Artificial Intelligence in Omani High Schools: Examining Students' Awareness, Usage, and Challenges

الذكاء الاصطناعي في المدارس الثانوية بسلطنة عُمان: دراسة استقصائية لوعي الطلبة باستخدام أدواته وتحديات توظيفها

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Badri Abdulhakim Mudhsh[1,*] Hisham Al-Shahri[2,]**

1,2 Preparatory Studies Center, University of Technology and Applied Sciences, Salalah, Sultanate of Oman
* badri.mudhsh@utas.edu.om
** hisham@utas.edu.om

Abstract:

As Artificial Intelligence (AI) rapidly transforms educational settings around the world, yet its integration at the school level remains uneven. Schools in the sultanate of Oman are no exception. Therefore, this large-scale study aims to examine Omani high school students' awareness, usage, and perceived challenges of AI tools, as well as their variation across the demographic factors. Adopting a quantitative, cross-sectional design, data were collected through a five-point Likert scale questionnaire from a sample of 269 students across four schools in Oman. Descriptive statistics were employed to analyze the data. The findings revealed that Omani students demonstrated high levels of awareness and usage of AI tools, along with a moderate level of perceived challenges. In terms of correlational analysis, the results indicated no statistically significant relationships among the three variables, namely awareness, usage, and perceived challenges. However, a week but significant positive correlation was found between awareness and challenges. This suggests that increased engagement with AI tools is associated with the greater recognition of related challenges. Based on the results, it is observed that there is a critical disconnect between students' awareness of AI and their actual usage. This indicates needs for structured pedagogical integration rather than reliance on exposure alone and emphasizes the need to build essential AI literacy in dealing with ethics, privacy, and responsible use. The results are significant for Oman's educational policy as they provide evidence for reforming the curriculum, need for teacher training, and a clear role of AI with reference to Oman Vision 2040.

Keywords: artificial intelligence (AI), awareness, challenges, usage, high schools.

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بدري عبدالحكيم مدهش[1]، هشام الشحري[2]

1،2 مركز الدراسات التحضيرية، جامعة التقنية والعلوم التطبيقية، صلالة، سلطنة عُمان

الملخص

في ظل التطور المتسارع للذكاء الاصطناعي وما يشهده من تحولات متنامية في البيئات التعليمية على مستوى العالم، لا يزال دمج هذه التقنيات في المراحل المدرسية متفاوتاً من سياق تعليمي إلى آخر، ولا تُعد سلطنة عُمان استثناءً من ذلك. وتهدف هذه الدراسة إلى استقصاء مستوى وعي طلبة المدارس الثانوية في سلطنة عُمان بأدوات الذكاء الاصطناعي ومدى استخدامهم لها، فضلاً عن التحديات التي يدركونها عند توظيف هذه الأدوات، مع التركيز على أوجه الاختلاف المرتبطة بالمتغيرات الديموغرافية. اعتمدت الدراسة المنهج الكمي وفق تصميم بحثي مقطعي، حيث جُمعت البيانات من عينة مكونة من 269 طالباً وطالبة من أربع مدارس في سلطنة عُمان، باستخدام استبانة تضمنت فقرات وفق مقياس ليكرت الخماسي. وحُللت البيانات باستخدام الأساليب الإحصائية الوصفية والارتباطية. وأظهرت النتائج ارتفاع مستويات وعي الطلبة بأدوات الذكاء الاصطناعي واستخدامهم لها، مقابل مستوى متوسط من التحديات التي يدركونها في هذا السياق. كما كشفت نتائج التحليل الارتباطي عن عدم وجود علاقات ذات دلالة إحصائية بين المتغيرات الثلاثة الرئيسة، وهي الوعي والاستخدام والتحديات المدركة. ومع ذلك، أظهرت النتائج وجود علاقة ارتباطية طردية ضعيفة ذات دلالة إحصائية بين الوعي والتحديات المدركة، مما يشير إلى احتمال ارتباط ارتفاع مستوى الوعي بأدوات الذكاء الاصطناعي بزيادة إدراك التحديات المرتبطة باستخدامها. وبوجه عام، تشير النتائج إلى احتمال وجود فجوة بين وعي الطلبة بالذكاء الاصطناعي ومستوى انخراطهم الفعلي في استخدام تقنياته، الأمر الذي يبرز أهمية دمج هذه التقنيات في العملية التعليمية ضمن أطر تربوية منظمة، بدلاً من الاكتفاء بمجرد إتاحة الوصول إليها أو التعرض لها. كما تؤكد النتائج ضرورة تعزيز الثقافة الرقمية المتعلقة بالذكاء الاصطناعي لدى الطلبة، ولا سيما فيما يتصل بالاعتبارات الأخلاقية، وخصوصية البيانات، والاستخدام المسؤول لهذه التقنيات. وعلى صعيد السياسات التعليمية، تقدم الدراسة رؤى مستندة إلى أدلة تجريبية يمكن الاستفادة منها في تطوير المناهج الدراسية، وتعزيز برامج التنمية المهنية للمعلمين، ووضع أطر وتوجيهات واضحة لدمج الذكاء الاصطناعي في التعليم المدرسي بسلطنة عُمان، بما يتماشى مع مستهدفات رؤية عُمان 2040.

الكلمات المفتاحية :الذكاء الاصطناعي، الوعي، التحديات، الاستخدام، المدارس الثانوية.

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Introduction

Artificial Intelligence (AI) advances have the potential to revolutionize education by providing tailored learning, instant feedback and assistance in writing processes, all of which are now available directly to students through various learning tools (Mudhsh et al., 2025; Wang et al., 2025; Yotov et al., 2026). On the other hand, several studies (see, for instance, Al-Shahri & Mudhsh, 2025; Vieriu & Petrea, 2025; Holmes et al., 2022) have highlighted that while AI has the potential for supportive learning and engagement, concerns remain, including over-dependance, diminished reflection on the process of knowledge acquisition and ethical issues.

Nevertheless, understanding of learners' perceptions and use of AI is essential for its appropriate integration into education systems. Although studies exploring the benefits of AI writing, problem-solving, and information retrieval confirm its widespread use, with students reporting improved efficiency (Vieriu & Petrea 2025; Yotov 2026) several challenges persist. These include overdependence, shallow learning, and concerns regarding the trustworthiness of AI generated content (Holmes et al., 2022). While students who are aware of AI tend to use it more effectively and ethically, only a few demonstrate a deep understanding (Wang et al., 2025; Yotov, 2026). Such studies claimed the need for professional guidance and clear policies to ensure the responsible use of AI in education.

In the Arab region, particularly in Oman, the implementation of AI in schools is still at its infancy. Oman Vision 2040 which encourages digital innovation and technology-aided learning; however, several studies have addressed that the AI use in schools is limited (Chhabra & Sameer, 2024; Al Juma & Al-Mahdy, 2025). several regional studies (Al-Azzawi et al., 2026; Ali, 2024; Kan et al., 2026), recently, focus on higher education or digital literacy in the workplace, leaving a gap in understanding AI use among school students. Moreover, the interaction between AI and factors such as curriculum, teacher preparedness, and culture appears to differ in this context compared to others.

To conclude, there is a clear research gap pertaining to Omani high school students' awareness of AI, their usage, and the challenges they face. Addressing this gab is critical for formulating policy, curriculum and teacher training that can enable responsible use and integration of AI. The empirical evidence selected from this study explores these aspects and it further reinforces the national agenda of Oman Vision 2040 for empowering innovation, future-readiness of education, and nurturing a digitally skilled generation to enhance educational quality and sustainability. Therefore, this study is set out to address the following research questions:

1. What are the levels of awareness, usage, and perceived challenges of AI tools among Omani high school students?
2. What are the statistically significant relationships among students' awareness, usage, and perceived challenges of AI tools?

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3. Are there statistically significant differences in students' awareness, usage, and perceived challenges of AI tools across demographic variables (gender, grade level, age, and years of AI experience)?
4. Do the strength and direction of the relationships among awareness, usage, and perceived challenges of AI tools vary across demographic groups?

Literature Review

The growing integration of Artificial Intelligence (AI) into education has raised concerns with respect to how it might affect school students' learning, autonomy, and cognitive development. Studies show an increasing trend among school students for using AI tools to write, solve mathematical problems and retrieve information. These studies suggested that generative AI and intelligent tutoring systems are designed to support features central to personalized learning, including immediate feedback on task performance and adaptive teaching practices (Zawacki-Richter et al., 2019; Kasneci et al., 2023; Juma & Al-Mahdy, 2025) which may enhance efficiency and engagement. Nevertheless, questions remain over student over-dependence on AI and the decline in higher-order thinking (Holmes et al., 2022; Selwyn, 2019). For instance, Kasneci et al. (2023) noted that tools such as ChatGPT can increase accessibility but might facilitate shallow learning in absence of guidance. Likewise, Holmes et al. (2022) also noted that students' digital literacy is a central factor influencing AI use, with uninformed or unintended use of AI posing risks possible to ethics and integrity. Briefly, the adoption of AI is essentially a pedagogical and cognitive problem which needs to be structured in terms of educational approaches. Studies of student awareness and application of the AI tools show a considerable variation in levels of knowledge. Students with higher AI literacy use them interrogatively, while others engage interactively (Zhai et al., 2021; Kasneci et al., 2023). For instance, Zhai et al. (2021) found that use of AI writing assistants improve fluency but may reduce deep revision. However, students may perceive AI as a shortcut, potentially undermining long-term learning (Selwyn, 2019; Holmes et al., 2022). Therefore, the effectiveness of AI use depends on students' thoughtful and responsible use.

In the Arab world, AI research in schools is still nearly absent. Digital transformation has evolved rapidly, while AI integration is still relatively immature (Alam, 2021; Alenezi, 2023). Students often demonstrate a superficial understanding of AI; although infrastructure has improved, critical engagement remains limited (Alam 2021). This is supported by Alenezi (2023) study, which found that Gulf students have moderate digital literacy but not a great understanding about AI and therefore the use of this technology is inconsistent. Policy in the area of regional studies emphasizes the reformation of curriculum and teacher training. Arab and Western contexts reflected in students' experiences of AI are shaped by socio-cultural & institutional factors (e.g. traditional teaching and exam-focused).

Within the Omani context, empirical research on AI in school education is still scarce, reflecting the nascent stage of AI integration in the country's educational

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system. However, existing studies on digital transformation and technology use in Omani schools provide valuable insights. Previous research on digital transformation indicates that Omani students have an affirmative attitude toward technology-assisted learning yet they encounter challenges with respect to digital literacy, critical-thinking and self-directed learning (Al-Hadhrami & Al-Mahrooqi, 2019; Al-Shahri & Mudhsh, 2025; Al-Shihi et al., 2022). For instance, Al-Shihi et al. (2022) have found that students tend to use digital tools functionally rather than analytically, revealing a need for deeper integration. Furthermore, studies have highlighted how teacher preparation and curriculum design can create challenges in using AI well (Al-Hadhrami & Al-Mahrooqi, 2019). These studies indicate that the challenges are likely to affect AI adoption among high school students, even if not directly aimed at studying AI. Given the priority afforded to digital transformation in Oman Vision 2040, it is important to comprehend how students engage with AI so that education can be aligned with policy objectives.

To sum up, AI needs awareness, digital literacy and educational support to be effectively used internationally and locally. Regarding the potential of AI, it is real and has the power to transform but with risks associated with dependency and experiential learning. Several Arab studies highlighted challenges related to infrastructure and the curriculum as well as cultural barriers, while Omani research indicates that there are overarching technology integration issues in general likely impeding AI adoption. However, based on all these studies, there is a lack of empirical literature investigating AI awareness, usage and challenges in high school students in Oman. Filling this gap is important for how best to integrate AI into education in a way that is effective and takes the specifics of context where implementation would have to happen.

Method

The study aimed to investigate Omani high school students' awareness, usage and challenges associated with the use of AI tools. The rationale behind conducting the study was to gain a better understanding of how Omani high schools' students are aware of AI tools and their potential impact on their educational experience, how the students use AI tools to learn and potential challenges and limitations associated with its use.

Participants

Data was collected from 269 Omani high school students from four different schools in Oman. Students were enrolled in Secondary school level, i.e., grades 10, 11 and 12. The following table shows the demographic information of the participants:

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Table 1. Descriptive Statistics of Participants' Responses (N = 269)

		N	%
Gender	Male	170	63.2%
	Female	99	36.8%
Grade Level	10	84	31.2%
	11	94	34.9%
	12	91	33.8%
Age	15	66	24.5%
	16	101	37.5%
	17	94	34.9%
	18	8	3.0%
Years of using AI	0-1years	179	66.5%
	2-3 year	72	26.8%
	4 years	18	6.7%

As shown in Table (1), A total of 269 students participated in the study. The sample consisted of 170 males (63.2%) and 99 females (36.8%). Participants were almost evenly distributed across grade levels, with 31.2% in Grade 10, 34.9% in Grade 11, and 33.8% in Grade 12. In terms of age, most students were between 15 and 17 years old: 24.5% were 15 years old, 37.5% were 16, 34.9% were 17, and only 3.0% were 18 years or older. Regarding experience with AI tools, the majority (66.5%) reported using AI for 0–1 year, followed by 26.8% with 2–3 years of experience, and 6.7% with four years of AI usage. Overall, the sample is characterized by a male majority, balanced grade-level representation, and generally low to moderate experience with AI technologies

Instruments

Using a five-point Likert scale questionnaire to assess the internal consistency of the study constructs, Cronbach's Alpha coefficients were calculated for all multi-item scales. The results demonstrated acceptable to excellent reliability across the three dimensions measured.

Table 2. Reliability statistics

	Cronbach's Alpha	N of Items
Awareness of AI	.816	5
Usage of AI	.815	5
Challenges of AI	.712	5

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The Awareness of AI scale, consisting of five items, achieved a Cronbach's Alpha of 0.816, indicating high internal consistency. Similarly, the Usage of AI scale (five items) showed a Cronbach's Alpha of 0.815, which also reflects high reliability. Finally, the Challenges of AI scale reported a Cronbach's Alpha of 0.712 across its five items, representing acceptable internal consistency per conventional thresholds (≥ 0.70). Overall, the reliability results confirm that all scales used in the study are internally consistent and suitable for subsequent statistical analyses such as correlation, regression, or structural modeling.

Results

Descriptive statistics

Table 3. Awareness of AI

	Mean	SD
I am aware of the concept of Artificial Intelligence (AI).	3.77	.949
Students in my school know that AI tools are used in education.	3.75	.955
I know several AI tools like ChatGPT, Chatbots, DeepSeek, and Copilot.	3.88	.825
AI tools help me learn and improve my academic performance.	3.87	.767
I am aware of the ethical issues related to using AI in education.	3.83	.876
Overall Awareness of AI	3.82	.66542

Descriptive statistics were calculated to examine participants' levels of awareness regarding artificial intelligence in education. As shown in Table (3), the mean scores for all items ranged between 3.75 and 3.88, indicating generally high levels of awareness among participants.

Participants reported being highly aware of the concept of AI (M = 3.77, SD = 0.949) and acknowledged that students in their school are familiar with the use of AI tools in educational settings (M = 3.75, SD = 0.955). They also demonstrated strong familiarity with commonly used AI tools such as ChatGPT, chatbots, DeepSeek, and Copilot (M = 3.88, SD = 0.825). Furthermore, participants agreed that AI tools assist in enhancing their learning and academic performance (M = 3.87, SD = 0.767). Awareness of ethical considerations related to AI use in education was also high (M = 3.83, SD = 0.876). Overall, the composite mean score for the Awareness of AI scale was 3.82 (SD = 0.665), reflecting a generally high level of awareness among the respondents.

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Table 4. Usage of AI

	Mean	SD
Using AI tools helps me with homework and assignments.	4.00	1.006
AI tools are part of my study routine to improve learning outcomes.	3.75	1.089
I use AI tools to help me find creative and sustainable solutions academic problems.	3.80	.947
I use AI tools to find extra learning materials.	3.74	1.002
I use AI tools regularly to assess and evaluate my assignments.	3.74	1.015
Overall Usage of AI	3.81	.76788

Descriptive statistics were calculated to assess the extent to which participants utilize AI tools in their academic activities. As shown in Table (4), the mean item scores ranged from 3.74 to 4.00, indicating a moderately high level of AI usage among respondents.

Participants reported that using AI tools helps them complete homework and assignments (M = 4.00, SD = 1.006), which represents the highest mean score within this construct. They also indicated that AI tools assist in finding creative and sustainable solutions to academic problems (M = 3.80, SD = 0.947) and are used to obtain additional learning materials (M = 3.74, SD = 1.002). Moreover, respondents used AI tools as part of their study routine to improve learning outcomes (M = 3.75, SD = 1.089), and some reported using AI tools regularly to assess and evaluate their assignments (M = 3.74, SD = 1.015). Overall, the composite score for the Usage of AI scale was 3.81 (SD = 0.768), reflecting a generally above-average level of AI utilization in students' academic practices.

Table 5. Challenges of AI

	Mean	SD
I find it difficult to use AI tools effectively.	2.96	1.223
I am concerned about my privacy and data security when using AI tools.	3.64	1.054
Teachers do not encourage the use of AI tools.	3.46	1.151
I am not aware of the policies and ethics of using AI tools.	3.33	.977
We have limited access to AI tools at our school.	3.65	.929

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	Mean	SD
Overall Challenges of AI	3.41	.7306

Descriptive statistics were computed to examine the extent to which students experience difficulties or concerns related to the use of AI tools. As presented in Table (5), the mean values for the items ranged from 2.96 to 3.65, indicating a moderate level of perceived challenges among participants.

The lowest-rated challenge was the difficulty of using AI tools effectively (M = 2.96, SD = 1.223), suggesting that most students do not strongly struggle with operational use. However, several concerns scored higher. Students expressed notable worries about privacy and data security when using AI tools (M = 3.64, SD = 1.054). They also reported that teachers do not sufficiently encourage the use of AI in learning (M = 3.46, SD = 1.151). Additionally, participants indicated limited awareness of the policies and ethical guidelines governing AI use (M = 3.33, SD = 0.977), alongside concerns about limited access to AI tools in their schools (M = 3.65, SD = 0.929), which emerged as one of the highest perceived barriers. Overall, the composite mean score for the Challenges of AI scale was 3.41 (SD = 0.731), reflecting a moderate level of challenges associated with AI usage among the students surveyed.

Table 6. Correlational analysis

		Awareness of AI	Usage of AI	Challenges of AI
Awareness of AI	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	269		
Usage of AI	Pearson Correlation	.047	1	
	Sig. (2-tailed)	.446		
	N	269	269	
Challenges of AI	Pearson Correlation	-.047-	.163**	1
	Sig. (2-tailed)	.445	.007	
	N	269	269	269

****. Correlation is significant at the 0.01 level (2-tailed).**

Pearson correlation coefficients were computed to examine the relationships among Awareness of AI, Usage of AI, and Challenges of AI. The results are presented in Table (6). The analysis showed no significant relationship between Awareness of AI and Usage of AI (r = 0.047, p = 0.446). This indicates that participants' level of awareness of AI does not necessarily translate into higher usage levels. Similarly, Awareness of AI was not significantly correlated with Challenges

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of AI (r = –0.047, p = 0.445), suggesting that the degree of awareness does not meaningfully relate to the challenges perceived by participants. In contrast, a significant positive correlation was found between Usage of AI and Challenges of AI (r = 0.163, p = 0.007). Although the association is weak, it indicates that as participants use AI more frequently, they tend to report slightly higher levels of challenges. Overall, the results suggest that awareness alone does not predict usage or perceived challenges, while actual usage is modestly associated with the challenges experienced.

Table 7. Differences according to demographic

	test	Awareness of AI	Usage of AI	Challenges of AI
Gender	Man-Whitney U	.262	.790	.206
Grade level	Kruskal-Wallis H	.313	.177	.011*
Age	Kruskal-Wallis H	.182	.174	.002*
Years of Using AI	Kruskal-Wallis H	.264	.504	.296

Non-parametric tests were conducted to examine whether participants differed in Awareness of AI, Usage of AI, and Challenges of AI based on demographic characteristics. The Mann–Whitney U test was used for gender, while the Kruskal–Wallis H test was applied for grade level, age group, and years of using AI.

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Discussion

This study aims to examine the Omani high school students' awareness, usage, and perceived challenges of AI tools. It also examined the relationships among these variables and the differences across demographic groups. In this section, the findings are discussed in relation to the four proposed research questions. Notably, the results provide important observed insights into a relatively under examined context and contribute to the literature on the AI integration in Omani schools' education and beyond.

Regarding the first research question, which examined the levels of Omani high school students' awareness, usage, and perceived challenges of AI tools, the results revealed that students reported high levels of awareness (M=3.82) and their actual usage (M=3.81) of AI tools, along with a moderate level of perceived challenges (M=3.41). These findings indicate that AI tools have become integrated into students' learning practices, even though the formal integration of such AI tools in education remains limited to a certain extent. These results align with prior studies indicating an increase in availability and widespread use by students of AI tools, for academic support activities. As a result, these activities are characterized by activities which include, but not necessarily limited to writing assistance, complex problem-solving, and efficient information retrieval as Kasneci et al. (2023), and Yotov et al. (2026).

A similar, though slightly higher, level of awareness was also found in present study, despite earlier research indicating that students possessed only a basic understanding of AI (Alam, 2021; Alenezi, 2023). This might reflect the rapid spread of generative AI tools, which has exposed students to these technologies at an earlier stage. however, as previously noted by Holmes et al. (2022) and Selwyn (2019), high levels of awareness do not necessarily indicate a sophisticated or critical understanding of AI.

While the moderate level of perceived challenges also suggests that there are still constraints affecting AI adoption among students. These findings are consistent with earlier studies showing that students express concerns related to privacy, limited access, and a lack of institutional support, reflecting broader infrastructural and policy barriers within Arab educational contexts (Ali, 2024; Al-Shahri & Mudhsh, 2025). Moreover, challenges further indicate that, although the technical usability of AI tools was associated with relatively low levels of difficulty, the major barriers to effective adoption are more closely related to guidance, regulation, and equitable access.

For the second research question, which examined the correlation levels between Omani high school students' awareness of and actual usage and challenges that they face with AI tools, it was found that a large number of students expressed no statistically significant correlations between their awareness and their usage ($r = .047$, $p > .05$) between awareness and challenges ($r = -.047$, $p > .05$)**. While this suggests that awareness may not always lead to more use or reduced challenges, it

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disputes an assumption in much of the literature whereby awareness drives adoption (Wang et al., 2025; Zhai et al., 2021). Awareness alone, however, does not appear to makes a difference in engaging students in steps beyond awareness where there is either no institutional support or outside of teacher influence (where most long-term integrated curriculum ideas can be found). A weak but notable positive correlation was found between AI use and challenges (r =. 163, p <. 01) was detected putting forward a slight boost to both perceived challenges of requiring more involvement with AI. This is consistent with the idea that deeper use of AI raises awareness of its limitations, ethics and risks (Holmes et al., 2022). AI experience underscores the complexities of this shift and points to a need for guidance and digital literacy.

Regarding the third research question, which examined the demographic differences of Omani high school students, the analysis revealed that there were no significant differences in AI awareness, usage, or challenges by grade, gender or AI experience suggesting similar levels of AI engagement between these groups. This is consistent with research using generative AI tools that demonstrate little differ by gender or grade (Kasneci et al., 2023). Differences in perceived challenges were significant between the grade levels (p=. 011) and age groups (p =. 002), demonstrating that students' levels of experience with AI difference over age. The tasks become more complex for older students, and AI is increasingly being used with a growing awareness that the tool is limited. This buttresses studies showing that the cognitive maturity and academic requirements also influence students use of digital devices (Selwyn, 2019).

Although subgroup correlations were not examined in this study, the fourth research question examined the strength and direction of the relationships among the variables. The noticed variations across age and grade levels suggest that students' awareness, usage, and challenges related to AI tools may differ among students' groups. This indicates experienced students might have a somewhat more critical view of AI, which may blur the association between use and challenges. This interpretation is consistent with sociocultural concepts positing that the use of digital tools is context and development bound (Al-Hadhrami & Al-Mahrooqi, 2019). These variations could be tested empirically in future research using more advanced statistics (e.g., multi-group analysis or moderation models).

Recommendations

This study is aligned with the strategic objectives of Oman Vision 2040 that emphasizes the need for digitization and AI integration across all learning domains. It argues for a formal and structured integration of AI into the school curriculum, moving beyond superficial awareness or passive engagement with AI tools. Moreover, it advocates for responsible and informed utilization of AI tools. In addition, educators should have the relevant, specific professional development and training programs to provide them with AI tools to more effectively drive new AI-assisted learning methods in their classroom. Beyond pedagogical preparedness, robust national and institutional policies to regulate the ethical academic and

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appropriate use of AI technologies that address students' concerns related to privacy, data security, and current weaknesses in institutional support mechanisms. As equitable access to the tools and resources required for AI integration in schools is not yet in accessible, improving access for all schools and numerous educational institutions will mitigate the disadvantages of digitalization. Finally, teachers should boost and stimulate students' capacity to work with AI technologies in a reflective manner, enabling them to become independent learners without the risk of overreliance or dependency on technological solutions.

Conclusion

This study examined the awareness, use and challenges of AI tools among Omani high school students and their associations with demographics factors. Results indicated that Omani high school students are familiar with AI tools used extensively, but moderate challenges exist with regards to privacy concerns, access and institutional support. The study demonstrated that knowing about AI does not ensure its use, or that fewer problems are encountered. Without a substantial relationship between experience and both usage and challenges, exposure does not guarantee effective engagement. accordingly, there is a weak positive relationship between usage and challenges which indicates that the guidance use rises linked to students' knowledge of specific restrictions and dangers that attendant with more AI better understanding how AI takes advantage in educational practice. The results revealed gender, grade and experience differences at tabular levels with students engaging with AI in similar ways, suggesting widespread access to AI tools. Yet, age and grade-related differences in perceptions of challenges indicate developmental and academic influences. A more systematic framework is needed as the current AI use in Omani schools is informal, student-led and unsupported inherently pedagogically according to the study.

The gap this study addresses in Omani and Arab education system is reflective of an ongoing global discourse regarding AI in schools, appealing to national digital transformation policies. It emphasizes that proper AI implementation needs technological access, pedagogical fit, ethical recognition and institutional willingness.

AI Usage Disclosure

The authors used AI-assisted tools for language editing and improving clarity. No AI tools were used for generating references, interpreting data, or producing original research content. All intellectual contributions and final decisions were made by the authors.

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العام	2022	2023	2024	2025	2026
معامل أرسيف	0.1954	0.3759	0.3068	0.5978	0.4135
معامل التأثير العربي	1.73	1.25	1.55	1.59	1.58