



Working Students' Perceptions of Artificial Intelligence in English Language Learning: A Descriptive Mixed-Method Survey Study

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Article Info	Abstract
Received: 2026-04-07 Revised: 2026-05-19 Accepted: 2026-08-11 Keywords: <i>artificial intelligence; descriptive survey; English language learning; learner perceptions; working students.</i> DOI: 10.24256/ideas.v14i1.10360 Corresponding Author: Novita Kusumaning Tyas novitatyas1188@gmail.com Teknik Infomatika, Universitas Sains dan Teknologi Komputer, Semarang, Jawa Tengah	<i>The application of artificial intelligence (AI) in English language learning has expanded rapidly in higher education; however, research focusing on working students remains limited. This study examined working students' perceptions of AI use in English language learning across four dimensions: perceived benefits, ease of use, learning support, and perceived challenges. Grounded in the Technology Acceptance Model (TAM), this study extends the framework by incorporating learning support as an additional construct relevant to working students. A descriptive mixed-method survey design was employed, involving 210 undergraduate students at Universitas STEKOM, Indonesia, who were concurrently employed and had prior experience using AI tools for English language learning. Data were collected through a 23-item Likert-scale questionnaire and two open-ended questions. Descriptive analysis showed that perceived benefits received the highest mean score ($M = 3.74$, $SD = 0.67$), followed by learning support ($M = 3.66$, $SD = 0.66$), ease of use ($M = 3.62$, $SD = 0.60$), and perceived challenges ($M = 3.54$, $SD = 0.52$). Thematic analysis of open-ended responses revealed time efficiency (40.5%), flexible access (40.5%), and instant feedback (35.7%) as the most frequently cited benefits, while overreliance on AI and reduced independent thinking (41.9%) and the perception that AI cannot fully replace human instructors (30.0%) emerged as the main concerns. These findings indicate that working students generally hold favourable perceptions of AI in English learning, valuing its instrumental support while also recognizing the</i>

1. Introduction

The integration of artificial intelligence (AI) into education has reshaped how students engage with learning resources, particularly in foreign language acquisition. AI-powered tools such as ChatGPT, Grammarly, QuillBot, DeepL, and Google Translate have become embedded in students' daily study routines for English language learning, enabling them to check grammar, expand vocabulary, receive immediate feedback, and engage in autonomous writing practice (Huang et al., 2023; Kohnke et al., 2023). These tools offer flexibility and immediacy that traditional classroom instruction alone may not deliver, fundamentally altering the dynamics of self-directed language learning.

However, the rapid adoption of AI tools in higher education raises critical questions about how diverse student populations perceive and benefit from these technologies. While AI offers unprecedented opportunities, its effectiveness depends heavily on user perception, ease of use, and the specific contexts of deployment (Davis, 1989; Rajki et al., 2025). Understanding learner perceptions is crucial because they directly influence technology adoption, continued use, and learning outcomes, especially for non-traditional student populations whose learning environments differ markedly from those of full-time learners.

Previous studies have demonstrated that AI tools can enhance writing development, vocabulary acquisition, and grammatical accuracy among EFL learners (Li et al., 2023; Kohnke et al., 2023). Jeon and Lee (2023) found that large language models such as ChatGPT can serve as complementary instructional partners, providing scaffolded feedback that supports learner autonomy. Existing evidence suggests that AI-assisted language learning has expanded rapidly across multiple modalities and learner contexts, with consistent positive effects on language acquisition outcomes (Lee, 2022). Scholars have also argued that AI environments reduce learner anxiety by offering non-judgmental practice spaces, thereby lowering affective barriers commonly associated with second language production (Holmes et al., 2019).

Despite these benefits, several limitations remain noteworthy. Zou and Thomas (2023) explain that current AI tools are more effective at assisting with text-based tasks than at developing speaking skills, and therefore offer limited support for spontaneous oral practice. Concerns have also been raised regarding cultural sensitivity, contextual appropriateness, and the risk of overreliance on AI-generated responses (Kohnke et al., 2023; Selwyn, 2019). Some scholars further question whether AI use genuinely improves language skills or replaces meaningful learning processes, particularly when learners use these tools without understanding their boundaries.

While previous research has clarified the role of AI in language learning, a crucial aspect remains under-explored: the experiences of working students. This

group navigates a different learning environment than typical full-time students, balancing employment and study, coping with shifting schedules, post-work fatigue, and limited interaction with lecturers outside class hours (Crompton & Burke, 2023). These conditions shape how working students utilize learning resources, including AI-based technology. Yet much of the existing literature on AI-assisted language learning still focuses on full-time students and tends to assume homogeneous learning circumstances, overlooking the specific needs of working learners. This situation is increasingly relevant in Indonesian higher education, particularly at private universities, where many students self-finance their studies.

From a theoretical standpoint, the Technology Acceptance Model (TAM; Davis, 1989) has been widely applied to understand technology adoption in education. However, TAM in its original form may be insufficient for capturing AI-mediated learning, where the value of a tool depends not only on perceived usefulness and ease of use but also on the concrete pedagogical assistance the tool provides. Recent adaptations of TAM have called for context-specific extensions to account for emerging affordances of AI tools (Rajki et al., 2025). Learning support, defined as the extent to which AI offers tangible task-level assistance, is theoretically distinct from perceived usefulness because it captures pedagogical functionality rather than general utility. Incorporating this construct is particularly necessary for working students, who tend to evaluate AI tools through the lens of concrete academic outcomes rather than general convenience.

To address this gap, the present study focuses on working students' perceptions of AI tools in English language learning at Universitas STEKOM, Indonesia. The study is guided by the following research questions:

- (1) How do working students perceive the benefits of AI tools in English language learning?
- (2) How do working students perceive the ease of use of AI tools?
- (3) To what extent do AI tools support working students' English language learning?
- (4) What challenges do working students encounter when using AI tools for English language learning?

By extending TAM through the inclusion of learning support and adopting a descriptive mixed-method approach that combines quantitative Likert-scale data with thematic analysis of open-ended responses, this study aims to provide an in-depth account of working students' experiences with AI in language learning. The findings are expected to offer an empirical basis for instructional practice, educational AI design, and institutional support strategies that better address the needs of this under-researched learner population.

Literature Review

AI Tools in English Language Learning

The application of AI in language education has attracted considerable

academic attention in recent years. Foundational work by Luckin et al. (2016) outlined the transformative potential of AI in education, arguing that intelligent learning systems could fundamentally reshape educational access and personalization. Research consistently shows that AI tools can support a range of language skills, including writing development, vocabulary acquisition, and grammar improvement (Kohnke et al., 2023; Li et al., 2023). AI tools have also been shown to reduce learner anxiety by providing a non-judgmental environment for practice (Holmes et al., 2019). The availability of immediate corrective feedback is highly valued, as it allows learners to identify and address errors in real time. Despite these advantages, researchers have documented notable limitations. AI-generated feedback, while often accurate, can lack the cultural nuance and contextual sensitivity that human teachers provide (Kohnke et al., 2023). AI tools have also been found to be more effective for text-based tasks than for oral language development, with limited support for spontaneous speaking practice (Zou & Thomas, 2023).

Technology Acceptance Model (TAM) and AI Adoption

The Technology Acceptance Model (TAM), originally developed by Davis (1989), posits that perceived usefulness and perceived ease of use are the primary determinants of technology adoption. In educational research, TAM has been widely applied to understand students' acceptance of digital learning tools, including AI-based platforms (Rajki et al., 2025). However, the original two-factor model has received critique for its limited explanatory power in technology-rich environments where contextual and pedagogical factors are increasingly salient. Scholars have argued that TAM requires extension to account for constructs such as enjoyment, social influence, and learning support in AI-enhanced learning settings (Rajki et al., 2025).

Recent applications of TAM in Indonesian EFL contexts have demonstrated the model's continued relevance. Kamal and Imran (2026), for instance, employed TAM to assess EFL learners' acceptance of GenAI-assisted digital storytelling and reported a positive acceptance score ($M = 4.12$) alongside reliable internal consistency ($\alpha = 0.87$), indicating that contextually adapted TAM frameworks remain effective for capturing learner attitudes toward AI tools in Indonesian higher education. For working students, however, learning support, defined as the extent to which an AI tool provides tangible assistance in completing learning tasks, may carry greater weight than perceived usefulness, because this group typically prioritizes concrete academic outcomes over the general utility of a tool. Including learning support as a distinct construct is therefore theoretically warranted: it captures pedagogical functionality (e.g., scaffolding, error correction, guided practice) rather than perceived value at a general level.

Working Students and AI-Assisted Learning

Working students represent a growing segment of the higher education

population, particularly in developing countries where many undergraduates must support themselves financially during their studies. Research has shown that working students face unique learning challenges, including limited study time, irregular schedules, and higher levels of fatigue compared with non-working peers (Crompton & Burke, 2023). For this group, flexible and efficient learning tools are not merely a convenience but a necessity. AI tools, with their capacity for on-demand, self-paced interaction, appear well-suited to addressing these constraints. However, the extent to which working students perceive and utilize these tools effectively remains an empirical question that warrants direct investigation.

2. Method

Research Design

This study adopted a descriptive mixed-method survey design. The descriptive approach was selected because the study aimed to systematically characterize working students' perceptions of AI in English language learning rather than to test causal relationships. While the dominant strand of data was quantitative (Likert-scale items), the inclusion of open-ended questions and thematic analysis introduced a qualitative component that complemented and enriched the quantitative findings; the design is therefore best described as a descriptive mixed-method survey rather than a purely quantitative descriptive survey. A cross-sectional approach was used to collect data at a single point in time from the target population.

Participants and Recruitment

The participants were undergraduate students at Universitas STEKOM, Semarang, Indonesia. Purposive sampling was employed based on three inclusion criteria: (1) currently enrolled as an active student, (2) engaged in paid employment during the study period, and (3) having prior experience using AI tools for English language learning. Recruitment was conducted through course coordinators and student WhatsApp groups affiliated with the participating study programs. Students who met the inclusion criteria were invited to complete an online questionnaire distributed via Google Forms. Participation was voluntary and anonymous. Prior to completing the questionnaire, respondents were presented with an informed-consent statement outlining the purpose of the study, the voluntary nature of participation, the right to withdraw at any time, and the confidentiality of responses. Only respondents who provided informed consent proceeded to the main questionnaire. A total of 210 students met all three criteria and completed the questionnaire.

Table 1 presents the demographic characteristics of the respondents. Of the 210 participants, 114 were female (54.3%) and 96 were male (45.7%). The majority were employed full-time (68.1%), while 31.9% worked part-time. In terms of study program, the largest group came from Management/Business (47.1%), followed by Law (20.0%), Visual Communication Design (16.2%),

Information Systems (7.6%), and other programs (9.0%).

Table 1. Demographic Characteristics of Respondents (N = 210)

Category	Sub-category	Frequency (%)
Gender	Female	114 (54.3%)
	Male	96 (45.7%)
Employment Status	Full-time	143 (68.1%)
	Part-time	67 (31.9%)
Study Program	Management/Business	99 (47.1%)
	Law	42 (20.0%)
	Visual Communication Design	34 (16.2%)
	Information Systems	16 (7.6%)
	Other	19 (9.0%)

Instrument

Data were collected using a researcher-developed questionnaire consisting of two parts. The first part comprised 23 closed-ended statements distributed across five constructs: perceived benefits (5 items), perceived ease of use (5 items), learning support (5 items), perceived challenges (5 items), and learning satisfaction (3 items). Each statement was rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Item development was guided by established literature on technology acceptance and AI-assisted learning (Davis, 1989; Rajki et al., 2025). Sample items included: "AI tools help me improve my English writing skills" (perceived benefits); "AI tools are easy to use for English learning" (ease of use); "AI-assisted learning helps me identify and correct my English mistakes" (learning support); and "I sometimes feel too dependent on AI tools in learning English" (perceived challenges). The second part included two open-ended questions inviting respondents to describe the advantages and disadvantages of AI in English learning and to offer suggestions for improvement. The full list of items is available from the authors upon reasonable request.

Validity and Reliability

Instrument validity was assessed using corrected item-total correlations, with a minimum threshold of $r = .30$. All items in the perceived benefits ($r = .656-.776$), ease of use ($r = .565-.712$), learning support ($r = .606-.766$), and learning satisfaction ($r = .708-.782$) constructs exceeded this threshold. One item in the perceived challenges scale showed a marginally lower correlation ($r = .262$) but was retained for its content relevance, consistent with recommendations for exploratory, multidimensional constructs (Nunnally & Bernstein, 1994).

Reliability analysis yielded satisfactory Cronbach's alpha values for perceived benefits ($\alpha = .880$), ease of use ($\alpha = .831$), learning support ($\alpha = .870$), and learning satisfaction ($\alpha = .871$). The perceived challenges construct yielded $\alpha = .595$, which

is lower than the conventional .70 benchmark and warrants critical discussion. This relatively low coefficient is plausibly attributable to the heterogeneous content of the construct, which covers conceptually distinct concerns (e.g., pedagogical limitations, overreliance, accuracy, privacy, cultural fit). Such heterogeneity tends to attenuate internal consistency even when items remain content-valid (Hair et al., 2019).

Two implications follow. First, results for perceived challenges should be interpreted as a thematic profile of concerns rather than a tightly unified construct. Second, future research should refine the scale by either splitting it into sub-dimensions (e.g., accuracy concerns, pedagogical concerns, dependency concerns) or expanding the item pool to strengthen each sub-dimension. The construct was retained in the present descriptive study because its items provide important contextual information that complements the qualitative findings, but its limitations are acknowledged when interpreting the results.

Data Analysis

Quantitative data were analysed using descriptive statistics (mean and standard deviation) computed for each variable to describe the level and distribution of students' perceptions. To support interpretation, mean scores were classified using the following benchmarks adapted from common five-point Likert scale conventions: 1.00–1.80 = very low; 1.81–2.60 = low; 2.61–3.40 = moderate; 3.41–4.20 = high; and 4.21–5.00 = very high. Open-ended responses were analysed using a reflexive thematic analysis approach (Braun & Clarke, 2006).

The analytic process consisted of six iterative phases: (a) familiarization with the data through repeated reading of all 210 open-ended responses; (b) generation of initial codes by labelling meaningful segments related to perceived advantages, challenges, and suggestions; (c) searching for themes by clustering related codes; (d) reviewing themes against the dataset to ensure coherence and distinctiveness; (e) defining and naming the final themes; and (f) producing the report and tabulating theme frequencies.

To enhance trustworthiness, two coders independently coded an initial subset of 30 responses (approximately 14% of the dataset). Inter-coder agreement was calculated using Cohen's kappa, which yielded a value of $\kappa = .82$, indicating substantial agreement (Landis & Koch, 1977). Discrepancies were resolved through discussion until consensus was reached, after which one coder completed the analysis of the remaining responses. An audit trail of coding decisions and theme definitions was maintained throughout the process to support credibility and dependability.

3. Result

Descriptive Statistics

Table 2 summarizes the descriptive statistics for all research variables. Using

the interpretation benchmarks described above, perceived benefits received the highest mean score ($M = 3.74$, $SD = 0.67$), falling within the high category, which indicates that students generally view AI tools as beneficial for their English language learning. Learning support followed closely ($M = 3.66$, $SD = 0.66$; high), reflecting students' recognition of the concrete assistance AI provides during learning tasks. Ease of use also fell within the high category ($M = 3.62$, $SD = 0.60$), suggesting that most students find AI tools reasonably accessible.

Perceived challenges ($M = 3.54$, $SD = 0.52$) and learning satisfaction ($M = 3.51$, $SD = 0.71$) both fell at the lower end of the high category, indicating that while students acknowledge certain limitations of AI tools, their overall satisfaction with AI-assisted learning remains at an acceptable level. The closeness of these mean scores suggests that working students view AI tools through a balanced rather than polarized lens, simultaneously appreciating their benefits and acknowledging their boundaries.

Table 2. Descriptive Statistics of Research Variables (N = 210)

Variable	Mean	SD	Min	Max
Perceived Benefits (PB)	3.74	0.67	1.30	5.00
Ease of Use (PEU)	3.62	0.60	1.40	5.00
Learning Support (LSup)	3.66	0.66	1.00	5.00
Perceived Challenges (PC)	3.54	0.52	1.60	5.00
Learning Satisfaction (LSat)	3.51	0.71	1.00	5.00

Note. Scores are based on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Interpretation: 1.00–1.80 = very low; 1.81–2.60 = low; 2.61–3.40 = moderate; 3.41–4.20 = high; 4.21–5.00 = very high.

Perceived Benefits

Perceived benefits received the highest mean score among all variables ($M = 3.74$), indicating that working students recognize the value of AI tools in supporting their English learning. Items related to writing improvement, time savings, and motivational support received the most favourable ratings. The pattern suggests that the perceived value of AI for this group is closely tied to its capacity to deliver tangible academic outcomes within constrained study time.

Ease of Use

Ease of use scored within the high category ($M = 3.62$), suggesting that most participants found AI tools relatively straightforward to operate. Items related to interface simplicity and minimal adaptation effort received the most positive responses. Notably, although ease of use was rated highly, it was not the top-ranked dimension, which hints at a shift in priorities for working learners compared with the assumptions of the original TAM.

Learning Support

Learning support received a mean score of 3.66, the second highest among all variables. This dimension captured the degree to which AI tools help students identify and correct their mistakes, support independent learning, and enhance understanding of grammar. The relatively high score on this construct reflects students' appreciation for the concrete, task-level assistance AI provides, which is particularly valuable when human instructors are not available during off-hours.

Perceived Challenges

Perceived challenges scored at the lower end of the high category ($M = 3.54$), indicating that students acknowledge certain limitations of AI tools in English learning without these concerns dominating their overall experience. The score reflects a balanced and critical stance toward AI use, rather than uncritical acceptance or outright rejection. Students who are aware of AI's limitations may, in fact, engage with these tools more thoughtfully and strategically. Given the lower internal consistency of this construct ($\alpha = .595$), the perceived challenges score is best interpreted alongside the thematic findings rather than as a single unified measure.

Thematic Analysis: Perceived Advantages

The open-ended responses provided richer qualitative detail about students' experiences with AI tools. Table 3 presents the themes most frequently identified in responses to the question about perceived advantages.

Table 3. Thematic Analysis of Perceived Advantages of AI-Assisted Learning (N = 210)

Theme	Frequency (f)	Percentage (%)
Time efficiency	85	40.5
Flexible access (anytime, anywhere)	85	40.5
Instant feedback and error correction	75	35.7
Vocabulary and translation support	56	26.7
Personalized learning experience	60	28.6
Writing and grammar improvement	44	21.0
Cost-effective learning	24	11.4
Support for independent learning	18	8.6
Reduced anxiety and increased confidence	23	11.0

Note. Multiple themes could be identified per response. *f* = frequency of respondents mentioning the theme.

Time efficiency and flexible access were the most frequently cited advantages, each mentioned by 40.5% of respondents, followed closely by instant feedback (35.7%). The convergent prominence of these three themes reflects the structural reality of working students' lives: their study time is fragmented and unpredictable, and any tool that compresses routine learning tasks or makes learning available

across irregular hours effectively expands their available study capacity. Several respondents articulated this directly. One participant explained, "AI helps me study after work because I can access explanations anytime, even at midnight when no teacher is available." Another wrote, "I only have one to two hours each night to study, so when I can fix my grammar in five minutes instead of an hour, that changes everything." Personalized learning experience (28.6%) and vocabulary and translation support (26.7%) were also commonly mentioned, reflecting the adaptive and content-rich nature of current AI tools. A smaller but notable proportion of respondents (11.0%) mentioned reduced learning anxiety, with one participant remarking, "I am not embarrassed to ask AI the same question many times, but I would feel ashamed asking my lecturer."

Thematic Analysis: Perceived Challenges

Table 4 presents the themes identified from responses to the question about perceived disadvantages of AI in English learning.

Table 4. Thematic Analysis of Perceived Challenges of AI-Assisted Learning (N = 210)

Theme	Frequency (f)	Percentage (%)
Overreliance and reduced independent thinking	88	41.9
AI cannot fully replace human teachers	63	30.0
Lack of cultural context and emotional nuance	59	28.1
Accuracy and reliability concerns	52	24.8
Data privacy and security concerns	23	11.0
Limited speaking practice opportunities	19	9.0

Note. Multiple themes could be identified per response. f = frequency of respondents mentioning the theme.

The most frequently cited challenge was the risk of overreliance leading to reduced independent thinking (41.9%), followed by the belief that AI cannot fully replace human instructors (30.0%), the lack of cultural context and emotional nuance (28.1%), and accuracy and reliability concerns (24.8%). One respondent observed, "AI gives me the answer, but my teacher explains why the answer is correct, and that explanation is what helps me learn." Another expressed concern about dependency: "I worry that if I use AI for everything, my own ability to think in English will weaken over time." The two leading themes are conceptually intertwined: students appear to recognize that the irreplaceability of human instructors and the risk of overreliance are two sides of the same pedagogical concern, suggesting that working students understand AI's role as supplementary rather than substitutional.

Concerns about cultural and emotional nuance and the accuracy of AI output further demonstrate that students are attentive to the qualitative dimensions of

language learning that go beyond technical correctness. The convergence of these heterogeneous qualitative concerns also helps explain why the quantitative challenges construct showed lower internal consistency: the underlying concerns span pedagogical, ethical, and technical domains.

4. Discussion

The findings of this study offer several important insights into how working students perceive and engage with AI tools in their English language learning. The discussion below interprets the quantitative and qualitative results in relation to existing literature, theoretical frameworks, and the specific learning conditions of working students. To enhance focus and reduce overlap, the discussion is organized into four streamlined themes: (a) benefits and usefulness; (b) learning support as a TAM extension; (c) critical awareness and AI limitations; and (d) implications for AI-assisted learning.

Benefits and Usefulness as the Primary Driver of AI Adoption

The high mean score for perceived benefits ($M = 3.74$) indicates that working students primarily evaluate AI tools through an instrumental lens, focusing on the tangible advantages these tools bring to their learning process. These results indicate that learners with competing time demands tend to prioritize learning solutions that deliver clear and immediate returns on the time they invest, a pattern also reported by Crompton and Burke (2023) and Li et al. (2023). For working students, the value of AI is closely tied to lifestyle compatibility: AI tools help compress learning into the limited windows available between work and study commitments.

The thematic data reinforce this interpretation. Time efficiency and flexible access tied as the most frequently cited advantages (40.5% each), with instant feedback (35.7%) closely behind. The fact that these three themes cluster so closely together is itself revealing: working students do not value any single affordance of AI in isolation but rather a configuration of temporal flexibility, on-demand availability, and immediate responsiveness. The evidence suggests that AI is not perceived merely as a supplementary tool but as a strategic resource that allows working students to maintain academic progress despite their employment obligations.

Similar patterns have emerged in the Indonesian higher education context. Harahap, Fithriani, and Dewi (2026) reported that EFL students perceived AI feedback tools such as Paperpal as supportive of grammatical accuracy, sentence clarity, and revision efficiency, while also identifying overreliance and difficulty maintaining authorial control as notable challenges. The convergence between their findings and the present study suggests that Indonesian EFL learners across diverse institutional contexts share a dual perception of AI tools as simultaneously useful and potentially problematic.

Learning Support: Justifying a TAM Extension

The relatively high score for learning support ($M = 3.66$) reinforces the theoretical contribution of this study by demonstrating that learning support functions as a meaningful, distinct construct beyond perceived usefulness and ease of use. Conceptually, perceived usefulness, as defined in the original TAM, captures a learner's general evaluation that a tool enhances task performance in a relatively diffuse way (Davis, 1989). Learning support, by contrast, captures a more specific pedagogical functionality: the degree to which a tool offers task-level scaffolding, error correction, guided practice, and structured assistance.

While perceived usefulness can be high even when a tool merely saves time, learning support requires that the tool actively contribute to the learner's understanding and skill development. This conceptual distinction is consequential in AI-mediated learning, where tools differ widely in the depth of pedagogical support they provide. The pattern observed in this study supports this theoretical separation: learning support ranked second highest, ahead of ease of use, which suggests that participants distinguished between general usefulness and pedagogical functionality in their evaluations. The qualitative data illustrate this distinction. One respondent described AI as functioning like "a private tutor available 24/7". It is a metaphor that emphasizes pedagogical assistance rather than mere efficiency.

The pattern aligns with Holmes et al. (2019), who argued that AI environments can lower affective barriers to language practice while offering structured guidance. For working students, the value of learning support is amplified because human instructors are often inaccessible during the irregular hours when these students engage in independent study. The integration of learning support as a fourth dimension within the TAM framework therefore appears empirically justified for this population, and future TAM-based research in similar contexts should explicitly account for this construct rather than subsuming it under generic usefulness.

Critical Awareness and AI Limitations

The moderate-to-high score for perceived challenges ($M = 3.54$) indicates that working students recognize the limitations of AI tools without allowing these concerns to dominate their overall experience. The pattern observed is itself a notable finding: rather than expressing uncritical enthusiasm or outright rejection, participants demonstrate a nuanced awareness consistent with Selwyn's (2019) argument that critical technology awareness is associated with more strategic and effective technology use. Thematic analysis offers concrete evidence of this critical awareness. The most frequently cited challenge, overreliance leading to reduced independent thinking (41.9%), suggests that students are not naive consumers of AI but rather actively monitor their own cognitive engagement. The second most cited concern, the belief that AI cannot fully replace human instructors (30.0%), reflects a sophisticated understanding of AI's role as a supplementary, not

substitutional, learning resource.

Importantly, these two leading themes are conceptually intertwined: working students simultaneously value AI's instrumental contributions and distrust its capacity to replace human pedagogical interaction. The relationship between themes is therefore not contradictory but complementary; students appear to construct a mental model in which AI handles routine, text-based tasks while human instruction handles relational, cultural, and higher-order learning. The presence of concerns about cultural and emotional nuance (28.1%) and the accuracy of AI output (24.8%) further reinforces this pattern, indicating that students attend to qualitative dimensions of language learning that go beyond technical correctness.

This configuration aligns with broader discussions of digital literacy and learner autonomy, which emphasize that effective technology use requires both instrumental competence and the capacity to recognize the boundaries of a tool's affordances. It also resonates with discussions of work-study balance, given that working students must allocate cognitive resources strategically across competing demands.

Patterns of critical awareness extend beyond student perspectives to other stakeholders in Indonesian English education. Arroyan and Widhiatama (2026) found that pre-service teachers actively employ scaffolding, modeling, assessment design, and critical literacy strategies to promote ethical AI use, while encountering challenges such as knowledge gaps and unclear boundaries between acceptable language support and AI-generated content. Marpaung, Salminawati, and Dahlan (2026) further demonstrated that students' ethical literacy in AI use varies significantly, with some leveraging AI as a supportive tool for idea generation while others rely on it excessively without adequate critical reflection. Together, these findings reinforce the importance of cultivating not only instrumental competence in using AI tools but also the critical and ethical literacy needed to engage with these technologies responsibly, particularly with respect to AI ethics in academic settings.

Although limited speaking practice opportunities appeared as a less frequent theme in the present data (9.0%), this finding should not be interpreted as evidence that oral language development is unproblematic. The relatively low frequency may instead reflect that working students, when invited to describe disadvantages in their own words, foregrounded more salient concerns about overreliance and human-AI complementarity. The gap in spontaneous speaking practice nevertheless remains a documented limitation of current text-oriented AI tools (Zou & Thomas, 2023). The challenge of supporting oral language development through digital tools has also been observed in other Indonesian contexts. Sumarni, Dollah, and Sunra (2026) found that intensive audio exposure through AI-supported pronunciation tools helped students improve pronunciation and develop independent learning strategies, although limitations such as

monotone voice quality and rapid speech reduced the tool's effectiveness for autonomous pronunciation practice. For working students whose professional contexts often demand strong oral communication such as in meetings, client interactions, and presentations this gap remains consequential and warrants continued attention in AI tool design.

Azhari and Khabib (2026) similarly observed that while AI poem generators positively engaged Indonesian EFL students and improved their vocabulary and confidence, students encountered challenges related to technical infrastructure and cultural relevance, underscoring the importance of contextual adaptation in AI-supported EFL settings. This parallel with the present study, which observed that working students seek workplace-relevant content and culturally appropriate output rather than generic AI responses, suggests that contextual fit is a critical factor across multiple AI-assisted learning scenarios in Indonesian higher education.

Implications for AI-Assisted Learning: Towards a Blended Model

The qualitative suggestion to combine AI tools with human teacher guidance reflects a broader pedagogical insight emerging from these findings. Working students do not view AI as a replacement for human instruction but as a complement that addresses specific gaps in access and flexibility. The evidence suggests that for institutions serving working students, purely automated or purely traditional models are unlikely to meet learners' needs effectively.

A blended approach that strategically integrates AI for self-paced, task-level support while reserving human instruction for higher-order skills, cultural understanding, and personalized mentorship would more closely align with how working students actually want to learn. Such an approach acknowledges this population's dual reality: the need for efficiency and flexibility through AI, paired with continued appreciation for the irreplaceable human dimensions of language learning. These findings resonate with Jeon and Lee's (2023) argument that large language models and human teachers occupy complementary rather than competing roles in language education.

5. Conclusion

This study described working students' perceptions of artificial intelligence in English language learning at Universitas STEKOM, Indonesia, based on survey data from 210 respondents. Across the four dimensions examined, working students consistently expressed positive perceptions toward AI tools. Perceived benefits received the highest mean score ($M = 3.74$), followed by learning support ($M = 3.66$), ease of use ($M = 3.62$), and perceived challenges ($M = 3.54$). The thematic analysis of open-ended responses converged with these quantitative findings: time efficiency, flexible access, and instant feedback were the most valued aspects of AI tools, while overdependence on AI and the perceived irreplaceability of human instructors emerged as the most prominent concerns.

Beyond describing these perception patterns, this study contributes to scholarly knowledge in three ways. First, it extends the Technology Acceptance Model (Davis, 1989) to a previously under-researched population of working undergraduate students and demonstrates that learning support functions as a meaningful fourth dimension alongside the original constructs of perceived usefulness and perceived ease of use.

Second, the findings indicate that for working students, the value of AI tools depends less on interface ease of use and more on the instrumental and pedagogical benefits these tools provide, suggesting that the original TAM constructs require contextual adaptation when applied to non-traditional learner populations. Third, the alignment between reported challenges and concerns about over-reliance on AI and the collaborative relationship between humans and AI suggests that there are clear areas for improvement in the practice of teaching and developing AI technologies.

These conclusions must be interpreted with appropriate caution. The findings reflect the perceptions of working students at a single private university in Semarang, Indonesia, and should not be uncritically extended to working students in other institutional, geographic, or cultural contexts. This study has several limitations. First, it involved students from a single institution, so the results may not be representative of all working students. Second, the cross-sectional design only captures perceptions at a single point in time and cannot illustrate how perceptions evolve as AI technology develops.

Third, the descriptive approach is appropriate for the study's objectives but cannot establish causal relationships between AI use and learning outcomes. Fourth, the data were self-reported and therefore subject to potential biases such as social desirability and inaccurate recall. Fifth, the perceived challenges scale showed lower internal consistency ($\alpha = .595$), which limits the precision of that quantitative measure, although it is partially offset by the converging qualitative evidence. Finally, this study did not directly measure learning outcomes or actual AI usage behaviour, focusing solely on students' perceptions.

Suggestions

The findings provide several recommendations for educators, institutions, AI developers, and future researchers. For educators and universities, the results suggest that AI tools should be incorporated into a structured learning framework that supports critical and strategic use rather than passive dependence. Lecturers teaching working students can design assignments that leverage AI for routine tasks while reserving class time for activities requiring human intervention, such as speaking practice, cultural negotiation, and the development of higher-order critical thinking.

Institutions with a large number of working students should also develop learning materials tailored to workplace communication needs, including

professional email writing, meeting communication, and business presentations.

For AI developers, the persistent gap in speaking practice and the demand for contextually relevant content represent significant opportunities for product development. Developers can create AI features that support realistic conversational practice, including pronunciation feedback and contextualized dialogue simulations targeting authentic workplace scenarios. The demand for short-form learning (microlearning) and work-focused materials further suggests that future AI tools should be designed in modular and professionally relevant ways rather than narrowly oriented toward academic content.

For future researchers, several directions emerge from this study. First, future TAM-based research should incorporate inferential analyses, such as correlation, multiple regression, or Structural Equation Modeling (SEM), to test the predictive relationships among perceived benefits, ease of use, learning support, perceived challenges, and learning outcomes; the present study, by design, is limited to a descriptive characterization. Second, multi-institutional and cross-cultural research is needed to determine whether the present findings generalize to working students in different national, linguistic, and economic contexts.

Third, longitudinal designs could illuminate how students' perceptions of AI evolve over time as AI technology advances and user experience matures. Fourth, experimental or quasi-experimental designs that compare AI-assisted learning with traditional learning could provide stronger evidence of causal effects on language acquisition outcomes.

Finally, in-depth qualitative methods such as interviews, learning journals, and classroom observations would complement survey data and provide a richer understanding of working students' actual experiences with AI tools. By extending the empirical and theoretical understanding of AI use in language education for working students, this study provides a foundation for developing more inclusive and evidence-based AI-assisted English language learning.

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