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TEACHING WITH AI: A BOLD NEW ERA OR JUST HYPE? THE OWIS RIYADH EXPERIMENT

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ABSTRACT

The advent of Artificial Intelligence (AI) has rapidly transformed the educational landscape, presenting both opportunities and challenges. This research explores the integration of AI into teaching practices at One World International School (OWIS) Riyadh, analyzing whether it marks the beginning of a transformative era in education or if it is merely an overhyped trend. The study delves into how AI is implemented within the school's curriculum, its impact on student learning, and the potential consequences of relying on AI for answers instead of fostering critical thinking. Through qualitative research methods, including interviews, structured questionnaires with educators and students and observation, this paper examines the perceptions, benefits, and limitations of AI in the classroom and investigates its long-term viability in shaping education in international schools. The findings will contribute to the ongoing discourse on the role of AI in modern education and provide insights into its practical application and ethical considerations.

Keywords: *AI in education, OWIS Riyadh, critical thinking, teaching practices, educational technology.*

INTRODUCTION

Background of the Study

The integration of Artificial Intelligence (AI) in education has rapidly emerged as a pivotal development, reshaping traditional teaching and learning practices. While AI offers promising potential for enhancing personalized learning, increasing efficiency, and supporting educators, its implementation has often been marked by swift and unsystematic transitions (Baker et al., 2020; & Holstein et al., 2020). The introduction of AI in educational settings has been described as a phenomenon that "just appeared" without a gradual, well-thought-out approach, raising questions about its long-term implications on student learning and engagement. At One World International School (OWIS) Riyadh, AI technologies have quickly become embedded in the curriculum, offering students instant answers without the necessary cognitive processing or critical thinking required for deep learning (Zawacki-Richter et al., 2019). This phenomenon prompts a debate: is AI truly enriching the educational experience, or is it potentially diminishing the development of essential cognitive skills such as problem-solving and critical thinking? (Almalki et al., 2021). Critics argue that AI's role in education, while efficient, could undermine the cultivation of reflective and analytical skills that are fundamental to student growth (Tuomi, 2021). Despite these concerns, the increasing incorporation of AI in

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educational systems worldwide presents both opportunities and challenges for future learning environments.

As educational institutions such as OWIS Riyadh experiment with AI technologies, it is crucial to understand the broader impact of these tools on student engagement, cognitive development, and academic outcomes. This study investigates how AI is integrated into classroom practices and whether it contributes positively or negatively to students' critical thinking abilities, ultimately exploring if this new era of AI-driven education will redefine the learning landscape or if it is just a passing trend.

Research Objectives

General Objective

To examine the integration of AI in the curriculum at OWIS Riyadh and evaluate its impact on teaching, learning, and students' cognitive development.

Specific Objectives

1. To analyze how AI is incorporated into teaching and learning at OWIS Riyadh.
2. To assess the influence of AI on students' critical thinking and problem-solving skills.
3. To explore educators' and students' perceptions of AI's benefits and challenges in education.
4. To evaluate the sustainability of AI integration in education over the long term.

Research Questions

1. How is AI incorporated into teaching and learning at OWIS Riyadh?
2. How does AI influence students' critical thinking and problem-solving skills?
3. What are the perceived benefits and challenges of AI in education from both students' and educators' perspectives?
4. Is AI's role in education sustainable, or is it a temporary trend?

LITERATURE REVIEW

The integration of Artificial Intelligence (AI) in education has become an increasingly pivotal development, revolutionizing teaching and learning practices globally. This phenomenon has sparked both excitement and concern among educators, policymakers, and students, with a wide range of opinions about its potential benefits and drawbacks. While AI presents opportunities for enhancing personalized learning, improving efficiency, and supporting educators in various capacities, its implementation has often been rapid and unsystematic (Baker et al., 2020; Holstein et al., 2020). The integration of AI technologies into educational environments has often been characterized by a "just appearing" effect, where its sudden emergence raises critical questions about its impact on learning, engagement, and cognitive development.

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One of the key features of AI in education is its ability to offer personalized learning experiences. AI-powered tools can adapt to individual students' learning styles and needs, offering tailored resources, support, and feedback (Almuhanna, 2024). The customization of learning paths is particularly useful for students with varying abilities, as AI tools can adjust content delivery to accommodate different levels of proficiency and learning pace. Research suggests that the personalized aspect of AI contributes to heightened student engagement, as students can work at their own pace, receiving instant feedback and support (Alyoubi & Essalmi, 2022). At OWIS Riyadh, AI technologies have rapidly become integrated into the curriculum, offering students immediate answers to questions, potentially improving their access to information. However, this shift raises concerns regarding the depth of cognitive processing and critical thinking, as students may become reliant on AI for instant answers rather than engaging in reflective thought processes (Zawacki-Richter et al., 2019).

AI's rapid adoption, without a comprehensive framework, often leaves key questions about its long-term impact on educational outcomes unanswered. While AI has the potential to support personalized learning, its reliance on quick responses and automation may inhibit the development of essential skills such as problem-solving, critical thinking, and creativity (Almalki et al., 2021). Critics argue that by offering immediate solutions, AI tools could discourage students from grappling with challenging tasks and exploring multiple pathways to problem resolution (Tuomi, 2021). Instead of encouraging independent problem-solving, AI may inadvertently diminish opportunities for students to engage deeply with learning material, reducing their ability to think critically and autonomously.

Teachers, however, stand to benefit from AI tools that automate administrative tasks such as grading, attendance tracking, and content delivery. These tools can help to streamline lesson planning and provide targeted support for students who require additional help (Almubarak et al., 2024). AI can assist in identifying gaps in students' learning, offering customized interventions, and ensuring that teachers can focus more on individualized instruction rather than routine administrative work. Some studies emphasize that AI can serve as a valuable assistant to teachers, allowing them to better address the diverse needs of students in increasingly large and varied classrooms (Al Amri & Al-Abdullatif, 2024).

However, the unstructured integration of AI into educational systems also raises ethical concerns. As AI tools become more embedded in the classroom, issues of data privacy, security, and algorithmic bias come to the forefront. AI systems rely on vast amounts of data to operate effectively, and concerns have been raised about how student data is collected, stored, and used by AI platforms (Almubarak et al., 2024; Melweth et al., 2024). Additionally, the algorithms that drive AI tools can unintentionally reinforce biases if the data used to train them is incomplete or skewed. These ethical considerations are particularly important in educational contexts, where fairness, transparency, and data protection are essential in ensuring that AI does not disadvantage any particular group of students (Aldawsari, 2024). Furthermore, some critics argue that AI's role in education can contribute to the "automation of education," where the human element of teaching may be diminished, undermining the essential interpersonal relationships that support social and emotional learning (Su et al., 2024).

Another concern with AI in the classroom is its potential impact on students' collaboration and social skills. Collaborative learning has long been regarded as a key component of education, fostering teamwork, communication, and interpersonal skills. However, AI tools may inadvertently limit opportunities for students to collaborate with peers,

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as AI can offer immediate responses that reduce the need for group discussions and joint problem-solving activities (Su et al., 2024). The shift towards individualized learning, while valuable in some contexts, may come at the expense of social learning experiences, which are essential for developing teamwork and communication skills.

The long-term sustainability of AI in education is also questioned by some scholars. While the current wave of AI adoption in schools like OWIS Riyadh is promising, there is concern that this technology may be a passing trend, with its use waning over time as limitations become more apparent. Some educators resist AI due to its perceived complexity, lack of personal touch, and the concern that it may not fully align with educational values and goals (Alyoubi & Essalmi, 2022). The uncertainty about AI's future role in education highlights the need for careful, well-planned implementation strategies that involve both educators and students in the decision-making process (Aldawsari, 2024). Furthermore, AI's rapid evolution means that educational institutions may struggle to keep pace with the ongoing advancements in AI technology, potentially leading to the obsolescence of certain tools or methods (Zhang & Tur, 2024).

Despite these concerns, the adoption of AI in education continues to grow. Many educators and institutions view AI as a transformative tool that has the potential to enhance the learning experience, improve efficiency, and provide more equitable educational opportunities. However, it is crucial to ensure that AI is integrated thoughtfully, with a clear understanding of its potential benefits and risks. In the case of OWIS Riyadh, understanding how AI influences student engagement, critical thinking, and academic outcomes is key to determining whether AI will define the future of education or if it is just a passing trend. Further research on the impact of AI in diverse educational settings will help shape the ongoing discourse surrounding its role in the classroom and its broader implications for educational systems worldwide.

RESEARCH METHODOLOGY

In this study, we investigated the integration of Artificial Intelligence (AI) into educational settings at One World International School (OWIS) Riyadh using a mixed-methods research design. This involved collecting both qualitative and quantitative data through interviews with students and teachers, as well as questionnaires administered to upper-grade students, and also observation as researchers are part of the community.

Research Design

A mixed-methods approach was utilized following a convergent parallel design. Both qualitative and quantitative data were collected simultaneously, analyzed separately, and then merged to provide a comprehensive understanding of AI integration in education.

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Population and Sample Selection

The study involved a total of 54 students from upper grades (4 to 8) and 19 teachers, including homeroom instructors and subject specialists. Participants were selected based on their direct engagement with AI tools in their educational experience.

Data Collection Methods

Qualitative Data

Interviews with teachers aimed to explore their perspectives on AI integration, including perceived benefits, challenges, and its impact on pedagogy. Semi-structured interviews were conducted, allowing for in-depth discussions while maintaining flexibility to explore emerging themes. Similarly, interviews with students sought to understand their experiences with AI tools in their learning processes, focusing on perceived advantages, obstacles, and effects on their learning outcomes. These interviews were also semi-structured, providing detailed insights into students' interactions with AI in the classroom.

Quantitative Data

Questionnaires for upper-grade students and teachers were designed to assess students' attitudes toward AI in education, their self-reported learning outcomes, and the development of critical thinking skills. The questionnaires were created using Google Forms and distributed electronically to ensure efficient data collection and management.

Data Analysis

Qualitative data analysis involved transcribing interviews verbatim to ensure accuracy, followed by thematic analysis to identify recurring themes and patterns related to AI integration. For quantitative data, descriptive statistics were used to summarize questionnaire responses, while inferential statistics were applied to explore relationships between variables, such as the impact of AI tools on perceived learning outcomes. Data analysis was conducted using the built-in statistical features of Google Forms.

Integration of Data

A triangulation method was applied to compare and contrast qualitative and quantitative findings. This helped to identify convergences and divergences, ensuring a holistic understanding of AI's role in education at OWIS Riyadh.

Ethical Considerations

Informed consent was obtained from all participants, ensuring they were aware of the study's purpose and their rights. Confidentiality was maintained by assigning codes to participants and

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securely storing data to protect their anonymity. Additionally, participants were informed that their participation was voluntary, with the option to withdraw at any time without consequence.

Limitations

The potential for bias in self-reported data from interviews and questionnaires was acknowledged. Additionally, the generalizability of the findings may be limited, as they are specific to OWIS Riyadh and may not necessarily apply to other educational contexts.

RESEARCH FINDINGS AND DISCUSSION

AI Usage Among Students and Teachers

The adoption of AI tools in education is widespread, with a significant majority of both students and teachers utilizing AI-powered platforms. Out of 54 students, 45 (83.3%) reported using AI tools, with ChatGPT and Gemini being the most frequently mentioned. These tools were commonly used to simplify explanations, assist with research, and support assignments. Similarly, AI adoption among teachers is high, with 17 out of 19 teachers (94.7%) integrating AI tools into their teaching practices. Teachers frequently used AI applications such as ChatGPT, Canva, and Quizizz to personalize lessons, create differentiated learning materials, and provide immediate feedback. This data highlights the growing reliance on AI in classrooms and its potential to transform both teaching and learning experiences.

The table below presents a cross-tabulation illustrating the relationship between students' usage of AI and teachers' adoption of AI in education.

Table 1: Illustration of students' usage vs teacher adoption in usage of AI

	Yes	**No**
Teacher adoption	17	2
Student usage	49	9

This data highlights the widespread acceptance of AI in the classroom, with both students and teachers increasingly relying on AI-powered tools to enhance learning and teaching experiences. The contrast in usage between students and teachers suggests that while teachers are more likely to access and integrate AI tools into their teaching, students are also utilizing these technologies independently to enhance their learning experiences. According to researchers, the integration of AI in education has the potential to revolutionize the classroom by providing personalized, adaptive learning experiences that cater to individual student needs (Luckin et al., 2016). As AI continues to evolve, its impact on education is poised to expand further, fostering a more dynamic and efficient learning environment for both students and educators.

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Analysis of Teacher and Student Experiences with AI Integration in Education

The integration of AI tools in education has had a profound impact on both teaching methods and student learning outcomes. Teachers generally reported that AI has significantly influenced their teaching practices, with many rating its impact as 4 or 5 on a scale of 1 to 5. AI tools such as ChatGPT, Canva, and Quizizz have enabled teachers to personalize lessons, generate differentiated learning materials, and provide immediate feedback, enhancing the overall classroom experience. Similarly, teachers observed positive changes in student engagement and understanding, with many noting that students showed more interest and comprehended subjects better when AI was incorporated into lessons. However, a small minority of teachers indicated that the impact of AI on student engagement varied depending on classroom context and tool usage. These findings align with research by Luckin et al. (2016), which highlighted AI's potential to offer personalized learning and improve engagement by providing tailored educational resources.

Students, on the other hand, also reported positive experiences with AI tools, with many indicating that these tools helped them understand their subjects better. A majority of students rated the usefulness of AI tools as 4 or 5, suggesting that these technologies aided in simplifying complex topics and improving task completion. Additionally, student engagement saw a similar boost, as students felt more involved in lessons that utilized AI. However, a subset of students (those rating their engagement as 1 or 2) indicated that AI had a minimal impact on their learning experience. This variation in responses could be attributed to differences in familiarity with AI tools or the manner in which they were integrated into lessons. The findings support the work of Holmes et al. (2019), which emphasized the role of AI in fostering more engaging and interactive learning environments. Together, the data from both teachers and students suggest that AI has the potential to revolutionize education by enhancing both teaching methods and student engagement, although the degree of impact varies across different contexts.

Leveraging AI to Support Diverse Learning Needs

Teachers have identified numerous ways in which AI can be utilized to better support diverse learning needs, emphasizing its potential to personalize education and enhance accessibility for all students. One of the most cited advantages of AI in education is its ability to create personalized learning experiences tailored to individual students' strengths, weaknesses, and learning styles. By leveraging AI, teachers can provide students with individualized learning paths that adapt in real time based on their performance. For instance, AI-powered systems can automatically adjust the difficulty of assignments, ensuring that each student is appropriately challenged, whether they need additional support or more advanced content (Kölemen, 2024). This personalized approach helps prevent students from feeling overwhelmed or disengaged, as they receive content at the right level for their current understanding.

AI can also play a critical role in assisting students with disabilities. For example, students with visual impairments can benefit from text-to-speech technology, while students with dyslexia might find speech-to-text tools invaluable. These technologies provide an alternative method for students to interact with content, making learning more accessible and inclusive. AI can even offer visual aids, which are particularly helpful for students with learning differences who benefit from more tangible, visual representations of information (Pan et al.,

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2023). These adaptive tools ensure that students who face specific learning challenges are not left behind but instead receive the support necessary to thrive.

Another key aspect of AI's role in supporting diverse learning needs is its ability to monitor student progress in real-time. AI can identify gaps in students' understanding early on, allowing teachers to provide targeted interventions before students fall behind. This can be particularly beneficial in subjects like math or language arts, where foundational knowledge is crucial to understanding more advanced concepts. By quickly pinpointing areas where students struggle, AI enables more efficient and timely support, ensuring that each student receives the attention they need.

In addition to academic support, AI can assist with language barriers, especially in multilingual classrooms. AI-driven language translation tools can break down communication barriers by providing real-time translations, allowing students to engage more fully with the material and communicate effectively with teachers and peers. This ensures that language differences do not impede learning, fostering a more inclusive classroom environment (Gong et al., 2020).

Moreover, AI is not only valuable for individual students but can also help teachers by offering strategies for differentiation. With AI, teachers can easily prepare personalized worksheets or assignments that cater to each student's learning level, reducing the time and effort spent on creating differentiated tasks manually. This functionality helps teachers meet the needs of students at various stages of learning, making their instruction more effective and targeted.

However, while AI has significant potential to support diverse learning needs, teachers caution that its use should be balanced and integrated carefully into the classroom. AI should complement—not replace—traditional teaching methods. Teachers should be equipped with the skills to use AI effectively, including the ability to create appropriate prompts and assess AI-generated content critically. Furthermore, continuous professional development is necessary to help educators keep up with the evolving landscape of AI tools and to understand how best to incorporate them into their teaching practices (Kölemen, 2024). AI should not be overused or relied upon for administrative tasks but should instead serve as a tool that empowers both teachers and students to enhance the learning experience.

Student Engagement Levels with AI

According to Kölemen (2024) AI tools have played a notable role in student engagement, with most students indicating that AI-supported learning is more interactive and easier to understand. When asked to rate their engagement levels on a scale of 1 to 5, 40 students (74%) rated AI's impact as 4 or 5, suggesting that AI tools helped them become more involved in learning activities. However, 9 students (16.7%) rated AI's impact on engagement as 1 or 2, indicating that they found minimal benefit or felt disengaged (Zawacki-Richter et al., 2019). This variation in responses may be due to differences in familiarity with AI tools, the manner in which AI was introduced in classrooms, or personal learning preferences (Gong et al., 2020).

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Impact of AI on Teaching and Learning Outcomes

Teachers and students alike acknowledged AI's positive contribution to education, with most rating its usefulness highly. Among teachers, 15 out of 19 (78.9%) rated AI's impact on teaching effectiveness as 4 or 5, emphasizing how AI improved lesson planning, generated learning materials, and enabled personalized feedback. Similarly, 42 out of 54 students (77.8%) found AI useful for simplifying complex topics, rating it 4 or 5. This indicates that AI tools effectively support comprehension and task completion. However, 12 students (22.2%) reported that AI had a limited impact, rating it 3 or lower, suggesting that some students may require better guidance on how to integrate AI effectively into their learning process.

The Dual Impact of AI on Critical Thinking and Problem-Solving Skills

Artificial Intelligence (AI) has a mixed impact on the development of critical thinking and problem-solving skills among students at OWIS Riyadh. While many students believe that AI helps trigger ideas and provides inspiration, teachers have observed a divided outcome—some students actively engage in thinking, while others become reliant on AI-generated solutions. This suggests that while AI can serve as a powerful tool for brainstorming and idea generation, it may also hinder independent critical thinking if students over-rely on it. Research supports this dual effect; a study by Luckin et al. (2016) highlights that AI can enhance students' cognitive abilities when used as a support tool rather than a replacement for reasoning. Similarly, Zawacki-Richter et al. (2019) emphasises that AI-driven learning environments must be designed to encourage student engagement rather than passive consumption of information. Therefore, AI's impact on critical thinking at OWIS Riyadh largely depends on how it is integrated into the learning process.

Challenges and Ethical Considerations of AI Integration

While the integration of AI tools in education has brought numerous benefits, both teachers and students have encountered several challenges. Teachers have noted difficulties with AI tools often providing overly complex responses or failing to understand specific queries, leading to confusion or frustration. For instance, some teachers mentioned that AI sometimes delivers overly sophisticated language or irrelevant information, making it difficult for them to extract the desired output. Similarly, AI's tendency to forget previous interactions or provide inaccurate responses, such as generating long and unnecessary answers, has been a point of concern. These challenges are compounded by issues like technical glitches, poor internet connectivity, and the inability to generate specific tasks such as images or accurate responses in certain contexts. On the student side, over-reliance on AI tools was a common concern. Some students reported using AI as a shortcut, which led to a lack of development in critical thinking and problem-solving skills. Additionally, issues such as screen time, internet limitations, and the accessibility of certain AI applications hindered effective usage in the classroom. Language barriers also posed challenges for students, particularly those with developing English language skills, as they struggled to interact with AI tools effectively. Furthermore, ethical considerations like data privacy, algorithmic bias, and the accuracy of AI-generated content were raised by both teachers and students. Teachers highlighted concerns over the reliability and accuracy of AI responses, especially when AI tools misinterpret instructions or generate false or biased information. To address these issues, both teachers and students suggested the

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importance of ongoing support, such as proper training, troubleshooting strategies, and setting guidelines to ensure that AI is used effectively without compromising educational outcomes. These challenges align with the broader ethical concerns of AI in education, as highlighted by scholars like Holmes et al. (2019), who emphasize the need for responsible AI integration that fosters critical thinking while addressing potential biases and privacy concerns.

Future Perspectives on AI in Education

According to recent research, both teachers and students recognize the transformative potential of AI in education, though they offer varying views on its appropriate application. Teachers largely agree that AI should be used to enhance personalized learning, with many citing its ability to tailor lessons and feedback to individual student needs as a key benefit. AI's role in automating administrative tasks, providing real-time analytics, and supporting differentiated teaching was also widely endorsed. However, there is concern about the over-reliance on AI, particularly regarding the potential for it to replace critical thinking and creative skills. Some teachers cautioned that while AI could significantly improve efficiency, it should complement, not replace, human interaction and creativity in the classroom. For instance, one teacher noted that AI should support traditional methods, ensuring students still engage in the cognitive process rather than relying solely on technology.

Students echoed these concerns but also expressed excitement about AI's future in education, particularly in providing personalized learning experiences. Many students saw AI as a helpful tool for learning difficult concepts, conducting research, and improving their work. Several students suggested that AI could be used for customized practice, such as generating exercises based on their curriculum, and could assist with tasks like homework, presentations, and research. However, concerns about over-reliance on AI were also voiced, with some students emphasizing that AI should be used responsibly—only when they do not fully understand a topic or need additional support. Additionally, students expressed a desire for AI to assist with specific tasks like generating images for presentations, offering explanations for tricky questions, and providing examples to clarify difficult concepts.

Overall, both groups agree that AI should serve as a supportive tool rather than a replacement for traditional learning, fostering critical thinking and engagement. With proper regulation and guidance, AI could play a crucial role in enhancing the learning experience by offering personalized content, facilitating deeper understanding, and supporting diverse learning needs. According to recent studies, AI has the potential to provide highly customized educational experiences that cater to each student's unique needs, promoting a more inclusive and effective learning environment (Mohammed & Nell'Watson, 2019). However, as AI continues to evolve, its integration into education must be approached carefully, with ethical considerations such as data privacy, algorithmic bias, and equitable access remaining at the forefront of its development.

Suggestions for Improving AI in Education

Students have provided a variety of suggestions for improving the use of AI in their learning experiences. One common theme is the need for AI tools to be more user-friendly and adaptable to individual learning needs. Students emphasized that AI should avoid using overly complex

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language and provide clearer explanations, particularly in subjects like English and Science. Some students suggested that AI could offer shorter, more concise answers to enhance understanding and efficiency, rather than long and complicated responses. Additionally, improving AI's ability to generate more relevant and accurate content, especially for tasks like homework and exams, was also highlighted (Pan et al., 2023).

Another significant concern raised by students was the potential for AI to create unfair advantages in academic assessments. One student pointed out that AI-generated responses can set higher standards, which may unfairly affect students who cannot rely on AI in the same way. This suggests a need for more transparency in how AI-generated work is evaluated and the introduction of AI tools to detect and address academic dishonesty. A suggestion was made to integrate AI into the evaluation and feedback process, where it could assist teachers in grading by providing more accurate and fair assessments (Kölemen, 2024).

In terms of functionality, students would like to see AI tools support more interactive learning, such as generating images for presentations or suggesting relevant websites for research. They also called for improvements in AI's ability to understand and adapt to students' grade levels and learning progress, which could make AI assistance more relevant and targeted (Gong et al., 2020). Overall, students acknowledge the potential of AI to enhance their education but emphasize that its usage should be balanced and accompanied by clear guidelines to prevent over-reliance. The integration of AI should focus on assisting with learning, improving understanding, and providing personalized content, while maintaining fairness, accuracy, and transparency in its application.

CONCLUSION AND RECOMMENDATION

Conclusion

The integration of Artificial Intelligence (AI) in educational settings, particularly at One World International School (OWIS) Riyadh, has shown both promise and challenges. AI tools such as ChatGPT, Gemini, and Canva have emerged as valuable assets for students and teachers, enhancing instruction, engagement, and adaptability in the learning process. The data indicates that a significant percentage of teachers have incorporated AI into their teaching practices, utilizing it for lesson planning, feedback, and differentiated instruction. Meanwhile, a substantial number of students have independently used AI tools, recognizing their ability to simplify complex concepts and support research.

However, concerns persist regarding the over-reliance on AI, particularly in terms of its potential to weaken critical thinking, problem-solving skills, and independent information processing. Both teachers and students have emphasized the need for a balanced approach in which AI serves as an aid rather than a replacement for traditional teaching methods. Ethical concerns, such as data privacy and algorithmic bias, have also emerged as significant challenges that must be addressed to ensure AI is applied responsibly in education. While AI offers numerous advantages, its implementation must be carefully structured to prevent unintended consequences that could hinder cognitive development.

Findings indicate that while AI enhances learning efficiency and adaptability, its long-term viability depends on structured implementation, robust teacher training, data privacy

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safeguards, and thoughtful integration with established pedagogical approaches (Almuhanna, 2024; Holmes et al., 2019). Existing literature suggests that AI is not a passing trend but a transformative tool that, if strategically implemented, will shape the future of education (Zawacki-Richter et al., 2019; Tuomi, 2021). Thus, AI must be integrated in a way that complements traditional teaching while fostering critical thinking and analytical skills in students.

The implementation of AI at OWIS Riyadh has demonstrated both benefits and challenges. AI enhances instructional efficiency and resource accessibility but also raises concerns about cognitive skill development and ethical considerations. A structured, well-balanced approach to AI adoption—ensuring harmony between technology and human interaction—is essential for its long-term sustainability in education.

Recommendations

Based on the findings of this study, several recommendations can be made to optimize the use of AI in educational settings at OWIS Riyadh and beyond:

1. **Promote Balanced AI Integration**: AI should be used to complement, not replace, traditional learning methods. Educators should be trained to incorporate AI in a way that enhances, rather than diminishes, student engagement and critical thinking. For example, AI can assist in differentiated instruction but should not replace the cognitive processes involved in independent problem-solving.

2. **Improve AI Usability**: Both students and teachers have suggested that AI tools be made more user-friendly and adaptable to different learning styles. AI should avoid using overly complex language and should provide concise, relevant responses. It should also be able to adjust content based on the student's grade level and learning pace to ensure it remains relevant and supportive.

3. **Address Ethical Concerns**: Ethical considerations, such as data privacy and algorithmic bias, should be addressed by implementing robust policies and guidelines. AI tools should ensure that student data is securely stored and used only for educational purposes. Furthermore, steps should be taken to minimize bias in AI responses to ensure fairness and equity in its application.

4. **Focus on Critical Thinking**: Teachers should incorporate AI in ways that encourage students to think critically. AI should not simply provide answers but should be used as a tool that sparks inquiry, discussion, and deeper understanding. Students should be encouraged to engage with AI-generated content critically and to question the information provided.

5. **Ongoing Professional Development for Educators**: Continuous training for teachers on how to effectively integrate AI into the classroom is essential. This will help educators stay informed about the latest developments in AI and ensure that they are using these tools to their full potential. Professional development should also include ethical training to address concerns about AI's impact on teaching and learning.

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AI has the potential to significantly enhance education efficiency. However, its integration must be approached thoughtfully, ensuring that it is used responsibly and ethically. Proper planning needs to be implemented for AI to be a valuable tool that complements traditional teaching, fosters critical thinking, and supports diverse learning needs.

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