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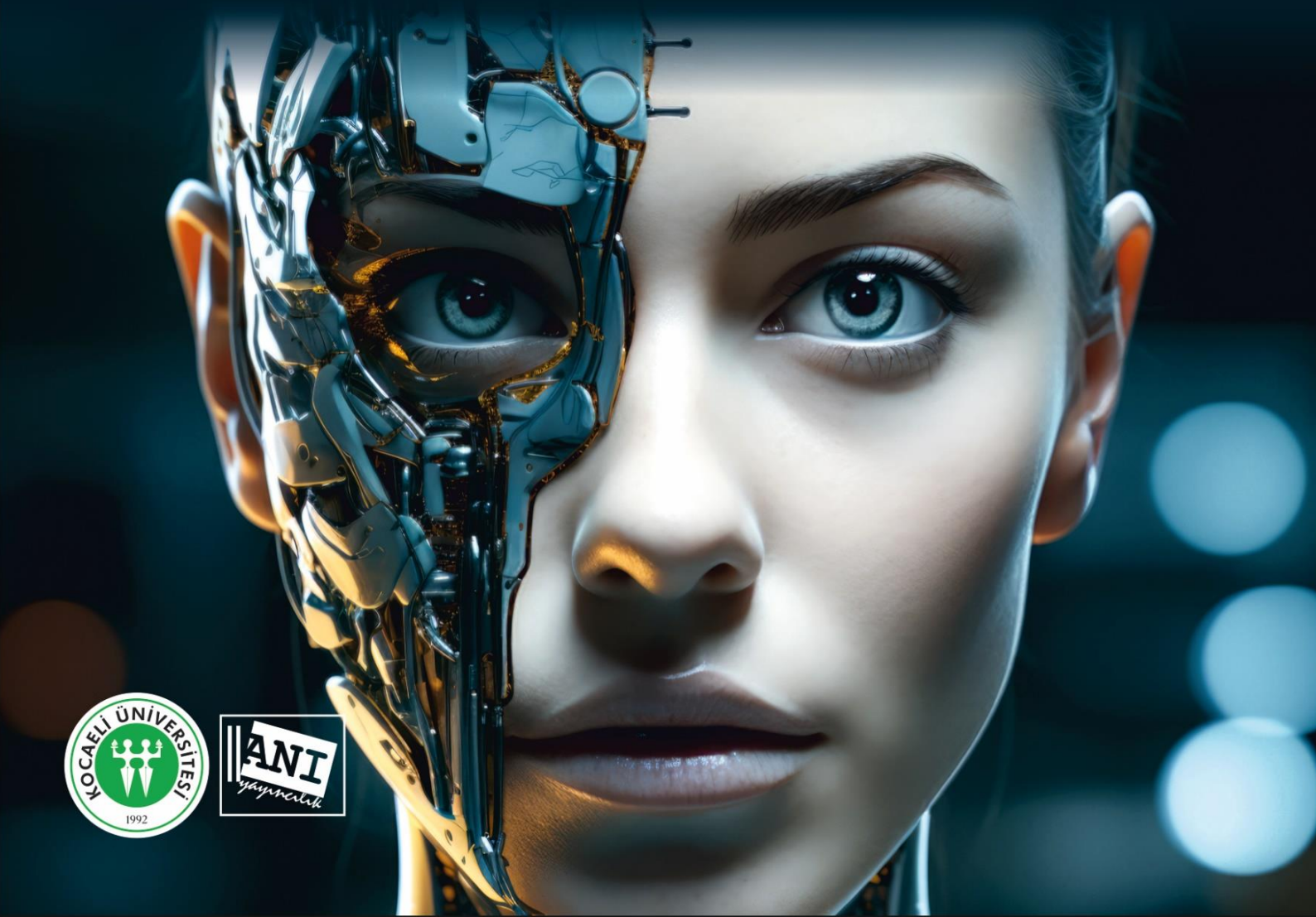

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Main Theme

"Designing the Future: Changing Paradigms and Transhumanism with Artificial Intelligence in Education"

Sub-Themes

- Academic freedom, autonomy, and social responsibility in education
- Artificial intelligence and educational applications
- Augmented reality applications
- Barriers to learning
- Blended learning
- Computer-assisted measurement and evaluation
- Core skill sets for students and teachers
- Design of school buildings in the future
- Designing and delivering a digital strategy
- Digital competence
- Digital parenting
- Distance Education
- Earthquake Education
- Post Earthquake Trauma Training
- Earthquake and Effective Psychosocial Intervention Methods
- Earthquake and Trauma
- The Impact of Earthquakes on School Staff
- Education and society
- Education for healthy living and healthy communities
- Education for a sustainable life
- Education in the digital age: Primary, secondary, high school, higher education, and application examples
- Educational leadership in the digital age
- Effects of regional differences on education
- Equity, Diversity, and Inclusion Related to Marginalized Groups
- Emergency Management at Schools
- Evidence-Based School Counseling Services for Refugees and Marginalized Groups
- Globalisation and Education
- Higher education
- Innovative learning designs for student success
- Instructional technologies in the digital age
- Integration of immigrants into education
- K-12 education (preschool, primary, and secondary education)
- Learning management systems
- Lifelong learning
- Machine learning
- Management information system
- Managing schools
- Measurement and evaluation of students' learning outcomes
- Metaverse
- Migration and education
- Multicultural Classroom Concerns of Educators and Parents
- New educational system after COVID-19
- New skills to live and work in new times
- New technologies in teaching and learning

- New trends in educational research
- New trends in learning and teaching methods
- New trends in research methods
- Pedagogy, educational programs, and teaching
- Politics, good governance, and leadership in the educational sector
- Program design and development
- Promoting equality, diversity, and inclusion
- Psychological counseling and guidance in education
- Quality assurance/standards and accreditation
- Research and innovations in education
- Research ethics
- Right to an education
- Sustainable Educational Goals Related to Refugees
- Teacher education in the digital age
- The Possibility of Fundamental Changes in the Curriculum
- The role of parents in education
- The skills we need to thrive in a post-COVID-19 world
- Vocational education
- Ways to overcome the digital divide

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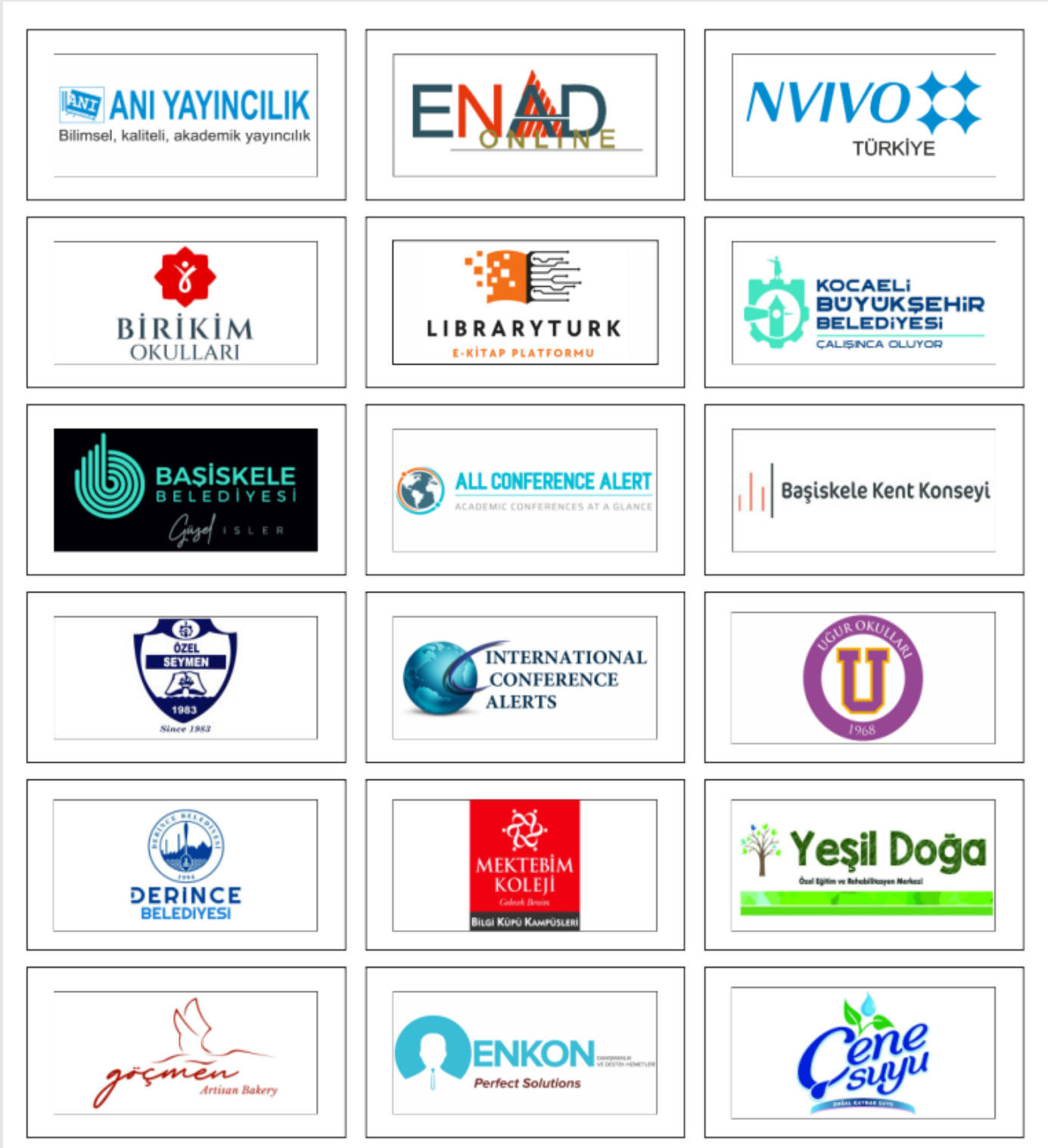

Author Information

This book has been compiled with contributions from 61 authors representing 35 different universities in Turkiye, the United States, and Iran, as well as Turkiye's Ministry of National Education. Among the contributors, there are 51 authors from 31 universities 6 authors from education institutions in Turkey, 3 authors from 2 universities in the United States, and 1 author from a university in Iran.

CONTENTS

Bridging the Intermediate Plateau: AI in English Learning at EMI Universities

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Abstract

The adoption of English as a Medium of Instruction (EMI) in Turkish universities has heightened the necessity for advanced English proficiency among students. Many intermediate-level English learners face stagnation, known as the intermediate plateau, hindering their progress and affecting academic performance. This study explores the use of Artificial Intelligence (AI) to personalize English language learning and overcome this plateau among intermediate-level students at an EMI university in Turkey. A mixed-methods research design was employed, involving 20 intermediate-level EFL students who used an AI-powered language learning platform over one semester. Quantitative data were collected through pre- and post-intervention proficiency tests and engagement surveys, while qualitative data were obtained via interviews, focus groups, and classroom observations. Findings indicated significant improvements in language proficiency across all four skills and increased learner engagement. Students reported positive perceptions of the AI tools, highlighting benefits such as personalized learning, immediate feedback, and enhanced motivation. The study provides evidence-based recommendations for integrating AI into language education and underscores the importance of aligning AI tools with pedagogical objectives. Challenges encountered during implementation are discussed, offering insights for future applications. This research contributes to the literature on AI in language learning and suggests that AI can play a pivotal role in enhancing English proficiency in EMI contexts, ultimately supporting students to surpass the intermediate plateau and achieve greater academic success.

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Keywords: *Artificial Intelligence, Personalized Learning, Intermediate Plateau, EFL Learners, Learner Engagement*

Introduction

The globalization of education has prompted universities worldwide to adopt English as a Medium of Instruction (EMI) to attract international students and prepare graduates for the global workforce. In Turkey, this shift towards EMI has elevated the importance of advanced English language proficiency among university students (British Council & TEPAV, 2015). English proficiency is now considered essential for academic success, access to scholarly resources, and participation in international collaborations.

Despite the increased emphasis on English language learning, many English as a Foreign Language (EFL) learners in Turkey experience a stagnation in their language development at the intermediate level, a phenomenon commonly referred to as the intermediate plateau (Mizumoto & Takeuchi, 2018). This plateau presents a significant barrier to advancing language skills, particularly in EMI settings where higher proficiency is essential for understanding complex academic content and engaging in critical discussions.

Traditional language instruction methods often fail to address the diverse needs of learners, leading to disparities in language development. The one-size-fits-all approach lacks personalization, which is critical for motivating learners and catering to their individual progression rates (Bui & Intaraprasert, 2019). As a result, intermediate-level students may become demotivated due to a perceived lack of progress, affecting their engagement and overall academic performance.

Artificial Intelligence (AI) has emerged as a promising tool in educational contexts, offering the potential to personalize learning experiences and provide adaptive feedback. AI applications in language learning have been associated with positive outcomes in learner autonomy, motivation, and overall proficiency (Zawacki-Richter et al., 2019). AI-powered platforms can diagnose individual learning gaps, customize instruction, and adapt to learners' pace, thereby addressing the limitations of traditional teaching methods (Chen et al., 2020).

However, the integration of AI in EMI contexts, especially at the intermediate level, remains under-explored, particularly within the Turkish educational system. There is a need to investigate how AI can be effectively utilized to help students overcome the intermediate plateau and enhance their language skills in a way that aligns with pedagogical objectives and cultural contexts (Kruk, 2022). Given this gap in the research, the present study investigates the application of AI in enhancing English language learning among intermediate-level EFL students at an EMI university in Türkiye. It examines the impact of AI-powered tools on students' English language proficiency across listening, speaking, reading, and writing skills. Additionally, it assesses changes in learner engagement and motivation resulting from the use of AI in language learning. The study explores students' perceptions and experiences with AI-powered learning tools, identifies challenges and practical considerations in integrating AI into EMI settings, and provides evidence-based recommendations

for educators and policymakers on effectively implementing AI in language education.

By addressing these objectives, the study contributes to the body of knowledge on AI in language learning and offers practical insights for enhancing English proficiency in EMI contexts. It aims to bridge the gap between the theoretical potentials of AI in education and its practical applications in a real-world EMI setting. This research not only advances our understanding of how AI can be tailored to meet the specific needs of intermediate-level learners but also examines the broader implications for academic success and linguistic integration. Through this study, we explore how personalized AI interventions can transform the learning experience, making it more engaging and effective. Furthermore, the findings are expected to provide valuable guidance for educators and policymakers in designing and implementing AI-driven language learning strategies that are culturally and contextually appropriate. By fostering a deeper integration of AI tools in EMI curricula, the study advocates for a more adaptive and learner-centered approach to language education, potentially reshaping educational practices to better prepare students for the globalized world.

Method

Research Design

This study employs a mixed-methods research design, utilizing both quantitative and qualitative approaches to provide a comprehensive understanding of the impact of AI on English language learning. The concurrent triangulation strategy is used, where quantitative and qualitative data are collected simultaneously, analyzed separately, and then merged to interpret the findings (Creswell & Plano Clark, 2018). This design allows for the validation of results through cross-verification from multiple data sources.

Participants

The participants of this study are 20 intermediate-level EFL students enrolled in the English Language Teaching Department at an EMI university in Turkey during the 2022-2023 academic year. They were selected using convenience sampling, as the students were from the researcher's own class. This approach was chosen for ease of guiding their use of AI tools and ensuring more structured monitoring throughout the intervention. Their English proficiency, determined by the university's placement test (CEFR level B1), ensures a relatively homogeneous group in terms of language skills, which helps in accurately assessing the impact of the AI intervention.

Participants ranged in age from 18 to 22 years and represented a mix of genders and academic departments. Among the 20 participants, 12 were female and 8 were male. They were enrolled in various departments, including Engineering (5 students), Business Administration (6 students), Computer Science (4 students), and Social Sciences (5 students). All participants were required to complete the English language program as part of their curriculum due to the EMI setting.

Data Collection Instruments

Quantitative Instruments

To collect quantitative data, a comprehensive English proficiency test was designed and administered by the researcher in the first week of the 2022-2023 Fall semester. This test was tailored to assess the student's proficiency in listening, speaking, reading, and writing—key components critical to their success in an EMI environment. This study employed a validated proficiency exam regularly used in the department to assess the language abilities of intermediate-level learners. This exam comprehensively evaluates the four key language skills: listening, speaking, reading, and writing. The listening section required students to demonstrate their ability to understand spoken English through audio recordings of conversations and lectures, followed by multiple-choice questions aimed at assessing comprehension. The speaking component was evaluated through structured interviews, where students responded to prompts, expressing opinions, describing experiences, and hypothesizing on topics relevant to their academic context.

For reading, the test included passages adapted from academic texts and news articles, with comprehension questions designed to assess both understanding and inference skills. The writing section, on the other hand, involved students writing an opinion paragraph on a topic familiar to them, encouraging them to express their thoughts in a structured and coherent manner. The use of this standardized and validated proficiency exam ensured the assessment's reliability and appropriateness for this group of learners, accurately reflecting the language demands faced in an EMI environment.

The learner engagement survey, an adapted version of the Student Engagement Scale developed by Fredricks et al. (2016), was utilized to assess various dimensions of student engagement comprehensively. This survey is designed to measure cognitive, emotional, and behavioral engagement, each critical for evaluating the effectiveness of educational interventions. Cognitive engagement refers to the intellectual investment and effort students put into learning, including strategies for deep learning and self-regulation. Emotional engagement encompasses the emotional reactions in the classroom, such as interest, boredom, or anxiety, which can significantly influence learning outcomes. Behavioral engagement involves participation in educational activities, such as attending classes, submitting assignments, and following rules.

The survey comprises 20 items, each rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), allowing for a nuanced analysis of the extent of student engagement across these three dimensions. Items on the survey are carefully phrased to capture the subtle aspects of engagement, such as "I feel enthusiastic about my studies," "I am persistent even when the work becomes difficult," and "I actively participate in class discussions." The adaptability of

this survey lies in its ability to be tailored to the specific context of the study, ensuring that the language and examples are relevant to students at an EMI university in Turkey.

This measurement tool's reliability and validity have been established through extensive prior research, ensuring that the results are both accurate and applicable to diverse educational settings. The adapted version of the Student Engagement Scale used in this study has undergone slight modifications to better align with the intermediate EFL learner demographic and the specific educational practices and cultural norms prevalent at the university.

Qualitative Instruments

To gather comprehensive qualitative data, semi-structured interviews, focus group discussions, and classroom observations were employed. Individual semi-structured interviews were conducted with 6 participants to explore their experiences with the AI tools, their perceptions of how these tools affected their learning, and the challenges they encountered. The interview questions focused on eliciting in-depth reflections, such as: "Can you describe a specific instance when the AI tool helped improve your understanding?", "What challenges did you face while using the AI tools?", and "How do you feel the AI tools have influenced your learning process?" These questions provided detailed self-reported data about students' engagement and learning progress with the tools.

Two focus group discussions, each involving 10 participants, were conducted to collect insights on shared experiences with the AI tools. The focus group format allowed for open discussions on which features of the AI tools were most effective, as well as recommendations for improvement. Sample questions included: "What aspects of the AI tools worked best in your group activities?", and "What changes would you suggest to improve the use of AI tools in your learning?" These discussions offered collective reflections and insights into the broader group experience.

Classroom observations were carried out during regular lessons, focusing on how AI tools were integrated into the learning process, student engagement with these tools, and the role of the instructor. A structured observation tool was developed to systematically document the following key aspects such as the frequency of AI tool usage (e.g., How often students used AI tools during class activities.); type of interaction (e.g., Whether students were working independently or collaboratively when using the AI tools); student engagement levels, which was categorized into high, moderate, or low engagement based on observable behaviors such as participation in tasks, enthusiasm, and attentiveness while using the AI tools; instructor facilitation, that is the level of support provided by the instructor during AI-related tasks (e.g., whether the teacher provided direct guidance, minimal intervention, or left students to work independently) and observed student behaviors that included noting behaviors such as asking questions, collaborating with peers, or demonstrating initiative when using AI tools.

During each observation session, these categories were systematically recorded, with specific examples of student interactions noted when relevant. For example, if a student showed initiative by independently exploring a feature of the AI tool, this was documented. Similarly, if a group of students collaboratively engaged with an AI tool to complete a task, the interaction was recorded.

The observation data was later compared to the self-reported data from interviews and focus groups to assess alignment between students' self-reported experiences and observed classroom behaviors. This triangulation of data ensured a deeper, more holistic understanding of how the AI intervention impacted both individual and group engagement in the learning process.

AI Intervention

The AI intervention used the "LinguaLearn" platform, an AI-powered tool designed for EFL learners, integrated into the curriculum as a supplementary resource. Students engaged with it for six hours per week, equally distributed across the four key language skills. For listening, students spent 1.5 hours weekly using speech recognition and natural language processing technologies for interactive exercises, featuring simulated conversations and academic lectures. These exercises adapted to the learner's progress and were followed by AI-graded quizzes that provided explanations for correct and incorrect answers.

The speaking component, also 1.5 hours weekly, used an AI chatbot for voice-based interactions. It assessed pronunciation, fluency, and language use, offering real-time feedback and suggestions for improvement. Scenarios covered both practical and academic language use.

In the reading module, students used adaptive reading technology for 1.5 hours each week, where AI adjusted text difficulty based on proficiency. The system also provided feedback on comprehension questions and insights into reading strategies. For writing, 1.5 hours were spent with AI-driven text analysis, critiquing grammar, style, and coherence, and offering interactive editing tools with instructional content for corrections.

The platform tracked student progress across all skills, using data visualization to highlight growth and areas needing improvement. Gamification elements like badges and leaderboards were used to motivate students by offering tangible goals and rewards.

Procedure

The study began with pre-intervention English proficiency tests and a learner engagement survey to establish baseline measures. An orientation followed to introduce students to the "LinguaLearn" platform, including training on how to use its features.

Over a 16-week semester, the AI platform was used alongside regular classroom instruction. The researcher integrated AI activities into lesson plans and tracked usage data such as

time spent and progress. Bi-weekly classroom observations by an external researcher documented how AI tools were used in practice.

In the final week, students retook the proficiency tests and engagement survey to assess post-intervention outcomes. To gather deeper insights, individual interviews, and focus groups explored student experiences, challenges, and their perceptions of the AI's effectiveness in enhancing language skills.

Data Analysis

Quantitative Analysis

Proficiency test scores were analyzed using descriptive statistics to calculate means and standard deviations. Paired t-tests were conducted to compare pre- and post-intervention scores and effect sizes were calculated using Cohen's d to determine the magnitude of improvements. The engagement survey responses were analyzed to determine changes in engagement levels, with reliability analysis (Cronbach's alpha) performed to ensure internal consistency.

Qualitative Analysis

Qualitative data from interviews, focus groups, and observations were transcribed verbatim. Thematic analysis was conducted following Braun and Clarke's (2006) six-phase framework. This process involved familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. In addition to this systematic coding process, data from the classroom observations were compared with the self-reported data from interviews and focus groups to assess the alignment between students' reported experiences and their observed behaviors in the classroom. This triangulation process was crucial in validating the findings, ensuring that patterns identified in one data source were supported by evidence from the other sources. For example, students' claims about increased engagement with the AI tools during interviews were cross-checked with observed behaviors in the classroom to ensure consistency. This multi-method approach provided a more robust and holistic understanding of the impact of the AI intervention on student learning and engagement.

Ethical Considerations

Informed consent was obtained from all participants after providing detailed information sheets and consent forms. Participants were assured of confidentiality, with personal identifiers removed from all data and secure storage with limited access to the research team. They were informed of their right to withdraw at any point.

Results

Quantitative Findings

Language Proficiency Improvement

The comparison of pre- and post-intervention proficiency test scores revealed significant improvements across all four language skills. As the table indicates, the overall proficiency mean score increased from 65.2 (SD = 4.5) to 78.6 (SD = 5.1), with a paired t-test showing $t(19) = -10.24$, $p < .001$, and an effect size of Cohen's d = 1.64, indicating a large effect.

Skill-specific improvements were notable. In listening, the mean score increased from 16.0 to 19.2 out of 25, with $t(19) = -6.58$, $p < .001$. Speaking scores rose from 15.5 to 19.0 out of 25, showing $t(19) = -7.12$, $p < .001$. Reading scores improved from 17.0 to 20.0 out of 25, with $t(19) = -5.89$, $p < .001$. Writing saw the largest gain, with scores increasing from 16.7 to 20.4 out of 25 and $t(19) = -8.36$, $p < .001$. These results indicate statistically significant improvements in all areas, with the largest gains observed in writing and speaking skills.

Table 1

Language Proficiency Test Results (Pre- and Post-Intervention)

Skill	Pre-Intervention *M*	Post-Intervention *M*	t(19)	Cohen's d
Overall	65.2	78.6	-10.24	1.64
Listening	16.0 (out of 25)	19.2 (out of 25)	-6.58	—
Speaking	15.5 (out of 25)	19.0 (out of 25)	-7.12	—
Reading	17.0 (out of 25)	20.0 (out of 25)	-5.89	—
Writing	16.7 (out of 25)	20.4 (out of 25)	-8.36	—

Note: All p-values were < .001.

Learner Engagement

The engagement survey results showed a significant increase in overall engagement levels. As Table 2 shows, the pre-intervention mean score was 3.2 (SD = 0.4), which increased to 4.1 (SD = 0.3) post-intervention. A paired t-test revealed this change to be statistically significant, $t(19) = -9.47$, $p < .001$. Cognitive engagement increased from 3.1 to 4.2, emotional engagement from 3.3 to 4.0, and behavioral engagement from 3.2 to 4.1. The effect size, calculated using Cohen's d, was large, indicating a meaningful impact of the intervention on engagement. Cohen's d for overall engagement was 2.37, demonstrating a substantial increase in engagement levels. Reliability analysis indicated high internal consistency with a Cronbach's alpha of 0.89.

Table 2

Learner Engagement Survey Results (Pre- and Post-Intervention)

Engagement Type	Pre-Intervention *M*	Post-Intervention *M*	t(19)	Cohen's d
Overall Engagement	3.2	4.1	-9.47	2.37
Cognitive Engagement	3.1	4.2	—	—
Emotional Engagement	3.3	4.0	—	—

Engagement Type	Pre-Intervention	Post-Intervention	t(19)	Cohen's d
	M	*M*		
Behavioral Engagement	3.2	4.1	—	—

Note: All p-values were < .001.

Qualitative Findings

Theme 1: Personalization Enhances Learning

Students expressed that the AI platform's ability to tailor lessons to their individual needs significantly enhanced their learning experience. They appreciated that the exercises adjusted to their level, preventing boredom or feeling overwhelmed. One student noted, "The exercises adjusted to my level, so I wasn't bored or overwhelmed." Another mentioned, "I could focus on grammar points that I found difficult, and the platform provided extra practice."

Theme 2: Immediate Feedback Facilitates Improvement

Participants valued the immediate feedback provided by the AI tools, which helped them recognize and correct errors promptly. They found that getting instant corrections made them aware of their mistakes right away, facilitating faster learning. A participant stated, "Getting instant corrections made me aware of my mistakes right away." Another added, "The explanations for wrong answers helped me understand concepts better."

Theme 3: Increased Motivation and Engagement

The interactive and gamified elements of the AI platform increased students' motivation and engagement. They were motivated by badges and progress charts, which encouraged them to keep improving. One student expressed, "The badges and progress charts motivated me to keep improving." Another shared, "It was fun to use, which made me want to spend more time learning."

Theme 4: Challenges in Technology Integration

Some challenges were identified related to technology use and integration. Under the subtheme of technical issues, students reported occasional software glitches and internet connectivity problems that disrupted learning. A student mentioned, "Sometimes the platform would freeze, and I'd lose my progress." In the subtheme of initial resistance to AI tools, a few students were skeptical about using AI for language learning. One participant said, "At first, I wasn't sure if a computer program could help me learn better than a teacher." The need for balance between AI and human interaction emerged as students emphasized the importance of teacher support alongside AI tools. A student noted, "While the AI was helpful, I still needed my teacher to explain some things."

Observations

Classroom observations provided critical insights into how students engaged with the AI tools during regular class sessions. The structured observation tool used in the study captured various aspects of student behavior, including participation, collaboration, and the role of the instructor.

Observations showed that students' participation increased significantly during AI-supported activities. Students were more active in discussions and tasks, demonstrating higher levels of engagement compared to pre-intervention sessions. Peer collaboration was a recurring theme, with students frequently helping one another navigate the AI tools. This peer support contributed to a collaborative learning environment where students worked together to solve problems and complete tasks.

The instructor's role evolved from direct teaching to a facilitator, guiding students in how to use the AI tools effectively. Instead of providing content or solutions, the instructor supported students in exploring the tools on their own, encouraging autonomous learning. These observations aligned with interview data, where students reported feeling more in control of their learning process and noted that the AI tools helped them collaborate more effectively with their peers.

By comparing the observational data with interview findings, it became evident that the reported improvements in engagement and collaboration were consistent with the behaviors observed in the classroom. This triangulation of data strengthened the validity of the study's findings, showing a clear link between students' self-reported experiences and actual classroom behaviors.

Discussion

The results of this study indicate that integrating AI-powered tools into English language learning can significantly enhance both language proficiency and learner engagement among intermediate-level EFL students in an EMI context. The substantial improvements in proficiency test scores across all four language skills demonstrate the effectiveness of personalized AI interventions in addressing the unique challenges faced by learners at this level, particularly in overcoming the intermediate plateau that often hinders further progress.

The significant gains in writing and speaking skills are especially noteworthy for intermediate-level learners, who often struggle with moving beyond basic proficiency toward more advanced linguistic competence. The AI platform's immediate feedback on writing tasks allowed students to identify grammatical errors and improve coherence and cohesion in their essays—skills that are crucial for learners transitioning from intermediate to higher proficiency levels. This finding aligns with research by Lu et al. (2020), who reported that AI-assisted writing tools enhance learners' writing quality by providing timely corrections and suggestions. Similarly, the improvement in speaking skills can be attributed to the AI chatbot feature, which offered intermediate learners an opportunity to practice spoken

English in a low-stress environment, encouraging fluency and confidence in speaking. This is consistent with Xu and Wang's (2021) research, which suggests that AI conversational agents reduce anxiety and promote oral fluency by simulating real-life interactions, a key challenge for intermediate learners aiming to improve their speaking skills.

In addition to enhancing language proficiency, the study found that the integration of AI tools significantly boosted learner engagement, which is especially critical for maintaining motivation at the intermediate level. The increase in cognitive, emotional, and behavioral engagement suggests that AI tools can effectively motivate students who may otherwise lose interest or confidence during the prolonged intermediate phase. The interactive nature of the platform, coupled with gamification elements, contributed to sustained interest and participation. This observation is supported by Park and Kim's (2020) study, which found that gamified AI applications increase student motivation and engagement in language learning, a crucial factor for intermediate learners who need continued encouragement to progress.

Student feedback further reinforced the positive impact of AI integration, particularly for intermediate learners who valued the ability to personalize their learning paths. Participants appreciated the flexibility to focus on individual needs, which empowered them and fostered autonomy—key factors for learners transitioning beyond the intermediate plateau. This aligns with Holec's (2020) argument that autonomy is a critical factor in successful language acquisition. The immediate feedback provided by the AI tools was also highly valued, as it facilitated self-regulated learning and enabled students to track their progress more efficiently, helping them identify specific areas of weakness and address them in real time.

However, the study also identified several challenges. Technical issues and initial resistance to the new tools underscored the importance of providing adequate technical support and training for both students and educators, particularly for those at the intermediate level who may have varying degrees of familiarity with such technologies. Addressing these challenges is essential to ensure a smooth integration of AI tools into the classroom. Additionally, while AI technology offers considerable benefits, the study highlighted the need to balance the use of AI with human interaction. Technology should complement, not replace, the teacher's role. This observation aligns with Kruk's (2022) assertion that teachers play an essential role in mediating technology-enhanced learning experiences, particularly for learners who need guidance in applying AI feedback to more complex language tasks, as is often the case with intermediate learners.

These findings have important implications for practice, especially for educators working with intermediate-level EFL students. AI-powered tools can be a valuable addition to language education in EMI contexts, but their successful implementation requires careful planning, sufficient support, and alignment with pedagogical goals. Educators should consider professional development opportunities to receive training on integrating AI tools effectively and interpreting the data generated by these platforms to inform instruction. Additionally, curriculum alignment is crucial, ensuring that AI activities reinforce and extend classroom learning, particularly for intermediate learners who benefit from structured yet flexible learning pathways. Providing ongoing student support is also vital to help learners navigate the technology and address any concerns they may have, ensuring that the tools enhance their learning experience without causing frustration.

Finally, this study contributes to the limited research on AI integration in EMI settings, particularly in the Turkish context, and specifically for intermediate-level learners. By demonstrating the positive impact of AI on this group, it adds to the ongoing discourse on leveraging technology to overcome the plateau that intermediate EFL learners often face. The use of a mixed-methods approach provides a comprehensive understanding of both the quantitative outcomes and the qualitative experiences of learners, enriching the existing literature on AI in language education, with particular relevance for intermediate-level learners who are seeking to make the jump to advanced proficiency.

Conclusion

This study shows that AI-powered language tools can significantly boost English proficiency and engagement among intermediate EFL students at an EMI university in Turkey. The personalized features of AI effectively help students overcome the intermediate plateau. Improvements across all four language skills, along with positive student feedback, highlight the potential of AI in language education.

However, successful integration requires educator training to ensure AI complements rather than replaces traditional teaching. Institutions must address technical challenges by investing in reliable infrastructure. A blended learning approach combining AI with traditional methods can enhance learning experiences.

Educational institutions should integrate AI platforms into curricula for personalized learning while providing training for educators on both technical and pedagogical aspects. Continuous support for students and teachers is necessary to overcome any challenges. Institutions should also regularly assess the effectiveness of AI tools and make necessary adjustments to meet learner needs. Policymakers should develop guidelines to ensure ethical and effective AI use in education.

Future research should include larger, more diverse samples and explore long-term effects to generalize findings. Implementing these recommendations can improve language learning and better prepare students for success in EMI environments, demonstrating AI's potential to revolutionize education.

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