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Exploring the challenges faced by students at the university of sebha in using artificial intelligence for English language learning

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Keywords:
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ABSTRACT

This study explores the challenges faced by English department students at the University of Sebha when using artificial intelligence (AI) tools to improve their English proficiency. While AI offers personalized feedback, adaptive exercises, and real-time practice, many students struggle to access or benefit from these technologies due to infrastructural, technical, and pedagogical limitations.
Using a mixed-methods approach, data were collected through a structured questionnaire administered to 17 female students from the seventh and eighth semesters. The questionnaire included both Likert-scale items, which were analyzed using descriptive statistics, and open-ended questions, which were analyzed thematically to gain deeper insights into students' experiences. The findings revealed significant disparities in access to reliable internet, electricity, and digital devices, as well as a lack of formal training and institutional support. The study concludes with practical recommendations for educators and policymakers, emphasizing the need for context-sensitive integration of AI, improved digital infrastructure, and targeted training programs. The findings should be interpreted within the context of the study's exploratory design and participant group, and future research involving larger and more diverse samples is recommended.

استكشاف التحديات التي يواجهها الطلاب في جامعة سبها في استخدام الذكاء الاصطناعي لتعلم اللغة الإنجليزية

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الكلمات المفتاحية:
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الملخص

تستكشف هذه الدراسة التحديات التي يواجهها طلبة قسم اللغة الإنجليزية في جامعة سبها عند استخدام أدوات الذكاء الاصطناعي (AI) لتحسين كفاءتهم في اللغة الإنجليزية. وعلى الرغم من أن الذكاء الاصطناعي يوفر تغذية راجعة مخصصة، وتمارين تكيفية، وممارسة فورية للغة، فإن العديد من الطلبة يواجهون صعوبات في الوصول إلى هذه التقنيات أو الاستفادة منها بسبب القيود المتعلقة بالبنية التحتية، والجوانب التقنية، والقيود التربوية. اعتمدت الدراسة منهجية البحث المختلط، حيث جُمعت البيانات من خلال استبيان منظم تم توزيعه على 17 طالبة من طالبات الفصلين السابع والثامن. تضمن الاستبيان أسئلة وفق مقياس ليكرت، والتي تم تحليلها باستخدام الإحصاءات الوصفية، بالإضافة إلى أسئلة مفتوحة تم تحليلها موضوعيًا للحصول على فهم أعمق لتجارب الطالبات. أظهرت النتائج وجود تفاوتات ملحوظة في إمكانية الوصول إلى الإنترنت الموثوق، والكهرباء، والأجهزة الرقمية، إلى جانب نقص في التدريب الرسمي والدعم المؤسسي. وتختتم الدراسة بمجموعة من التوصيات العملية الموجهة إلى المعلمين وصانعي السياسات، مع التأكيد على ضرورة دمج الذكاء الاصطناعي بطريقة تراعي خصوصية السياق المحلي، وتحسين البنية التحتية الرقمية، وتوفير برامج تدريبية موجهة. ينبغي تفسير نتائج هذه الدراسة في إطار طبيعتها الاستكشافية ومجموعة المشاركين فيها، كما يُوصى بإجراء أبحاث مستقبلية تشمل عينات أكبر وأكثر تنوعًا لتعزيز فهم أوسع للموضوع.

1. Introduction

In recent years, artificial intelligence has emerged as a transformative force in education, especially in language acquisition. From intelligent

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tutoring systems to speech recognition apps and grammar assistants, AI enables learners to practice reading, writing, listening, and speaking with immediate, personalized feedback (Johnson & Lee, 2023). For students learning English as a foreign language, such tools can compensate for limited classroom exposure and provide valuable opportunities for independent practice.

At the University of Sebha in southwestern Libya, English is a core subject for students in the Faculty of Languages. Yet, traditional teaching methods remain dominant, and authentic language practice outside the classroom is scarce. In theory, AI could help bridge this gap—allowing students to rehearse pronunciation, refine grammar, or expand vocabulary at their own pace. In practice, however, most students face serious obstacles in accessing and using these tools effectively.

Many lack stable internet connections, up-to-date devices, or even consistent electricity—basic requirements for engaging with AI platforms. Classrooms are rarely equipped with digital tools, technical support is minimal, and faculty receive little training in educational technology (Taylor, 2023). Budget constraints delay institutional upgrades, while frequent power outages disrupt even simple online activities (Wilson, 2021).

This study investigates the real-world challenges students encounter when attempting to use AI for English learning. It seeks to answer three key questions:

1. What practical barriers—such as poor internet, lack of devices, or unstable power—prevent effective use of AI tools?
2. How do gaps in training and support affect both students' and teachers' ability to adopt AI in language education?
3. What realistic steps can be taken to make AI more accessible and useful in a resource-limited university setting?

By centering the lived experiences of students, this research contributes to a growing body of work on technology in education, particularly in underrepresented regions like southern Libya. It also offers actionable insights for educators and institutions aiming to integrate AI in inclusive and sustainable ways.

2. Literature Review

2.1 The Promise and Challenge of AI in Language Learning

AI has revolutionized language education by enabling adaptive learning systems, intelligent feedback, and interactive practice environments (Luckin et al., 2016). Tools like Duolingo, Grammarly, and ELSA Speak use machine learning to adjust content based on user performance, increasing engagement and efficiency (Zheng et al., 2020). These systems offer learners immediate corrections, personalized pathways, and repeated practice—features that align closely with principles of second-language acquisition.

However, the benefits of AI are not equally accessible. In low- and middle-income countries, the digital divide limits participation in technology-enhanced learning (Warschauer, 2003; Van Dijk, 2020). In Libya, where internet penetration is uneven and infrastructure is fragile, many students are excluded from these opportunities (Sharma et al., 2020). Access to AI tools often depends on socioeconomic status, location, and institutional support—factors that reproduce existing inequalities.

2.2 Access to Technology

Reliable access to devices and connectivity is the first barrier. At the University of Sebha, most students rely on smartphones rather than computers, and Wi-Fi is slow or unavailable outside urban centers. Even free AI tools become unusable when bandwidth cannot support audio, video, or real-time interaction. Frequent power outages—sometimes lasting several hours—further disrupt digital learning (Wilson, 2021). Without consistent access, students cannot build the confidence needed to benefit from AI.

2.3 Relevance and Cultural Appropriateness of AI Tools

Another concern is the cultural and linguistic relevance of AI content. Most language apps are designed for native speakers of American or British English, with little adaptation for regional accents, dialects, or sociocultural contexts (Wang & Bakharia, 2019). For Libyan students, whose first language is Arabic and whose exposure to English is limited, tools that assume prior knowledge or Western cultural references can be confusing or demotivating. Mispronunciations may be corrected without understanding dialectal variation, and idioms may not translate meaningfully.

2.4 Training and Support

Access alone is not enough. Without proper training, both students and teachers may underutilize AI or use it in superficial ways (Davis & Wong, 2021). At Sebha, there are no formal workshops or support systems to help educators integrate AI into their teaching. As a result, adoption remains informal and inconsistent. Students often learn to use tools through trial and error or peer advice, which limits depth and effectiveness.

2.5 Curriculum Integration and Resistance to Change

Integrating AI into teaching requires more than tools—it demands a shift in pedagogy. Some instructors resist change, preferring traditional methods they trust and understand (Hew & Brush, 2007). Others lack the time or resources to redesign lessons around technology. Without institutional incentives or clear frameworks, AI risks becoming an option rather than a meaningful part of instruction (Mouza, 2013).

2.6 Data Privacy and Ethical Concerns

AI systems often collect large amounts of user data, raising concerns about privacy, surveillance, and informed consent (Regan & Jesse, 2019; Zuboff, 2019). In contexts where digital literacy is low, students may not understand how their data is used or stored. Institutions must establish transparent policies to protect users, especially in vulnerable educational settings.

2.7 Effectiveness and Student Engagement

While AI can personalize learning, its success depends on student motivation. Tools that are repetitive, impersonal, or poorly designed can lead to disengagement (Baker et al., 2019). On the other hand, gamified platforms—like Duolingo—tend to sustain interest, especially when progress is visible and rewarding. However, long-term engagement often declines without social interaction or teacher guidance.

2.8 Assessment and Feedback Limitations

AI-driven assessments provide instant feedback, which can help learners correct errors quickly. However, automated systems may struggle with nuance—especially in writing and speaking by non-native speakers (Heffernan & Heffernan, 2014). They may misinterpret creative expression, overlook context, or fail to recognize valid variations in grammar or pronunciation. Human oversight remains essential for fair and accurate evaluation.

3. Methodology

3.1 Research Design

This study adopted a mixed-methods research design to investigate the challenges faced by students at the University of Sebha in using artificial intelligence (AI) for English language learning. Quantitative data were collected through Likert-scale questionnaire items and analyzed using descriptive statistics, including frequencies and percentages. Qualitative data were collected through open-ended questions and analyzed using thematic analysis to provide deeper insights into students' experiences, perceived challenges, and suggestions. The integration of both quantitative and qualitative data provided a comprehensive understanding of the research problem.

3.2 Participants

The sample included 17 female students from the seventh and eighth semesters in the English Department at the University of Sebha. Ages ranged from 19 to 21. Participants were selected based on enrollment in advanced English courses. The focus on upper-level students enabled us to examine how academic experience influences attitudes toward AI.

3.3 Data Collection Instrument

A structured questionnaire was used to collect both quantitative and qualitative data. The questionnaire consisted of demographic questions, Likert-scale items measuring students' perceptions of AI tools, and open-ended questions that allowed participants to describe their experiences and provide suggestions. It included:

- Demographic information
- Familiarity with AI tools
- Perceived benefits and challenges
- Self-assessment of English proficiency
- Open-ended questions about experiences and suggestions

The questionnaire combined Likert-scale items (e.g., "strongly agree" to "strongly disagree") with open-ended prompts to capture nuanced responses. It was administered in both paper and online formats to accommodate varying access levels.

A pilot test with five students ensured clarity and relevance. Minor adjustments were made based on feedback.

3.4 Data Collection Procedure

The researchers introduced the study in class, explaining its purpose and ensuring voluntary participation. Students were given 20–25 minutes to complete the questionnaire. All responses were anonymous to encourage honesty.

3.5 Data Analysis

Quantitative data obtained from the Likert-scale items were analyzed using descriptive statistics, including frequencies and percentages. Qualitative responses to the open-ended questions were analyzed using thematic analysis. The findings from both analyses were integrated during interpretation. Responses to open-ended questions were transcribed, coded, and grouped into emerging themes. Quantitative data were summarized using frequencies and percentages. Findings were cross-checked by the research team to enhance reliability.

3.6 Study Limitations

This study has several limitations that should be considered when interpreting the findings. First, the study involved a relatively small purposive sample of 17 participants. Because the study was designed as an exploratory mixed-methods investigation, the primary objective was to gain an in-depth understanding of students' experiences and perceptions rather than to produce statistically generalizable findings. Second, all participants were female students enrolled in the seventh and eighth semesters of the English Department at the University of Sebha. These students were intentionally selected because they had the greatest exposure to English language learning and were therefore more likely to have experience using AI-supported learning tools. Consequently, the findings should be interpreted as reflecting the experiences of this specific group rather than those of all university students. Finally, the study focused exclusively on students' perspectives and did not include the views of teachers, administrators, or policymakers. The inclusion of these stakeholders could provide a more comprehensive understanding of the institutional, pedagogical, and administrative factors influencing the integration of artificial intelligence into English language learning. Future research should therefore include larger and more diverse samples representing different academic levels and both genders, as well as multiple stakeholder groups, to provide a more comprehensive understanding of AI adoption in higher education.

4. Findings and Discussion

4.1 Familiarity with AI Tools

Surprisingly, 70% of seventh-semester students reported being familiar with AI tools, compared to 50% of eighth-semester students. This variation may reflect differences in curriculum exposure and academic focus between study levels. Seventh-semester students are more likely to engage in technology-supported learning activities, whereas eighth-semester students often concentrate on advanced language courses such as literature and translation, which may involve less interaction with digital tools.

This pattern aligns with previous research indicating that exposure to educational technology is closely related to curriculum design and academic engagement (Warschauer, 2003). It suggests that familiarity with AI tools is not only a function of availability but also of structured integration into learning activities.

4.2 Perceived Benefits of AI

A strong majority—80% of seventh-semester students and 70% of eighth-semester students—believed that AI tools enhanced their learning. Students highlighted benefits such as vocabulary development, grammar support, and independent practice using applications like Duolingo and Google Translate.

These findings are consistent with Luckin et al. (2016), who emphasized that AI systems enhance language learning through adaptive feedback and personalized learning pathways. Interestingly, although eighth-semester students reported lower familiarity, they demonstrated greater appreciation of AI's long-term academic value, suggesting that perceived usefulness increases with accumulated academic experience and learning maturity.

4.3 Tools Used

Seventh-semester students predominantly used Duolingo (40%), while eighth-semester students relied more on Google Translate (70%) for translation and comprehension tasks. This shift indicates a transition in learning needs from skill acquisition to task completion as students progress academically.

This observation supports Zheng et al. (2020), who noted that learners tend to adopt different digital tools depending on their academic level and immediate learning objectives. It also reflects a functional adaptation of AI tools, where students select technologies that best match their linguistic challenges.

4.4 Impact on Learning

Half of the seventh-semester students (50%) and 60% of eighth-semester students reported a positive impact of AI on their learning. This gradual increase suggests that sustained exposure to AI tools improves learners' confidence and perceived usefulness.

One student stated: "At first, I didn't trust the app, but now I use it every day to check my writing." This reflects the gradual adoption process described in technology acceptance models, where trust and perceived usefulness develop over time (Davis & Wong, 2021).

4.5 Technical Challenges

Technical barriers remained significant, with 50% of seventh-semester and 60% of eighth-semester students reporting issues such as slow internet, app crashes, device incompatibility, and frequent power outages.

These findings strongly align with Van Dijk (2020), who highlighted that infrastructural limitations remain a major barrier to digital inclusion in developing contexts. In the Libyan context, unstable electricity and weak internet connectivity significantly reduce the effectiveness of AI-based learning tools, regardless of their pedagogical potential.

4.6 Training Gaps

A high percentage of students—70% of seventh-semester and 80% of eighth-semester participants—reported a lack of formal training in using AI tools. Most students reported learning through self-exploration or peer guidance.

This finding is consistent with Hew and Brush (2007), who emphasized that lack of training is one of the primary barriers to effective technology integration in education. The absence of structured institutional support limits students' ability to fully benefit from AI-based learning tools, regardless of access.

4.7 Perceived Effectiveness

Most students (80% of seventh-semester and 90% of eighth-semester) agreed that AI improves English proficiency, indicating strong overall acceptance of AI-assisted learning.

This increasing positive perception suggests that prolonged exposure enhances perceived effectiveness and learner confidence. Similar findings were reported by Luckin et al. (2016), who noted that AI tools become more effective when integrated consistently into learning environments rather than used sporadically.

5. Conclusion and Recommendations

This study reveals the complex reality of using AI for English language learning at the University of Sebha. While students see its potential, they face significant barriers: unreliable internet, frequent power outages, outdated devices, and a lack of training.

Despite these challenges, there is clear enthusiasm for technology-enhanced learning—especially among advanced students who have had more exposure. The most urgent issue appears to be the lack of training: without guidance, even the most advanced tools remain underused.

The findings should be interpreted within the scope of the study, which focused on a purposively selected group of advanced female students at the University of Sebha. Future studies involving larger and more diverse samples are recommended.

Recommendations

1. Develop Low-Bandwidth AI Solutions

Explore offline or lightweight versions of AI tools (e.g., downloadable apps, SMS-based quizzes) that function without constant internet.

2. Integrate AI into the Curriculum

Move beyond optional use by incorporating AI activities into lesson plans—e.g., using Grammarly for writing assignments or speech apps for pronunciation practice.

3. Provide Training Workshops

Offer regular training for both students and teachers to build confidence and competence in using AI tools effectively.

4. Improve Infrastructure

Advocate for better internet, backup power (e.g., solar energy), and updated classrooms to support digital learning.

5. Promote Culturally Relevant Tools

Support the development or adaptation of AI tools that reflect Libyan Arabic-English bilingualism and local learning contexts.

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