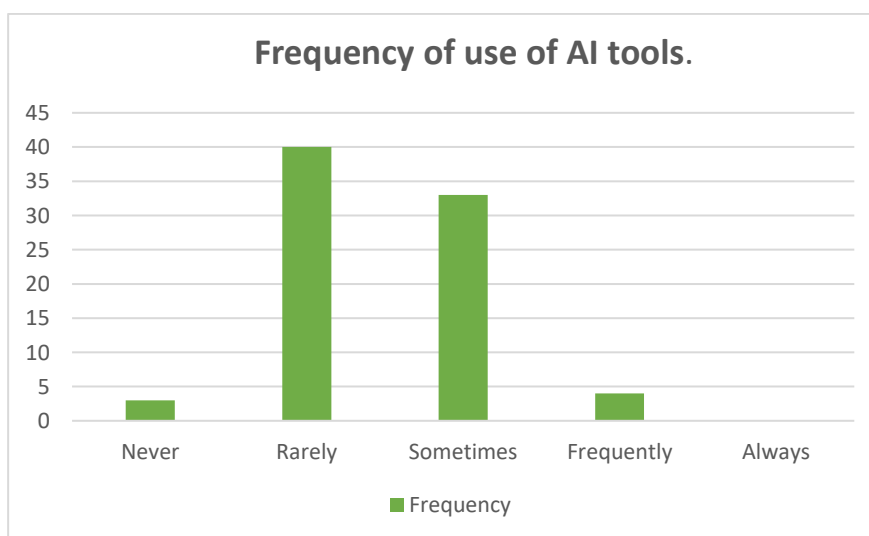
Figure 1. Use of AI tools for learning English.

Source: Authors' own elaboration based on the results of the survey administered to 80 students.

Figure 1 presents the students' responses regarding their use of AI tools for learning English. This result provides an initial description of the participants' experience with AI-supported learning resources.

Frequency of Use of AI Tools

The questionnaire also examined the frequency with which students used AI tools. The responses were organized into five categories: *Never*, *Rarely*, *Sometimes*, *Frequently*, and *Always*. The results are presented in Figure 2.

Figure 2. Frequency of use of AI tools.

Source: Authors' own elaboration based on the results of the survey administered to 80 students.

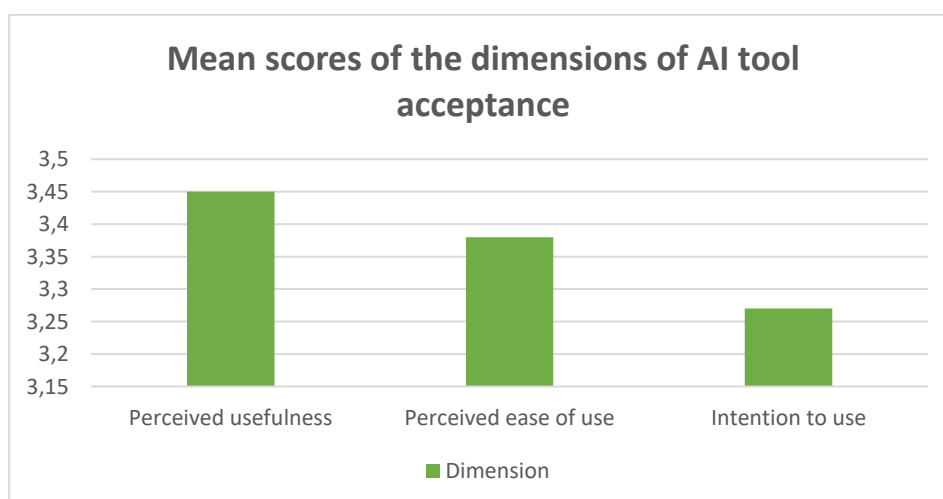
Figure 2 shows the reported frequency of students' use of AI tools. This information provides context regarding the participants' previous experience with AI technologies before analyzing the three dimensions of acceptance.

Acceptance of AI Tools by Dimension

The acceptance of AI tools as support for English language learning was analyzed through three dimensions: perceived usefulness, perceived ease of use, and intention to use. Each dimension consisted of four questionnaire items.

The mean scores for the three dimensions are presented in Figure 3.

Figure 3. Mean scores of the dimensions of AI tool acceptance.



Source: Authors' own elaboration based on the results of the survey administered to 80 students.

The results indicate that perceived usefulness obtained the highest mean score ($M = 3.45$), followed by perceived ease of use ($M = 3.375$) and intention to use ($M = 3.26875$). These results show that students reported the most favorable perceptions regarding the usefulness of AI tools, whereas intention to use presented the lowest mean among the three dimensions.

Perceived Usefulness

The first dimension, perceived usefulness, comprised Items 6–9. The mean and variance obtained for each item are presented in Table 3.

Table 3.
Mean and variance of perceived usefulness items

Item	Mean	Variance
Item 6	3.55	0.98481013
Item 7	3.3875	0.84794304
Item 8	3.3875	1.02515823
Item 9	3.47	1.01202531
Dimension	3.45	—

Source: Research data, 2026

Item 6 presented the highest mean score ($M = 3.55$), while Items 7 and 8 obtained the same mean ($M = 3.3875$). Item 9 obtained a mean of 3.47.

Perceived Ease of Use

The second dimension, perceived ease of use, comprised Items 10–13. The mean and variance obtained for each item are presented in Table 4.

Table 4.
Mean and variance of perceived ease of use items

Item	Mean	Variance
Item 10	3.4	0.77468354
Item 11	3.275	0.75886075
Item 12	3.425	0.72848101
Item 13	3.4	0.82531645
Dimension	3.375	—

Source: Research data, 2026

Item 12 obtained the highest mean score ($M = 3.425$), followed by Items 10 and 13 ($M = 3.40$). Item 11 presented the lowest mean score ($M = 3.275$). The overall mean for the dimension was 3.375.

Intention to Use

The third dimension, intention to use, comprised Items 14–17. The mean and variance obtained for each item are presented in Table 5.

Table 5.
Mean and variance of intention to use items

Item	Mean	Variance
Item 14	3.2375	0.96819620
Item 15	3.225	0.88544303
Item 16	3.35	0.81265823
Item 17	3.2625	0.87958861
Dimension	3.26875	—

Source: Research data, 2026

Item 16 obtained the highest mean score ($M = 3.35$), while Item 15 presented the lowest mean score ($M = 3.225$). Item 14 obtained a mean of 3.2375, and Item 17 obtained a mean of 3.2625. The overall mean for the dimension was 3.26875.

Reliability of the Instrument

The internal consistency of the questionnaire was assessed using Cronbach's alpha. The reliability coefficients obtained for each dimension and for the complete instrument are presented in Table 6.

Table 6.
Internal consistency of the questionnaire

Dimension	Items	Cronbach's Alpha
Perceived usefulness	6–9	0.919
Perceived ease of use	10–13	0.916
Intention to use	14–17	0.942
Complete instrument	6–17 (12 items)	0.957

Source: Research data, 2026

The complete 12-item instrument obtained a Cronbach's alpha coefficient of 0.957, indicating a high level of internal consistency. The three dimensions also presented high reliability coefficients: 0.919 for perceived usefulness, 0.916 for perceived ease of use, and 0.942 for intention to use.

Discussion

The goal of the current study was to examine first-year university students at Universidad Técnica Estatal de Quevedo's adoption of artificial intelligence (AI) tools as a means of supporting English language acquisition. With mean scores above the midpoint of the five-point Likert scale for each of the three dimensions examined, the results show a generally good degree of acceptance. Perceived usefulness obtained the highest mean ($M = 3.45$), followed by perceived ease of use ($M = 3.375$) and intention to use ($M = 3.26875$).

The greatest perceived usefulness score indicates that students are aware of the potential benefits of using AI tools to aid in their English language acquisition. This result is in line with Davis's original Technology Acceptance Model (1989), which states that a key factor influencing technology acceptance is perceived utility. Students' more positive assessment of the utility of AI tools in the current study indicates that they are largely seen as beneficial tools

that can aid in their learning process. This result is also in line with recent studies on the acceptability of AI in higher education, where it has been found that perceived utility or performance expectations play a significant role in technological adoption. For instance, Acosta-Enriquez et al. (2024) discovered that one of the pertinent aspects determining AI acceptability in academic settings is performance expectancy.

Though marginally lower than perceived utility, the result for perceived ease of use ($M = 3.375$) also shows a generally favorable view. According to this research, students generally view AI tools as manageable and reasonably accessible for their educational endeavors. Because ease of use is a key concept that underpins technological acceptance, the outcome is especially pertinent within the TAM framework. Davis (1989) identified perceived ease of use as one of the two key factors that determine acceptability and showed how it relates to the usage of technology.

This result is also consistent with Xu et al. (2024), who used the UTAUT2 model to examine 402 university professors' acceptance of AI. Among the variables they looked at, effort expectancy—which is conceptually connected to perceived ease of use—was found to be the most powerful predictor of behavioral intention. Both studies stress the significance of users viewing AI tools as controllable and reasonably simple to use, despite the differences in the demographics and theoretical models. The favorable ease of use score for the UTEQ students in this study may consequently influence their desire to integrate AI into English learning activities.

However, out of the three dimensions, intention to use had the lowest mean ($M = 3.26875$). This result shows that students' willingness to utilize AI is somewhat less prominent than their view of its usefulness and simplicity of use, even though it is still above the midpoint of the scale. This distinction is crucial because acknowledging the utility of a technology does not always imply a strong desire to utilize it consistently. Other variables that may influence

intention include perceived dangers, trust, prior experience, institutional support, and the suitability of the technology for particular educational tasks.

This perspective aligns with data indicating a multifaceted acceptance of AI in academic settings. Through a review of studies based on UTAUT2, Acosta-Enriquez et al. (2024) found a number of contextual elements, such as perceived value, perceived ease of use, and social influence, that are linked to the adoption of AI beyond utility. In a similar vein, Xu et al. (2024) discovered that behavioral intention to utilize AI tools was linked to multiple aspects rather than a single perception, including performance expectancy, effort expectancy, and hedonic motivation.

The difference between the three dimensions is especially pertinent to the current study's goal. Students seem to be more aware of AI's benefits than they are of its potential applications. This could indicate that while acceptance is growing, it has not yet solidified into a firm behavioral purpose. Students may value AI's ability to offer explanations, practice, feedback, or learning support in an English-learning setting, but they still need more direction on when and how these tools should be used.

The reliability analysis further supports the consistency of the findings. The three dimensions obtained high Cronbach's alpha coefficients: 0.919 for perceived usefulness, 0.916 for perceived ease of use, and 0.942 for intention to use, while the complete 12-item instrument obtained $\alpha = 0.957$. These coefficients indicate a high level of internal consistency among the questionnaire items and provide support for the reliability of the instrument used to examine AI acceptance in this population.

However, the results should be interpreted in light of the particular study situation. Since 80 first-level students from three concurrent classes at UTEQ participated in the study, the findings only reflect the opinions of this specific group and should not be extrapolated to all college students without more investigation. Furthermore, the descriptive approach does not

prove causal links between the variables, but it does enable the detection of patterns in students' perceptions.

Overall, the results support the TAM perspective's applicability in analyzing AI acceptance in English language learning. Students' comparatively positive opinions of AI tools' utility and usability imply that they are seen as potentially beneficial and easily accessible educational aids. However, the somewhat lower intention-to-use score suggests that when encouraging long-term and responsible AI integration, considerations other than utility and usability must be taken into account. In this way, the findings lend credence to the idea that effective AI adoption in higher education necessitates not just the availability of technological resources but also suitable pedagogical advice, digital literacy, and institutional support.

Conclusions

The purpose of this study was to examine first-level university students at the Universidad Técnica Estatal de Quevedo's adoption of artificial intelligence (AI) tools as assistance for learning English. The results show that people typically have a positive opinion of AI technologies, especially when it comes to their perceived usefulness, which received the highest mean score, followed by perceived ease of use and intention to use. These findings imply that students are aware of the potential of AI as a practical and easily available tool to aid in their English language acquisition, even though their intention to use these tools is relatively less clear.

The results also confirm that the Technology Acceptance Model (TAM) is a useful tool for analyzing how students see AI-assisted learning. The dependability of the variables used to evaluate perceived usefulness, perceived ease of use, and intention to use is further supported by the instrument's strong internal consistency.

The findings imply that, when used in conjunction with suitable instruction, AI tools may play a significant role as supplemental resources in English language learning from a

pedagogical standpoint. As a result, incorporating AI into English instruction should prioritize teaching students how to use these tools critically, responsibly, and meaningfully in addition to giving them access to them. Lastly, the results should be evaluated in light of the study's context, which included 80 students from three UTEQ first-level parallel classrooms.

As a result, the findings only represent the opinions of this particular group and should not be extrapolated to the full student body. To gain a more comprehensive knowledge of AI acceptability in English language learning, future research might look at bigger and more varied student groups and include other elements like trust, AI literacy, institutional support, and perceived hazards.

Lastly, the results should be evaluated in light of the study's context, which included 80 students from three UTEQ first-level parallel classrooms. As a result, the findings only represent the opinions of this particular group and should not be extrapolated to the full student body. To gain a more comprehensive knowledge of AI acceptability in English language learning, future research might look at bigger and more varied student groups and include other elements like trust, AI literacy, institutional support, and perceived hazards.

References

- Acosta-Enriquez, B. G., Ramos Farroñan, E. V., Villena Zapata, L. I., Mogollon Garcia, F. S., Rabanal-León, H. C., Morales Angaspilco, J. E., & Saldaña Bocanegra, J. C. (2024). Acceptance of artificial intelligence in university contexts: A conceptual analysis based on UTAUT2 theory. *Heliyon*, 10(19), e38315. <https://doi.org/10.1016/j.heliyon.2024.e38315>
- Almehmadi, W. S. (2024). Exploring the potential of AI techniques in teaching English as a foreign language: A systematic literature review. *Asian Journal of Social Science and Management Technology*, 11(2), 22–31.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Dugošija, T. (2024). Benefits and challenges of artificial intelligence in English language teaching. *KNOWLEDGE – International Journal*, 62(2), 275–280.

- Guan, L., Lee, J. C.-K., Zhang, Y., & Gu, M. M. (2025). Investigating the tripartite interaction among teachers, students, and generative AI in EFL education: A mixed-methods study. *Computers and Education: Artificial Intelligence*, 8, 100384. <https://doi.org/10.1016/j.caeai.2025.100384>
- Ibrahim, F., Münscher, J.-C., Daseking, M., & Telle, N.-T. (2025). The technology acceptance model and adopter type analysis in the context of artificial intelligence. *Frontiers in Artificial Intelligence*, 7, 1496518. <https://doi.org/10.3389/frai.2024.1496518>
- Mansoor, H. S., Sumardjoko, B., & Sutopo, A. (2026). External variables influencing the attitudes of students toward AI acceptance in improving English writing: A systematic review. *Frontiers in Artificial Intelligence*, 8, 1719955. <https://doi.org/10.3389/frai.2025.1719955>
- Mustofa, R. H., Kuncoro, T. G., Atmono, D., Hermawan, H. D., & Sukirman. (2025). Extending the technology acceptance model: The role of subjective norms, ethics, and trust in AI tool adoption among students. *Computers and Education: Artificial Intelligence*, 8, 100379. <https://doi.org/10.1016/j.caeai.2025.100379>
- Pereira, A. S. et al. (2018). Metodologia da pesquisa científica. [Free ebook]. Santa Maria. Editora da UFSM.
- Risemberg, R. I. C. et al. (2026b). A importância da metodologia científica no desenvolvimento de artigos científicos. *E-Acadêmica*, 7(1), e0171675. <https://eacademica.org/eacademica/article/view/675>.
- Risemberg, R. I. C., Wakin, M., & Shitsuka, R. (2026a). Qualitativa, quantitativa ou quali-quantitativa: Como identificar de modo rápido a abordagem de um artigo científico?. *E-Acadêmica*, 7(2), e0172702. <https://doi.org/10.52076/eacad-v7i2.702>
- Shitsuka, C. et al. (2014b). Matemática aplicada. Editora Érica. ISBN: 978-8536507613
- Shitsuka, R. et al. (2014a). Matemática fundamental para tecnologia. (2.ed). Editora Érica. ISBN: 978-8536502359.
- Sun, K., Chew, F. P., Lau, S. K., & Jing, Q. (2025). Instrumental and integrative motivations predict intention to use generative AI chatbots for English learning among undergraduates with non-English majors in Chinese private universities. *Discover Computing*, 28, 242. <https://doi.org/10.1007/s10791-025-09753-5>
- Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273–315. <https://doi.org/10.1111/j.1540-5915.2008.00192.x>
- Walter, Y. (2024). Embracing the future of artificial intelligence in the classroom: The relevance of AI literacy, prompt engineering, and critical thinking in modern education. *International Journal of Educational Technology in Higher Education*, 21(1), 15. <https://doi.org/10.1186/s41239-024-00448-3>

- Wei, L. (2023). Artificial intelligence in language instruction: Impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology*, 14, 1261955. <https://doi.org/10.3389/fpsyg.2023.1261955>
- Wu, W., Zhang, B., Li, S., & Liu, H. (2022). Exploring factors of the willingness to accept AI-assisted learning environments: An empirical investigation based on the UTAUT model and perceived risk theory. *Frontiers in Psychology*, 13, 870777. <https://doi.org/10.3389/fpsyg.2022.870777>
- Xu, S., Chen, P., & Zhang, G. (2024). Exploring Chinese university educators' acceptance and intention to use AI tools: An application of the UTAUT2 model. *SAGE Open*, 14. <https://doi.org/10.1177/21582440241290013>
- Zhang, C., Schießl, J., Plöchl, L., Hofmann, F., & Gläser-Zikuda, M. (2023). Acceptance of artificial intelligence among pre-service teachers: A multigroup analysis. *International Journal of Educational Technology in Higher Education*, 20(1), 49. <https://doi.org/10.1186/s41239-023-00420-7>
- Zhang, Q., Nie, H., Fan, J., & Liu, H. (2025). Exploring the dynamics of artificial intelligence literacy on English as a foreign language learners' willingness to communicate: The critical mediating roles of artificial intelligence learning self-efficacy and classroom anxiety. *Behavioral Sciences*, 15(4), 523. <https://doi.org/10.3390/bs15040523>