



THE EFFECTIVENESS OF AI-BASED EVALUATION TOOLS FOR ENGLISH LANGUAGE LEARNERS

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DOI: <https://doi.org/10.63544/ijss.v5i3.298>

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Article History:

Received: 22.04.2026

Accepted: 13.05.2026

Published: 24.05.2026

Abstract

Artificial intelligence (AI) is fast changing the way education is conducted, especially in the aspect of language acquisition. AI-based assessment tools offer automated real-time feedback and personalized feedback as an alternative to conventional assessment methods. Although they are increasingly used, their effectiveness in enhancing English language learning has not been fully explored.

The purpose of the study is to assess the effectiveness of AI-based evaluation tools in English language learners by assessing their level of awareness, usage patterns, learning improvement, engagement, challenges, and user perception. The survey-based research design was utilized with the assistance of a quantitative research design. The data were gathered during a six-month time span among students studying in different universities in Islamabad. Responses were collected using a structured questionnaire with a five-point Likert scale. Convenience sampling was used and the data obtained were subjected to descriptive statistics and reliability analysis.

The results demonstrate that AI-based evaluation tools are highly aware and used by the respondents ($M = 3.84$), which means that they are more familiar and accessible. These tools were highly rated in effectiveness ($M = 4.12$), especially in giving quick and correct feedback, improving grammar, developing writing skills, and uncovering weaknesses in language. Also, AI tools showed a large positive effect on the improvement of learning and engagement ($M = 4.05$) with learners stating that they were more motivated, confident, and had better interactive learning experiences. The reliability analysis showed that the internal consistency of all the constructs was high with a Cronbach alpha of between 0.821 and 0.911. Nonetheless, answers to the issue of challenges and general acceptance were moderate ($M = 3.41$), and the reasons were related to the reliability of the feedback, technical issues, and the compatibility with the traditional methods of teaching.

The research concludes that AI-based assessment tools can greatly improve English language learning by offering effective, customized, and interactive learning experiences. They should however be applied as supplementary resources to the conventional instructional strategies to tackle current constraints and guarantee balanced educational results.

Keywords: Artificial Intelligence, Language Learning, AI-Based Evaluation Tools, English Language Learners, Learning Effectiveness, Student Engagement

1. Introduction

The swift progress of artificial intelligence has revolutionized many industries, and education being one of the most profoundly affected domains (Woo and Choi, 2021). One of the most common uses of AI in



education is AI-based evaluation tools, which have proven to be a highly potent innovation, especially in language learning (Chen et al., 2025). As a global means of communication, English is very commonly taught and learned all over the world, and students tend to struggle with learning the difficult grammar, vocabulary, pronunciation, and writing of English (Chandra et al., 2024). Conventional evaluation strategies that heavily rely on teacher feedback and standardized testing tend to be unable to offer instant, personalized, and ongoing evaluation (Gayed et al., 2022). In contrast, AI-based evaluation tools offer automated, data-driven, and personalized feedback that can enhance the learning process in real time.

These tools rely on natural language processing, machine learning algorithms, and adaptive learning systems to assess the performance of the learners in reading, writing, speaking, and listening (Afzal et al., 2025). They are not only able to detect mistakes but also offer corrective advice and monitor progress of the learners and offer increased or reduced difficulty levels depending on the results. This contributes to their high effectiveness in facilitating self-directed learning, particularly in contexts where the availability of trained educators is minimal (Arshad et al., 2024). Moreover, the AI-based tools can decrease the amount of work of teachers by automating repetitive assessments, enabling educators to concentrate more on conceptual teaching and learner guidance (Usman et al., 2024).

The application of AI-based evaluation systems is becoming more significant in the contemporary educational context, especially in the sphere of online and distance learning (Jia et al., 2022). Students can now practice their English skills using simulated real-time assessment through intelligent platforms that give instant feedback about grammar accuracy, sentence structure, fluency and coherence (Akhter, 2024). This immediate feedback loop helps in the efficiency of the learning process and allows learners to correct their mistakes at an early stage (Usman et al., 2024). Additionally, the tools can be used to encourage learners with the help of gamified learning and progress tracking dashboards (Afzal et al., 2025).

This paper is dedicated to evaluating the performance of AI-based assessment tools with English language learners in terms of user perceptions, usage habits, learning outcomes, and difficulties. It offers a detailed insight into the application of these tools in the educational settings and whether they really promote the efficiency of learning. By having the ability to analyse different factors that result in awareness, effectiveness, engagement, and the general perception, this study will be involved in the scholarly community on AI integration in education.

The findings of the given research will be of interest to teachers, policy-makers, and educational technologies creators. As AI is only developing, its impacts on language learning will be crucial in the development of a better, more efficient, and approachable next-generation learning system. Finally, this study proves that AI-driven assessment tools can transform the English language education process making it more personal, interactive, and efficient.

Problem Statement

Although artificial intelligence is quickly becoming a part of education, there is still a gap in knowledge regarding the actual usefulness of AI-based assessment instruments in English language learning. Although these tools are actively marketed because of the possibility to receive immediate feedback, enhance the learner engagement, and the skill development, their practical effects have not been completely determined. Irregular accuracy in feedback, technical constraints, and the inability to adjust to AI-based learning systems are still issues that many learners face. Moreover, scant empirical research is conducted on the impact of these tools on various elements of language acquisition including grammar acquisition, writing, motivation, and performance. Schools are actively implementing AI-powered solutions without giving proper consideration to its effectiveness to the learner. This creates a confusion on whether these technologies are indeed improving the learning outcomes, or they are just additional tools. Thus, the need to analyse in a systematic manner the effectiveness, problematic issues, and user experience of AI-based evaluation instruments in English language learning is to guarantee their best possible incorporation into the educational systems.

Research Questions

1. What is the level of awareness and usage of AI-based evaluation tools among English language learners?



2. How effective are AI-based evaluation tools in improving English language skills such as grammar, writing, and comprehension?
3. To what extent do AI-based tools enhance learner engagement and motivation?
4. What challenges do learners face while using AI-based evaluation tools?
5. What is the overall perception of learners regarding AI-based evaluation tools in English language learning?

Research Objectives

1. To examine the awareness and usage patterns of AI-based evaluation tools among learners.
2. To evaluate the effectiveness of AI tools in improving English language proficiency.
3. To analyze the impact of AI tools on learner engagement and motivation.
4. To identify challenges faced by learners in using AI-based evaluation systems.
5. To assess the overall perception and acceptance of AI-based evaluation tools.

2. Literature Review

Artificial Intelligence in Education

The use of artificial intelligence has proved to be an innovative aspect in education by supporting adaptive learning environments, intelligent tutoring software, and automatic evaluation software (Arshad et al., 2024). The AI technologies will reproduce the action of the human intelligence that would enable the systems to interpret the behaviour of the learners and give them their own feedback. During the learning process, AI can help identify the learning trends, predict the performance of students, and deliver individual learning resources (Fattah et al., 2023). This replacement of the traditional to intelligent learning systems has contributed immensely in terms of accessibility and efficiency of education (Aronno et al., 2023).

AI-Based Evaluation Tools in Language Learning

The AI-based evaluation tools are tailored to measure the language proficiency in terms of reading, writing, speaking, and listening (Yiling et al., 2025). These applications use advanced algorithms to detect grammatical errors, evaluate sentence framework, and evaluate fluency (Yuan, 2024). These tools are paramount in offering instant feedback in English language learning, which is the key to continuous improvement. They also facilitate the learners by providing corrective recommendations and adjustive exercises according to the level of performance.

Impact on Learning Outcomes

Studies in the area of AI-based education indicate that automated assessment systems are beneficial to learning outcomes. Immediate feedback also enables learners to correct their errors in real-time (Liu et al., 2025). This recursion of feedback improves memorization and comprehension of the language concepts. Also, AI tools enable learners to learn on their own, enhancing learning autonomy and confidence (Wang et al., 2024). Engagement and motivation of learners also get enhanced with the introduction of gamification features.

Challenges and Limitations

Even though AI-based evaluation tools have many benefits, they are not without limitations. Among the largest problems, the accuracy of automated feedback may be enumerated since it may not always be accurate in terms of contextual or semantic nuances to language use (Wei, 2025). Issues such as technical difficulties such as software bugs, internet addiction and compatibility can also be a hindrance to successful use. In addition, AI systems will not be able to accommodate all learners due to the lack of digital literacy (Afzal et al., 2025). The other issue is the diminished human intercourse, which is fundamental in the development of communication skills and emotional comprehension during language learning.

Adoption and User Perception

The effectiveness of AI-based tools heavily relies on user acceptance. Research indicates that students who find AI systems useful and user-friendly are more apt to integrating them into their routine (Tareque et al., 2023; Zhao, 2025). The positive perceptions are commonly correlated with perceived increase in the learning efficiency, speed of feedback, and convenience. Nevertheless, there might be resistance in case users are unsure that AI-based assessments can be trusted or want to use the conventional teaching method (Iqbal, 2023). Hence, the perception of users plays a crucial role in the successful deployment of AI tools in education.



Future of AI in Language Education

The future of AI in language education seems bright with ongoing development of machine learning and natural language processing (Owan et al., 2023). Systems of the future will be more precise, context-sensitive, and interactive (Chandra et al., 2024). In addition, they can combine speech recognition and real-time conversation analysis to develop speaking and listening abilities (Chen et al., 2025). With the evolution of technology, it can be assumed that AI-based evaluation tools will be part and parcel of language learning ecosystems, not a substitute to the traditional teaching methods.

Significance of the Study

The study is of great importance in the context of contemporary education, especially in the use of artificial intelligence in the English language learning process. It provides valuable indicators associated with the impact of AI-based evaluation devices on the results of learners, their interaction, and overall language growth. The findings of this research will allow educators to understand the real benefits and drawbacks of such tools in practice to be able to use AI in their teaching practices more effectively. To policymakers, the research provides evidence-based ideas on how to create learning systems to integrate AI in language learning. Also, it is beneficial to students as it explains the ability to use AI tools to improve self-learning and language proficiency. To developers of educational technology, the research determines user requirements and issues, which can inform the advancement of AI-based systems. On the whole, this study helps to close the gap between technology and education, to foster more efficient, interactive, and individualized learning conditions.

3. Methodology

Research Design

The research design used in this study was quantitative to investigate the effectiveness of AI-based evaluation tools with English language learners. The level of awareness, effectiveness, engagement, challenges, and overall perception of AI tools were evaluated through a survey-based approach. The design has made possible the systematic research of the reaction of learners in various institutions.

Population and Sampling

The study was designed with a target group of English language learners in different universities. The participants were selected on a convenience basis because of the time constraint and due to the availability. Various students of varying academic level and expertise were involved to provide diversity and representation.

Data Collection

The main data collection tool was a self-administered questionnaire. The questionnaire contained close-ended questions that would be measured with a five-point Likert scale (strongly disagree to strongly agree). The instrument was divided into different sections that were consistent with the objectives of the research.

The questionnaire was designed to gather information on:

- Awareness and usage of AI-based evaluation tools
- Perceived effectiveness of these tools
- Impact on learning improvement and engagement
- Challenges faced during usage
- Overall perception and acceptance

Research Instrument

A self-administered questionnaire was used as the primary data collection instrument. The questionnaire consisted of close-ended items measured on a five-point Likert scale (ranging from strongly disagree to strongly agree). The instrument was divided into several sections aligned with the research objectives.

Validity and Reliability

The questionnaire was checked by academic experts to ensure the instrument content had a high level of validity. The pilot study was undertaken before the complete collection of data. The Cronbach alpha reliability analysis revealed that all constructs had an acceptable level of reliability (more than 0.70), which



means a high internal consistency.

Data Analysis Techniques

Data collected were analysed with the help of statistical software. The data were summarized using descriptive statistics like mean and standard deviation. Internal consistency was evaluated by performing reliability analysis. Tables and figures were used to present the results in order to identify some important trends and patterns.

Ethical Considerations

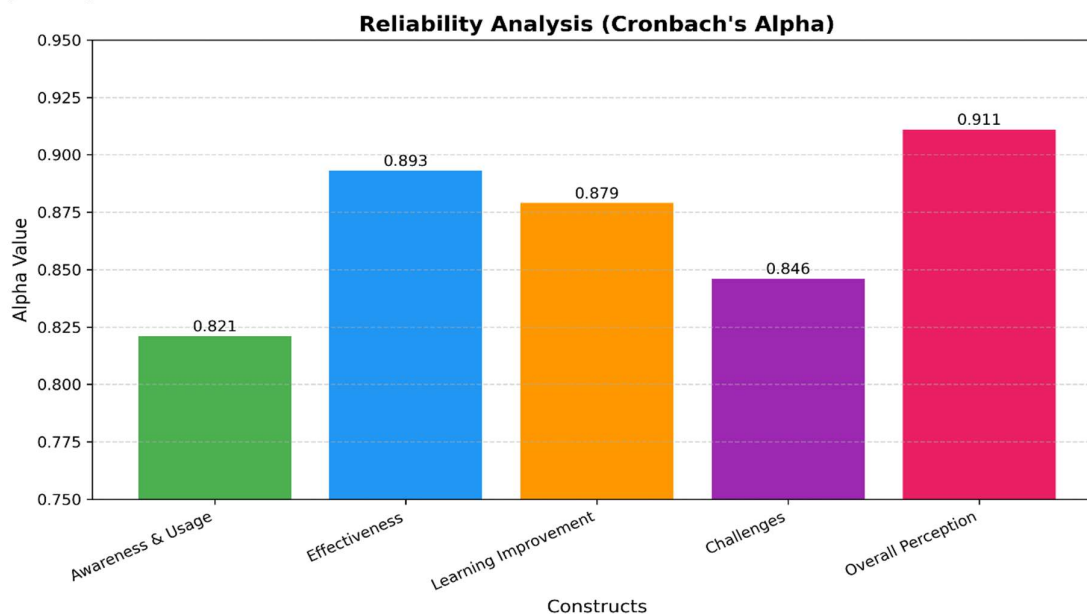
Ethics were highly adhered to in the course of conducting research. The involvement was voluntary and the respondents were assured of confidentiality and anonymity. No personal data was gathered, and the information was utilized academically.

4. Results

The Results section shows the findings of a study in an objective form without interpretation or bias. It encapsulates the information gathered in form of tables, figures, or statistical analysis, pointing to the important patterns, trends, and relationships. This section is dedicated to what was learned in the course of research only, with the explanations and implications being provided in the discussion part.

Figure 1

Reliability Analysis



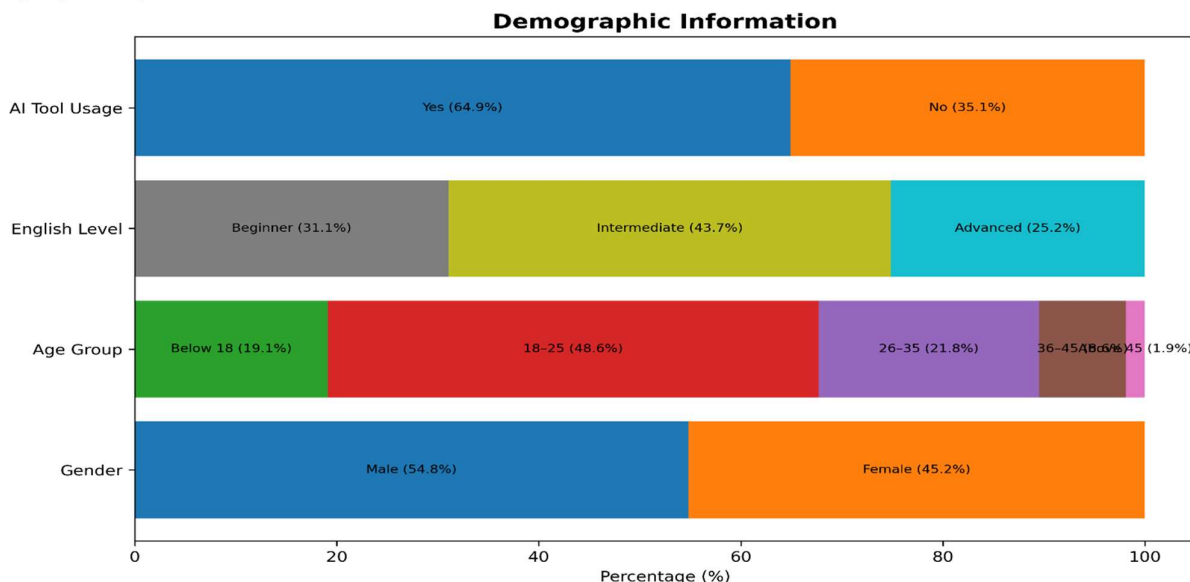
The reliability analysis shows good internal consistency of all measurement constructs, which means that the instrument is robust statistically and can be used in the analysis further. Constructs Awareness and Usage of AI-Based Evaluation Tools ($\alpha = 0.821$) and Challenges in Using AI-Based Tools ($\alpha = 0.846$) both lie within the range of Good reliability implying that responses of the respondents are consistent but not very similar.

Effectiveness of AI-Based Evaluation Tools ($\alpha = 0.893$) and Learning Improvement and Engagement ($\alpha = 0.879$) constructs demonstrate high level of reliability, which is indicated by a high degree of agreement between respondents about the perceived benefits and effects of AI-based tools. Interestingly, the best reliability was obtained with Overall Perception of AI Tools ($\alpha = 0.911$), which is rated as Excellent, or very high internal consistency and a very stable scale of measurement.

In general, the value of all Cronbach's alpha is greater than the acceptable level of 0.70, which proves that the survey tool is trustworthy, and the items of each of the constructs adequately measure its intended concepts.



Figure 2
Demographic Information



The demographic data show a moderately equal gender distribution with slightly more males (54.8%) than females (45.2%), implying that there are no significant gender biases in the sample. The age structure is highly skewed to younger age groups, with 18-25 years (48.6%), and 26-35 years (21.8%) as the most common age groups, which suggests that most of the respondents are young adults, who are more likely to be exposed to digital technologies.

Most of the participants are in the intermediate level (43.7%), beginners (31.1%), and advanced users (25.2%). This indicates a wide language ability with a high rate of learners who are yet to master proficiency, which is applicable in assessment of AI-based learning devices.

When it comes to the use of AI tools, the vast majority of the respondents (64.9) indicated that they did use AI-based evaluation tools, whereas 35.1% did not. This indicates that the participants are relatively familiar and engaged with AI technologies, which indicates the relevance and timeliness of the study.

Table 1
Awareness and Usage of AI-Based Tools

Item	Mean	SD
I am aware of AI-based evaluation tools for English learning.	3.82	0.78
I frequently use AI tools to evaluate my English skills.	3.79	0.81
My institution encourages the use of AI-based evaluation tools.	3.88	0.74
AI tools are easily accessible for English language learning.	3.87	0.75
Overall	3.84	0.76

Awareness and usage of AI-based evaluation tools show that the respondents are familiar with and engaged with the tools in general. The mean scores of all items are greater than 3.75, which indicates the positive tendency towards the use of AI tools. Institutional encouragement has the highest mean score ($M = 3.88$, $SD = 0.74$), indicating that institutions or educational establishments are supportive in the promotion of AI-based tools.

Accessibility of AI tools ($M = 3.87$, $SD = 0.75$) and awareness ($M = 3.82$, $SD = 0.78$) are also rated highly, which means that not only do the respondents know about the AI tools, but also find them easily accessible. Although this is slightly lower ($M = 3.79$, $SD = 0.81$), the frequency of usage indicates regular



usage.

The general average score ($M = 3.84$, $SD = 0.76$) supports the high awareness level and usage among the sample. The low standard deviation scores indicate that there was little variation in the responses, which implies that the participants had a general agreement on the availability and use of AI-based evaluation tools.

Table 2

Effectiveness of AI-Based Evaluation Tools

Item	Mean	SD
AI-based tools provide accurate feedback on my English language performance.	4.10	0.69
These tools help me improve my grammar skills effectively.	4.14	0.67
AI evaluation tools enhance my writing abilities.	4.09	0.71
AI-based feedback is faster than traditional teacher feedback.	4.16	0.66
These tools help identify my language weaknesses clearly.	4.11	0.70
Overall	4.12	0.69

The results show that the perception of the effectiveness of the AI-based evaluation tools is strongly positive. All the means are greater than 4.00 which indicates a high degree of consensus among respondents regarding the advantages of these tools. The most highly rated one is the speed of the feedback in comparison with the traditional methods ($M = 4.16$, $SD = 0.66$), which points to efficiency as one of the benefits of AI-based systems.

Likewise, the respondents also admit the usefulness of AI tools in enhancing grammar ($M = 4.14$, $SD = 0.67$) and language weaknesses detection ($M = 4.11$, $SD = 0.70$), which also infer its applicability to specific learning. The feedback ($M = 4.10$, $SD = 0.69$) and writing skills improvement ($M = 4.09$, $SD = 0.71$) are also rated highly supporting the overall effectiveness of these tools in developing language skills.

The general mean score ($M = 4.12$, $SD = 0.69$) indicates a very high level of support towards the effectiveness of AI-based evaluation tools. The low SD scores of the items used imply a high response consistency level, which indicates that there is a common favourable experience among the participants.

Table 3

Learning Improvement & Engagement

Item	Mean	SD
AI-based evaluation tools increase my motivation to learn English.	4.03	0.73
I feel more confident in English after using AI tools.	4.06	0.71
These tools make English learning more interactive and engaging.	4.04	0.72
AI feedback helps me track my learning progress effectively.	4.07	0.74
Overall	4.05	0.72

The findings indicate a positive significant effect of AI-based assessment instruments on improving learning and student involvement. The mean values are all over 4.00, which means that the respondents tend to agree that the tools positively affect their learning process. Effective progress tracking ($M = 4.07$, $SD = 0.74$) has the highest mean score, indicating that AI feedback is vital in the process of monitoring and directing learning progress.

The supportive aspect of AI tools to a positive learning environment is also rated high in confidence building ($M = 4.06$, $SD = 0.71$), and increased motivation ($M = 4.03$, $SD = 0.73$). Also, the idea that AI tools can make the learning process more interactive and engaging ($M = 4.04$, $SD = 0.72$) also helps to support the idea that AI tools contribute to an increase in the engagement of learners.

The average score ($M = 4.05$, $SD = 0.72$) assures the high degree of agreement with the advantages of AI tools in improving both learning outcomes and engagement. The standard deviations are relatively small implying that there is consistency in responses and so the respondents share a positive perception.



Table 4
Challenges in Using AI-Based Tools

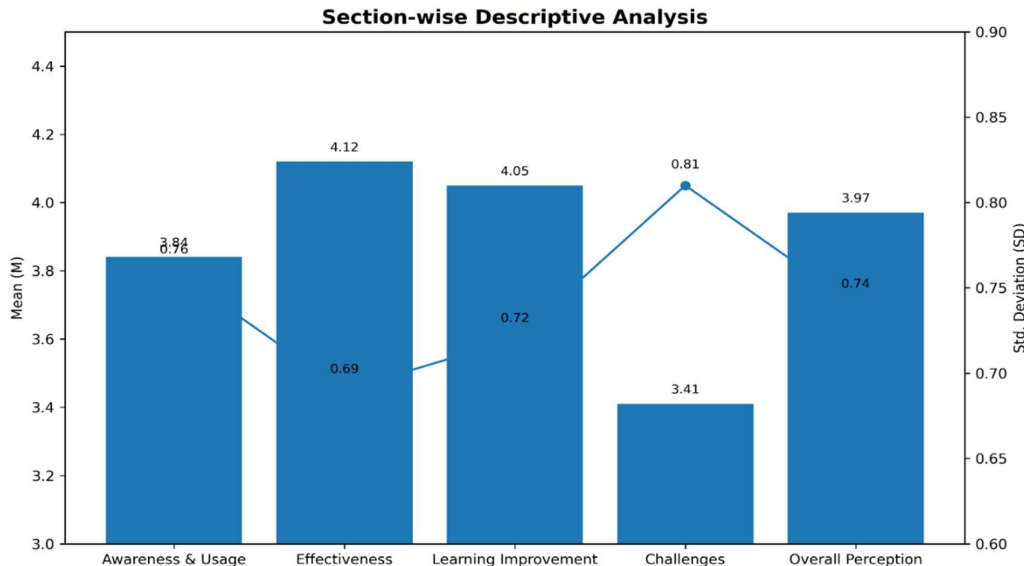
Item	Mean	SD
AI-based evaluation tools are better than traditional assessment methods.	3.45	0.80
I would recommend AI-based evaluation tools to other learners.	3.39	0.83
AI tools should be integrated more into English language learning systems.	3.38	0.82
Overall, AI-based evaluation tools are effective for improving English language skills.	3.43	0.79
Overall	3.41	0.81

The findings suggest there is a middle ground of consensus on the challenges and wider acceptance of AI-based assessment instruments. The mean scores are between 3.38 and 3.45, which implies that respondents have rather positive, but not definitely decisive opinions. The perception that AI tools are superior to traditional methods of assessment has the highest mean ($M = 3.45$, $SD = 0.80$), which means that the participants are cautiously optimistic but do not fully support it.

In the same way, users have moderate confidence as evidenced by perceptions of overall effectiveness ($M = 3.43$, $SD = 0.79$) and willingness to recommend these tools ($M = 3.39$, $SD = 0.83$). The fact that the mean of integration to learning systems ($M = 3.38$, $SD = 0.82$) is relatively lower implies some reluctance or perceived obstacles to broader adoption.

The average ($M = 3.41$, $SD = 0.81$) shows that the respondents are willing to adopt AI-based tools, but their full adoption still has concerns or restrictions. The slightly higher values of standard deviation compared to those in the earlier tables imply variability on the responses as there are various user experiences and views on the difficulties and implementation.

Figure 3
Descriptive Statistics (section-wise)



The descriptive analysis conducted section-by-section shows that the respondents have fairly positive perceptions of AI-based evaluation tools. The most agreeable was the Effectiveness of AI-Based Evaluation Tools ($M = 4.12$, $SD = 0.69$), which indicated that it is a tool that is valuable. This is then followed by Learning Improvement and Engagement ($M = 4.05$) and Overall Perception of AI Tools ($M = 3.97$) with high levels of agreement implying that AI tools are considered engaging and useful in learning by users.

The level of Awareness and Usage also was very much in agreement ($M = 3.84$), which showed that respondents are very aware of such technologies and use them actively. Conversely, Challenges in Using AI-Based Tools scored lowest ($M = 3.41$, $SD = 0.81$) with moderate agreement meaning that although there are problems with it, they are not that severe to justify the negative.



Overall, the results indicate that the attitude towards AI-based evaluation tools is positive and that the most commonly perceived benefits are effectiveness and improvement of learning.

5. Discussion

This research has generated solid evidence that AI-based evaluation tools are effective in the English language learning, and this is consistent with the past researches on the same. The awareness and usage rates among the respondents are fairly high and indicate that AI tools are entering the modern-day learning process. This aligns with previous research that emphasizes the increasing use of AI technologies in education as they are increasingly accessible and flexible (Woo and Choi, 2021; Jia et al., 2022). The advocacy of educational systems and convenience also uphold the role of educational systems in aiding the integration of AI.

It is also found that the tools based on AI are perceived as highly effective, particularly in providing timely and useful feedback. The current observation is consistent with the research that suggests that real-time feedback and automated feedback increase the effectiveness of the learning process and allow learners to correct their errors in real-time (Liu et al., 2025; Chen et al., 2025). The improvement of grammar, writing, and identification of the weak aspects prove that AI tools can have a very significant role in the development of language, which proves the correctness of the statement made by Wang et al. (2024) regarding the positive impact of AI-driven systems on the improvement of the learning outcomes.

Moreover, increased motivation levels and confidence among learners as well as their engagement are indicative of the pedagogical significance of AI tools. These results are consistent with past research highlighting that interactive and adaptive learning environments can ensure more engagement and self-directed learning (Fattah et al., 2023; Afzal et al., 2025). It appears that learner autonomy and confidence are improved in the skills of AI systems to trace progress and deliver personalized and tracked feedback.

Nevertheless, even with these positive benefits, the middle ground responses on issues and general acceptance indicate that there are still some restrictions. The questions regarding reliability, integration, and favouring of traditional ways are in line with the previous studies that pointed to the problem of feedback accuracy, technological obstacles, and less human interaction (Wei, 2025; Luo et al., 2025). This reveals that although AI tools are useful, they must be used as an addition and not substitute to traditional teaching methods.

In general, the research proves that AI-based assessment tools can be used to effectively improve English learning, yet their maximum efficiency relies on the factors related to overcoming the current issues and the balanced implementation of AI-based assessment systems into the educational systems.

6. Conclusion

This study concludes that AI-based evaluation tools play a significant and positive role in enhancing English language learning. It is found that learners have a high awareness, access and use, which means that the technologies are becoming part of contemporary learning settings. The respondents had a strong perception of AI tools as effective, especially in feedback provision, grammar and writing skills enhancement as well as establishing weaknesses in learning. The tools were also identified to improve learner motivation, confidence, and engagement and facilitate more interactive and self-directed learning experiences.

Nevertheless, in spite of these advantages, moderate concerns connected to adoption and integration are also found in the study. Reliability of feedback, technical constraints and the desire to use traditional methods of teaching are some of the issues that point to the need to implement the change cautiously. Overall, AI-based evaluation tools are highly beneficial but should be used as complementary resources alongside conventional teaching approaches. Balanced integration, continuous improvement and solving the current problems in the education system can help them achieve their full potential.

7. Recommendations

Based on the findings, a number of recommendations are made to improve the usefulness of AI-based evaluation tools in English language learning. To begin with, academic institutions ought to foster systematic adoption of AI tools in the curriculum, where they are used to supplement the existing teaching and learning practices, but not to substitute them. Both learners and educators should be offered training programs to enhance their digital literacy and effective usage of AI technologies.

Second, to overcome the issue of reliability, developers should pay attention to the accuracy and



contextual comprehension of AI-generated feedback. The adoption can also be enhanced by making the interfaces user-friendly and making them accessible to various devices.

Third, the policymakers ought to invest in technology infrastructure, especially in areas with constrained access to digital infrastructure to provide equal learning opportunities. Also, the importance of teachers in the language learning process can be preserved with the assistance of the combination of AI tools and human feedback mechanisms.

Lastly, the research conducted in the future must be extended to the long-term consequences of AI tools on language proficiency, as well as examine how the learning experience can be further personalized to make AI-driven education systems continually improve.

Acknowledgments

The authors would like to thank the participants and the respective universities for their support and cooperation in conducting this study.

Contribution of Authors

All the authors participated in the ideation, development, and final approval of the manuscript, making significant contributions to the work reported.

Conflict of Interest Statement

The authors declare no conflicts of interest.

Funding Statement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Data Availability

The datasets generated during and analysed during the current study are available from the corresponding author on reasonable request.

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