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HOW SCHOOL LEADERS ARE THE SOCİAL AGENTS TO FACİLİATE LANGUAGE LEARNİNG VİA AI USE

COMO OS LÍDERES ESCOLARES SÃO OS AGENTES SOCİAİS QUE FACİLİTAM A APRENDİZAGEM DE LÍNGUAS POR MEİO DO USO DA IA

CÓMO LOS LÍDERES ESCOLARES SON AGENTES SOCIALES PARA FACILITAR EL APRENDIZAJE DE IDIOMAS MEDIANTE EL USO DE LA INTELIGENCIA ARTIFICIAL

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ABSTRACT: Artificial Intelligence (AI) has recently become a key topic in language learning, requiring teachers and administrators to develop skills that support its integration. This study, conducted with 13 elementary school administrators in the Turkish Republic of Northern Cyprus during the 2024–2025 school year, aimed to evaluate the roles of school leaders as social actors in AI-supported language learning and to provide recommendations for principals and teachers. Using a phenomenological design, data were collected through interviews and analyzed with content analysis via QDA Miner Lite. Findings were grouped into three areas: roles of principals, challenges, and recommendations. Results showed that administrators and teachers lacked sufficient knowledge of AI programs and that schools lacked infrastructure and equipment to support implementation. While some participants expressed positive attitudes toward AI integration, they emphasized the need for further training and professional development.

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KEYWORDS: Artificial intelligence. AI-supported language learning. Elementary school principals. Challenges.

RESUMO: *A Inteligência Artificial (IA) tornou-se recentemente um tópico fundamental na aprendizagem de línguas, exigindo que professores e administradores desenvolvam habilidades que apoiem sua integração. Este estudo, conduzido com 13 administradores de escolas de ensino fundamental na República Turca do Chipre do Norte durante o ano letivo de 2024–2025, teve como objetivo avaliar os papéis dos líderes escolares como atores sociais na aprendizagem de línguas apoiada por IA e fornecer recomendações para diretores e professores. Usando um delineamento fenomenológico, os dados foram coletados por meio de entrevistas e analisados com análise de conteúdo via QDA Miner Lite. Os resultados foram agrupados em três áreas: papéis dos diretores, desafios e recomendações. Os resultados mostraram que administradores e professores não tinham conhecimento suficiente sobre programas de IA e que as escolas careciam de infraestrutura e equipamentos para apoiar a implementação. Embora alguns participantes tenham expressado atitudes positivas em relação à integração da IA, eles enfatizaram a necessidade de mais treinamento e desenvolvimento profissional.*

PALAVRAS-CHAVE: *Inteligência Artificial. Aprendizagem de línguas apoiada por IA. Diretores de escolas primárias. Desafios.*

RESUMEN: *La inteligencia artificial (IA) se ha convertido recientemente en un tema fundamental en el aprendizaje de idiomas, lo que exige que docentes y administradores desarrollen habilidades que respalden su integración. Este estudio, realizado con 13 administradores de escuelas primarias en la República Turca del Norte de Chipre durante el año académico 2024–2025, tuvo como objetivo evaluar el papel de los líderes escolares como agentes sociales en el aprendizaje de idiomas apoyado por IA y ofrecer recomendaciones para directores y docentes. Utilizando un diseño fenomenológico, los datos se recopilaron mediante entrevistas y se analizaron con análisis de contenido a través de QDA Miner Lite. Los resultados se agruparon en tres áreas: roles de los directores, desafíos y recomendaciones. Los hallazgos mostraron que los administradores y docentes no poseían suficiente conocimiento sobre los programas de IA y que las escuelas carecían de infraestructura y equipamiento para apoyar su implementación. Aunque algunos participantes expresaron actitudes positivas hacia la integración de la IA, destacaron la necesidad de mayor formación y desarrollo profesional.*

PALABRAS CLAVE: *Inteligencia artificial. Aprendizaje de idiomas apoyado por IA. Directores de escuelas primarias. Desafíos.*

INTRODUCTION

Many researchers have expressed various views about what language means, resulting in numerous definitions of language. In brief, language is a vital tool that enables individuals to share their emotions and thoughts, facilitates communication and mutual understanding among people, and serves as a living entity, an implicit system of agreements, and a social institution made up of sounds (Duzler & Ekizer, 2025). The characteristics of language include its systematic structure, human-specific nature, composition of sounds, and its productive and dynamic nature. Language has both social and individual aspects (Akalın et al., 2018; Hançer & Dilidüzgün, 2021).

Language serves as a guide for understanding and expression. If language is flawed, words fail to convey thoughts effectively. If thoughts are not conveyed clearly, actions cannot be executed properly. When tasks are not performed as required, customs and culture deteriorate. The deterioration of customs and culture leads to a breakdown of justice. Therefore, the imperfection of language implies that society cannot determine what to do or where to go. Language is the carrier of culture and its creator at the same time. A society produces its songs, folk tunes, theatrical works, novels, stories, poems, and other literary creations through its language. These form the cultural heritage of society (Akalın et al., 2018; Aktaş & Gündüz, 2016; Susar, 2001).

Alongside the importance of language, another concept that has recently gained prominence and sparked discussion is Artificial Intelligence (AI). The literature presents various definitions of AI. Some sources suggest that understanding the concept of intelligence is beneficial for grasping the nature of AI, while others define AI as a technological system without addressing the concept of intelligence. AI refers to a technology that models machines by simulating natural intelligence. It adapts the functioning of neurons in the brain to machines (Yılmaz, 2022). This technology aims to enable machines to perform functions requiring human intelligence. These functions include recognition and identification, comprehension, learning, reasoning, and problem-solving (Bulut et al., 2024; Köse et al., 2023; Naidu & Maddala, 2024; Zhou, 2023). AI emerges as a system, tool, and method for solving problems that require human intelligence (Seyrek et al., 2024).

REVIEW OF LITERATURE

In recent years, AI has revolutionized many fields worldwide, including education. AI, inherently integrated with technology, has become an indispensable part of life for some individuals, institutions, and organizations, while others find its limitless information and ability to perform tasks requiring human intelligence intimidating. In schools, AI facilitates administrative

tasks for principals, enables teachers to evaluate students effectively, and creates learning environments tailored to students' individual differences, learning styles, and paces. In this context, AI is known to ease administrative and educational processes in schools, making teaching and learning processes personalized, engaging, and effective (Demir Dülger, 2023; Harry & Sayudin, 2023; Naidu & Maddala, 2024).

Among the most widely used AI systems in education today are those employed in language teaching. AI-supported language teaching has emerged as a significant topic globally in recent years. As technology advances and digitalization in education grows, language learning programs have gained popularity. AI instructional systems have made progress by enriching and enhancing language learning processes with diverse methods and instructors. This technology has made language teaching personalized, accessible, and efficient. AI systems support learning in grammar, pronunciation, and vocabulary, while also simplifying time-consuming tasks for teachers and facilitating assessments (Bulut et al., 2024; Patty, 2024).

The role of administrators in instructional leadership regarding the use of AI has also been a subject of discussion. Instructional leadership is an educational management term attributed to school administrators. In his dictionary, Balcı (2021) emphasizes that instructional leaders should provide all necessary resources to enhance teaching and learning processes in schools, guide and support teachers and students throughout the instructional process, and take measures and risks to ensure that the process continues smoothly with programs incorporating advancing technology and culture.

Furthermore, Balcı highlights three main dimensions of this leadership type:

1. Establishing a mission;
2. Managing programs and instructional processes;
3. Creating an environment that positively supports teaching (Balcı, 2021).

What sets the instructional leadership approach apart from other leadership approaches is its focus on teaching and learning processes. Its primary goal is to improve the quality of education, ultimately maximizing student achievement. This approach signifies that administrators play a critical role in teaching, beyond their administrative duties.

It involves their participation in the instructional process, guidance for teachers, and dedicating time to educational activities. An administrator embracing instructional leadership should be capable of analyzing the deficiencies of teaching staff in the workplace, possess the knowledge and competence to address these gaps, and facilitate teachers' instructional processes. An instructional leader should be present in the classroom, oversee teaching, and evaluate it (Coşkun & Katıtaş, 2022; Ünal & Çelik, 2013). Instructional leadership boosts teacher

motivation and student success, demonstrating that it is an essential leadership approach for administrators to adopt (Yılmaz & Kurşun, 2015).

AI has gained significant attention in education, particularly in language learning. In language learning, AI focuses on human speech. It plays an increasingly prominent role in supporting individualized learning, enabling students to make meaningful progress in their language skills, utilizing language in online classroom environments, and facilitating easier access to language resources with less time and effort. In this context, the positive impacts of AI in education offer hope for language learning as well. However, issues such as protecting student data, teacher preparedness, and high costs also affect language teaching in AI-supported education. The impacts of AI on language learning are still being studied (Patty, 2024).

Looking at the studies conducted, Ali (2020), in his qualitative research analyzing the use of AI in language teaching and learning, highlighted four distinct features of AI: its ability to comprehend speech, incorporate flipped learning models into teaching, promote effective learning with AI tools, and assess speech (Ali, 2020).

In a study conducted in 2021, Khansaheb worked with private elementary and middle school principals in Dubai. This research explored the principals' perspectives on the introduction and integration of AI and computers into the learning environment. The findings revealed that principals held positive views toward these technologies. The study concluded that these technologies support student-centered education and promise innovative learning styles for the future, fostering a new generation (Shebib & Khansaheb, 2021).

The study on the ways AI contributes to learning, the use of AI tools in English learning, and the goal of enhancing students' self-learning capacities has revealed that AI's speech technology improves pronunciation and fluency, while chatbots facilitate progress in both written and verbal individual communication (Kuddus, 2022).

In their 2022 study, Ji, Han, and Ko examined the use of AI in speech within the teacher-technology interaction in language learning, reviewing research from the past six years. The study concluded that speech-based AI should be incorporated into language learning to advance intelligence and ease teachers' workloads in the future (Ji et al., 2022).

Huang, Zou, Cheng, Chen, and Xie's 2023 study critically reviewed AI applications in language learning using data compiled from academic articles. The study found that AI plays a significant role in helping students acquire language skills and is widely utilized (Huang et al., 2023).

One of the most recent studies was conducted by Duran in 2024, focusing on school principals' perspectives. Duran's qualitative research evaluated school principals' and vice principals' views on increasing the equitable use of AI-supported technology among students. The study concluded that providing AI-supported tools and resources to schools would promote equal opportunities among students. However, it emphasized the need for the Ministry

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of Education to regulate the education system to minimize AI's adverse effects. The study also found that AI facilitated planning tasks within the scope of principals' responsibilities (Duran & Ermiş, 2024).
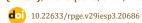
Patty's 2024 study explored the tools used in AI-supported language learning and examined the positive and negative impacts of AI on language learning in detail. The study highlighted tools such as machine translation and speech technology while emphasizing the advantages of AI, such as personalized learning and guidance for students. However, it also noted disadvantages, including the potential reduction of teacher involvement and interaction (Patty, 2024).

When examining studies on language learning and AI, it becomes evident that most research has been conducted outside the borders of Northern Cyprus, and no exemplary study has been carried out to investigate the situation in the region. Given that current research on AI-supported language learning does not sufficiently clarify the subject concerning Northern Cyprus, a comprehensive examination is necessary to determine the most effective use of AI in this context. Thus, it is essential to identify, compile, and introduce AI applications encountered in language learning as described in the literature, while also presenting the views of school principals working in primary schools in Northern Cyprus regarding the use of AI to facilitate language learning.

This study emphasizes the role of AI in language teaching amidst the rapid advancement of technology today. The application, use, and impact of globally adopted AI tools on language teaching in Northern Cyprus have become a subject of curiosity. Early exposure to AI in language learning is highly significant for language acquisition and cognitive development. Therefore, it is crucial for students at the primary school level, which serves as the foundation for formal teaching of native and foreign languages, to be introduced to AI.

The applicability of AI tools in language acquisition depends on the methods and tools employed by administrators and teachers. Therefore, the tendencies, knowledge, practices, and competencies of teachers and administrators—who will introduce students to these artificial systems—are of critical importance. In this context, teachers need to be well-versed in AI applications that facilitate language teaching and adequately prepared before implementing these tools. School administrators also have a crucial role to play.

Administrators must actively engage in teaching processes as instructional leaders, interact more frequently with teachers and students, align the school's mission with teaching processes, and ensure continuous improvement by evaluating student outcomes, taking necessary precautions, and addressing risks. Their awareness of AI, as well as their ability to guide decisions ranging from equipping schools with necessary tools to selecting teachers, is of utmost significance.

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This study aims to evaluate the role of school leaders as social actors in utilizing AI to facilitate language learning in primary schools in the Turkish Republic of Northern Cyprus (TRNC) and to provide recommendations for primary school administrators and teachers in the region. The study seeks to establish a theoretical framework and addresses the following research questions:

1. What are the responsibilities of school principals in AI-supported language teaching?
2. What challenges do school principals identify in AI-supported language teaching?
3. What are the recommendations of school principals regarding AI-supported language teaching?

This study provides an opportunity for school principals to self-reflect, enabling them to identify not only their own shortcomings but also those of their schools and teachers. The findings are expected to delineate the roles of school principals, the challenges encountered, and the solutions proposed in the context of AI-supported language learning in the TRNC.

The study aims to contribute to school principals, teachers, prospective teachers, and educators involved in teacher training by shedding light on AI-supported language teaching and offering insights into its implementation.

METHODOLOGY

Research Model

This study employs a phenomenological research design, one of the qualitative research methods to evaluate the roles of school leaders as social actors in utilizing AI to facilitate language learning in primary schools in the TRNC. Qualitative research collects data through observation in natural settings, interviews with selected individuals, and document analysis to deeply understand people or events.

In conducting qualitative research, the researcher must first select a topic that is intriguing both to themselves and to others. After reviewing relevant literature, the researcher formulates questions and designs solutions for the problem. The target group or groups are selected, data is collected from these groups, analyzed, and findings are derived. Finally, the results are shared in a scientific format (Baltacı, 2019; Creswell, 2023).

Among qualitative research methods, the phenomenological design was chosen for this study due to its practical applicability. Phenomenology, also known as the study of lived experiences, focuses on phenomena encountered but not fully understood (Yıldırım & Şimşek, 2021). This approach involves:

1. Defining the phenomenon,
2. Collecting data from groups that have experienced it, and
3. Comparing the phenomenon with the collected data to identify common traits (Çarpar, 2020; Tekindal & Arsu, 2020).

The phenomenological design is particularly suited for in-depth exploration of events experienced by individuals to understand their essence. Data collection typically involves interviews with 5 to 25 participants who have relevant experience. The collected data is stored in digital formats (Creswell, 2023).

Study Group

In alignment with the phenomenological design, the study group consists of 13 experienced principals from three private and ten public primary schools in the TRNC. These principals, serving during the 2024–2025 academic year, participated voluntarily. The group was carefully selected as they are expected to support the instructional leadership approach relevant to the research topic.

1. The criteria for selecting school administrators included:
2. Being an administrator at a public primary school affiliated with the Ministry of National Education or a private primary school during the 2024–2025 academic year;
3. Willingness to participate in the study, answer interview questions, and allow voice recordings during interviews;
4. Having attended a pre-interview briefing on AI technology conducted by the researcher.

The Table 1 below presents descriptive characteristics of the 13 selected school administrators who meet the criteria outlined above.

Table 1
Distribution of School Administrators by Descriptive Characteristics

Characteristics	Frequency (f)	Percentage (%)
Gender		
Female	10	76,9
Male	3	23.1
Age		
36–40 years	5	38,5

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Characteristics	Frequency (f)	Percentage (%)
41–50 years	5	38,5
51 years and above	3	23.0
Tenure as Administrator		
0–5 years	6	46,2
6–10 years	1	7.6
11–15 years	-	-
More than 15 years	6	46,2
Master's Degree		
Yes	10	76,9
No	3	23.1
Doctorate Degree		
Yes	3	23.1
No	10	76,9

Note. Prepared by the authors (2025).

The data indicates that out of the 13 school administrators participating in the study, 10 are female (76.9%) and 3 are male (23.1%). Five administrators fall within the 36–40 age range (38.5%), another five within the 41–50 age range (38.5%), and three are aged 51 and above (23.0%). Regarding their tenure as administrators, six participants have 0–5 years of experience (46.2%), while another six have over 15 years of experience (46.2%). There is only one administrator with 6–10 years of experience (7.6%), and none fall within the 11–15 years range. In terms of educational qualifications, 10 administrators have obtained a master's degree (76.9%), while 3 have not (23.1%). Only 3 administrators hold a doctorate degree (23.1%), and the remaining 10 do not (76.9%). This distribution highlights the diversity in gender, age, tenure, and educational background among the school administrators contributing to the study.

Data Collection Tools

The data for this research was collected through individual interviews and focus group discussions. The interview questions were prepared based on the phenomenological design and were revised in light of expert opinions. During the question preparation process, several steps were followed:

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1. Research Objectives and Literature Review: The objectives of the research guided the identification of relevant resources;
2. Preliminary Interviews: Discussions were held with elementary school teachers outside the target group to gather insights for question formulation;
3. Expert Opinions: Draft questions were reviewed by educational sciences and measurement and evaluation experts for content validity;
4. Academic and Practitioner Feedback: Feedback on the structure and content of the questions was gathered from three academics and five elementary school teachers;
5. Final Question Set: After the evaluations, a set of nine open-ended questions was finalized.

The finalized interview questions are as follows:

1. What are your duties and responsibilities in AI-supported teaching?
2. What are the advantages and disadvantages of AI-supported teaching?
3. Do you think AI positively or negatively impacts language learning? Why?
4. Which AI tool would you prefer for language learning?
5. Which AI tool should not be used in language learning?
6. Do the teachers in your school use AI for language teaching? If yes, what AI applications do they use?
7. Does your school have the infrastructure to support AI-assisted language teaching?
8. Is there a need for changes in the language teaching curriculum and textbooks? If yes, what should be done?
9. What are your opinions and suggestions regarding the use of AI in language learning?

To ensure candid responses, participants were informed beforehand that their identities would remain confidential. During the interviews, participants completed the forms in face-to-face settings. Each interview lasted approximately 40 minutes and was recorded in both audio and written formats.

Data Analysis

The collected data was analyzed using qualitative content analysis techniques (Akgün et al., 2021). The QDA Miner Lite software was employed for qualitative data analysis. Repeatedly expressed issues were categorized under specific headings. The analysis followed these steps:

1. Manual Coding: Data was manually coded within the QDA Miner Lite program. Codes were created by summarizing participants' statements into concise, meaningful units;
2. Categorization: The generated codes were grouped into broader themes by identifying relationships among them (Çelik et al., 2020);

3. Theme Creation: Themes were developed to capture recurring patterns in the data. Tables were used to present the frequency and distribution of the themes (Metin & Ünal, 2022).

Each written response from the interview forms was systematically grouped under corresponding questions in the QDA Miner Lite program. Themes were noted alongside the responses. Participants were coded anonymously as "Y1" for Participant 1, "Y5" for Participant 5, and so on. Direct quotations from participants' responses were included beneath each table to illustrate the identified themes. This structured approach ensured a systematic and transparent analysis of the collected data while maintaining the confidentiality and authenticity of participant responses.

FINDINGS

The first question related to the research's first sub-problem, "The roles of school principals in AI-supported language teaching," presents the views of administrators regarding their responsibilities in AI-supported language teaching. The roles of the administrators are categorized into four themes: "informing," "encouraging," "providing infrastructure / monitoring," and "no role." The themes of informing and encouraging were frequently mentioned. For instance, the responses of administrators Y2, Y5, and Y10 are as follows:

Y2: "It is our responsibility to ensure that teachers receive training on what Artificial Intelligence is and how it should be used."

Y9: "We must conduct preliminary research on Artificial Intelligence."

Y10: "Firstly, we, as administrators, need to understand how the program works and what its purpose is so that we can guide teachers in using it. We must be aware of the advantages, disadvantages, benefits, and drawbacks of Artificial Intelligence. Administrators who are familiar with AI tools can explain the conveniences it offers to teachers and enlighten them on the topic. One of the administrators' responsibilities is to encourage teachers to use these programs, taking into account their knowledge and the school's infrastructure."

The second sub-problem of the study addresses the question, "What problems arise in AI-supported language teaching?" Multiple questions were asked to administrators, revealing various positive and negative findings regarding AI. The positive aspects of AI-supported teaching include personalized learning, instant intervention, practicality, offering an interactive learning environment, providing a new perspective on education, and motivating students in their learning process. One administrator's statement reflects all these advantages.

Y1: "Let's start with the positives; providing personalized learning experiences is one of the most important advantages. It allows students to learn according to their own needs and

pace. AI's data analysis and prediction abilities reduce teachers' workload. One of its advantages is that it reduces the risk of error. AI saves time during the learning process. Workflows become smoother and more efficient with AI."

Although AI-supported language teaching has many positive aspects, there are also negative aspects identified by the administrators, such as "security and privacy threats," "promoting dependency and stifling creativity," "reducing social interaction / communication / teamwork," "high infrastructure and equipment costs," "low reliability / high error margin," and "variability." Five participants (38.50%) stated that "promoting dependency and stifling creativity" is the biggest drawback of AI.

Y2: "In teaching, allowing students to access information immediately without questioning or thinking can dull their critical thinking and creativity."

Y4: "Getting students and teachers used to laziness and dependency is also a downside."

Y6: "Its downside could be seen as getting people accustomed to easy and ready-made solutions."

Y9: "It pushes us towards not researching and not improving ourselves. AI's instant answer feature may provide information without allowing students to think, which could hinder the development of their creative and critical thinking skills."

Y12: "The opportunity to get ready-made products without putting in effort increases."

Y13: "Students may use these technologies to cheat, learning as if they have mastered the information without truly understanding it."

It was observed that nearly 70% of the administrators have a generally positive attitude towards AI-assisted language learning, based on their responses. Administrators mentioned the positive impacts of AI on language learning, such as providing personalized plans, offering quick access to information and data for teachers and students, and motivating students to practice the language. Some of the administrators' views are as follows:

Y1: "With Artificial Intelligence, a plan can be created according to the student's individual goals and learning style. Students can focus more on their weaknesses and missing areas in the language and carry out an efficient study plan."

Y3: "With a smart device and an internet connection, you can learn any language, no matter where you are in the world."

Y9: "One of the positive effects is that AI provides quick corrections to students during language learning and guides them, making it easily accessible."

Y7: "The more it is used, the more the language improves. It motivates the child to communicate both visually and audibly, enhancing language skills."

Three participants (23.1%) emphasized both the positive and negative aspects, while one participant (7.7%) gave a completely negative response. In total, 30.80% of the administrators argued that there are negative effects. Two participants (15.40%) mentioned "detachment

from the cultural context," one participant (7.70%) mentioned "lack of perception / inequality," and another participant (7.70%) stated "lack of fluency."

Y10: "It may have some problems in terms of distancing students from social environments and increasing their interaction with technology."

Y9: "The AI has no perception of your feelings or emotions and may not recognize any weaknesses or deficiencies, treating you like a normal individual."

Y4: "AI negatively affects language learning because it does not provide fluent speech."

Around 77% of the administrators believed that programs offering real-time feedback would be preferable for language learning, while 15.4% did not have an opinion on which tools should be preferred, and only one administrator (7.7%) believed that the tools used might vary from person to person. The administrators' opinions are as follows:

Y2: "Any program that provides real-time feedback would be effective, for example, ChatGPT. Instant correction of pronunciation is important."

Y7: "Any program offering immediate feedback and corrections can be used."

Y11: "We can use programs like Babbel, Pronounce, Duolingo, TalkPal."

Y9: "The program used for language teaching may vary depending on the user. A choice should be made according to the individual."

When considering which AI tools should not be used for language teaching, most administrators (53.80%) were uncertain about which tools or features should be avoided. It was also mentioned that tools which do not serve the level or purpose, provide ready-made information, or have low reliability should not be used. The administrators' views on AI tools to avoid are as follows:

Y2: "I don't know of any AI program specifically for language teaching. I can say that no AI program that is unsuitable for the children's level or doesn't serve the purpose should be used."

Y6: "Tools that present information ready-made to individuals should not be used."

Y11: "AI tools that are unreliable and use incorrect pronunciations should not be used in language learning."

Y7: "Which AI tools should not be used can vary depending on the person. For example, applications that the individual finds difficult to use or those that are impractical for students."

Regarding the use and applications of AI in language learning in schools, 92.30% of administrators stated that due to the lack of infrastructure and insufficient resources in schools, these applications are not being implemented. Some administrators' opinions on this are as follows:

Y5: "It is not used. Our school does not have the infrastructure to support AI-assisted language teaching."

Y7: "It is not used. We do not even have enough infrastructure to support it partially."

Y9: "It is not used. We only have smartboards in each classroom, but individually they are not sufficient."

The third sub-problem of the study focused on the "Suggestions of school principals regarding AI-assisted language teaching." It was found that all of the administrators agreed on the need for changes in textbooks and curricula, supporting this with specific suggestions. A significant portion of these suggestions related to curriculum improvements.

Curriculum suggestions from administrators

Y6: "Grammar topics should be simplified. There should be more emphasis on language use in daily life and life skills."

Y3: "A curriculum with more active student participation and longer class hours is needed."

Book suggestions from administrators

Y10: "I believe the textbooks used in English language teaching in public schools could be more technological. QR code applications could be used to direct students to educational puzzles and fun games during breaks, or versions of the books specifically for smartboards could be created. QR codes could be included at intervals for unit reviews or fun matching and placement activities. I also think that worksheets could be inserted into these books."

The most frequently expressed recommendation regarding AI-assisted language learning was the integration of AI into the language learning curriculum. Administrators also suggested providing necessary infrastructure and hardware for AI use, offering in-service training for teachers, making AI usage mandatory, and ensuring the involvement of experts in guiding its application.

Further recommendations regarding AI use in language teaching

Y3: "Using AI in language teaching will ease the learning process. AI should be included in the curriculum for language skills, and a guide for teachers to follow should be created."

Y9: "Educators, administrators, and students should be trained for the conscious and controlled use of AI in the teaching process."

Y2: "Schools should have the necessary equipment for AI-based communication to contribute to language development. Additionally, dedicated language rooms should be established in schools, equipped with the necessary infrastructure to facilitate AI use."

DISCUSSION

The findings related to the first sub-objective of the study, which focused on the responsibilities of school principals in AI-assisted language teaching, indicate that administrators

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believe their key responsibilities include both gaining knowledge about AI and guiding and encouraging teachers in its use. The findings suggest that principals should be trained in this technology and create awareness in the educational environment. Similarly, in a 2024 study by Duran in Turkey, school principals' responsibilities in planning AI usage were also emphasized.

Challenges in AI-Assisted Language Learning

Regarding the second sub-objective, which addressed the challenges faced in AI-assisted language learning, administrators were asked both about the positive and negative aspects of AI. The responses showed that AI is seen as a technology that personalizes learning, provides instant feedback according to individual learning styles, is accessible anytime and anywhere, saves time, and makes it easier for teachers to handle content management, summaries, assessments, and progress tracking. These positive views align with findings in research by Huang et al. (2021) on the impact of AI on education.

However, administrators also pointed out some negatives, such as students becoming accustomed to easy solutions and a potential decrease in critical thinking and creativity. They also mentioned concerns about AI providing incorrect information, increasing the likelihood of cheating, and thus decreasing reliability. Similar concerns were identified in Viktorivna et al. (2022), who highlighted the risk of AI affecting speech naturalness, creativity, and individuality in language learning.

In terms of language learning, most administrators expressed a generally positive view of AI's role. Many participants, when asked about negative effects, stated that they had not encountered any significant issues. This aligns with findings from Khansaheb (2021), which showed that administrators were generally supportive of introducing AI in language learning. Administrators emphasized the positive impacts of AI, such as providing personalized learning plans, correcting pronunciation, and motivating students to practice the language. Kuddus (2022) also found that AI-supported speech technology helps improve pronunciation, and Wang et al. (2022) found that AI could be a motivating factor in learning a second language.

AI Learning Programs and Teacher Awareness

Regarding the second sub-problem's findings about teachers' awareness of AI tools for language teaching, it was noted that most administrators did not possess detailed knowledge about specific AI programs. While they mentioned well-known tools like Duolingo, Talkpal, ChatGPT, and Babbel, they did not offer preferences or extensive information on how to use them. Furthermore, many administrators were unaware of which AI programs should not be used, with some only providing general characteristics to avoid, such as tools with high error rates or those that do not align with the learning goals or student levels. Research by Patty

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(2024) has discussed AI tools for language teaching, such as speech technology and machine translation, which were not mentioned by the administrators in this study.

Lack of Infrastructure in Schools

A common theme in the administrators' responses was that AI tools were not used due to the lack of adequate infrastructure in schools. This finding points to the fact that insufficient infrastructure prevents teachers from accessing AI-based programs. In the case of Northern Cyprus, the study found that schools lack the infrastructure to fully support AI-assisted language learning.

Suggestions for Improvement in AI Integration

The findings related to the third sub-objective, which focused on administrators' suggestions for improving AI-assisted language teaching, point to the need for a restructuring of both curricula and textbooks. For the curriculum, there is a call for increased language class hours, the inclusion of AI in the curriculum, and more practical applications. In terms of textbooks, administrators suggested using locally published books that support AI technology and are tailored to the students' levels. They also recommended forming committees with teachers and experts to make adjustments based on feedback.

Overall, administrators expressed strong support for integrating AI into language learning and emphasized the need for proper training, expert guidance, and infrastructure improvements.

CONCLUSION

This research investigates the views of primary school principals in the Lefkoşa and Girne regions on the use of AI to facilitate language learning during the 2024-2025 academic year. The study explores principals' roles in the use of AI in language learning, the issues encountered, and potential solutions. Based on the analysis of these views, the following conclusions were reached:

The first subproblem of the research addresses the roles of school principals in AI-supported language learning. It was concluded that principals must first be knowledgeable about AI, after which they should provide training for teachers, direct them to in-service courses, and encourage teachers to use AI by offering infrastructure and equipment in teaching environments that support AI-based language instruction.

The second subproblem investigates the issues in AI-supported language teaching. Despite the practical benefits of AI, such as offering personalized learning plans,

providing immediate feedback and correction, and improving pronunciation through speaking practice, several challenges were identified. These include the lack of cultural context, emotional perception, reduced creativity, lack of fluency, and inequality in offering opportunities to individuals with special needs. Furthermore, the failure of principals to mention specific AI programs they prefer or avoid implies a lack of sufficient knowledge about AI-supported applications. Additionally, the lack of infrastructure and equipment to support AI in schools was identified as a key issue. Teachers are unable to use technologies they are not familiar with, especially when teaching environments are not equipped to support them.

The third subproblem of the research highlights the need for changes to curricula and textbooks that support AI technology. It was suggested that commissions of experts in AI should develop educational programs and resource books, increase language instruction hours, and create local resources. Almost all principals emphasized the necessity of using AI in language teaching and recommended integrating it into the education system, providing infrastructure, offering training, and revising curricula.

Recommendations

This section presents the findings and recommendations based on the conclusions of the research. Recommendations are directed towards the Ministry of Education, school administrators, teachers, and researchers planning to investigate this topic in the future.

The following recommendations are made based on the findings:

Ministry of Education

a) The Ministry should begin preparing necessary educational programs and resource books for AI-supported teaching as soon as possible. The curriculum should be revised and developed to support AI-based teaching, and technological books should be developed that offer individualized learning opportunities for students. Books with QR codes or versions for smart boards can be created. Efforts should be made to develop books that include AI-based activities or instructional videos accessible by scanning QR codes at the end of each unit;

b) AI programs suitable for language teaching should be reviewed and carefully selected by experts for specific age groups and levels. Teachers should be educated on how to implement these tools effectively, and training should provide both theoretical and practical knowledge about AI-supported language teaching. Parents should also be informed about these technologies, encouraging them to install the necessary applications on their phones or tablets and monitor their children's learning. Parents must ensure that their children are using AI consciously, as it is an important development of our time;

c) Frequent conferences should be organized with teachers who have experience or expertise in using AI for language teaching to share their practices and the tools they have used;

d) Efforts should be made to ensure that schools are equipped with the necessary infrastructure and hardware to support AI-based teaching. Specialized rooms with the required infrastructure and equipment should be created to facilitate AI-supported language learning.

School Administrators

School administrators should first educate themselves about AI in order to encourage teachers to use AI and motivate students to learn languages. Participation in in-service training programs related to AI should be mandatory for teachers. Additionally, AI-related activities should be included in school events on important days and weeks.

Teachers

a) Teachers should start using AI in language teaching within the scope of available resources, even before being mandated by the Ministry. They should take training from universities that offer programs on AI in language teaching. For example, Istanbul University offers online certification programs on Modern Technologies in Language Teaching. Teachers should select programs that best suit their needs and skills from various universities or institutions. Teachers who have enhanced their skills through education will be better equipped to handle limitations in AI-based language teaching.

b) Considering that AI may need further development in cultural aspects, teachers should incorporate cultural activities into lessons to help students avoid feeling disconnected during class.

c) Teachers should collaborate with experts in AI-supported language teaching to exchange ideas and gain expert advice on how to proceed with students.

Suggestions for future research

Researchers exploring this topic should include regions beyond Lefkoşa and Girne, collect more views from school administrators, and investigate different issues and potential solutions. Researchers could also focus on specific aspects of this study, such as the challenges encountered, and extend the research over a longer period for a deeper examination. Additionally, the study could adopt a different methodology or research design, and based on these findings, a new scale could be developed. Teachers could also be included in future research alongside school administrators.

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