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Teachers' Lived Experiences of Using Artificial Intelligence as Support in Modular Distance Learning

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Index Terms:

artificial intelligence; modular distance learning; teachers' lived experiences; ai literacy; educational technology; professional growth

Abstract. The rapid advancement of artificial intelligence (AI) in education globally signifies a substantial transformation in pedagogical paradigms, offering personalized learning and resource optimization while presenting critical ethical challenges, such as data privacy and algorithmic bias. This study examined teachers' experiences utilizing AI to support modular distance learning. Utilizing a qualitative phenomenological research design, this study involved 11 graduate student teachers selected through purposive sampling. Data were collected through semi-structured interviews and analyzed using thematic analysis to identify significant patterns and common meanings. The findings revealed four major themes: increased work efficiency and productivity; instructional support and enhancement; challenges and ethical concerns; and professional growth and pedagogical adjustment. Teachers reported that AI tools—particularly generative platforms such as ChatGPT and design-based applications such as Canva—streamlined lesson planning, activity creation, module preparation, and feedback generation. AI was perceived as a practical co-support tool that improved clarity, personalization, and overall instructional quality. However, participants also identified challenges, including unstable Internet connectivity, potential inaccuracies in AI-generated content, risks of overreliance, and concerns related to academic integrity. These challenges prompted greater critical awareness and responsible use among teachers. Importantly, AI integration fosters professional growth by enhancing digital competence, reflective practice, and adaptive teaching strategies. The study concludes that AI in modular distance learning functions simultaneously as a productivity enhancer, instructional support mechanism, ethical challenge, and catalyst for professional growth. Effective integration requires institutional support, structured AI literacy training, and ethical implementation frameworks to ensure the responsible and equitable use of AI in educational contexts.

Introduction

Artificial Intelligence (AI) is making big waves in education all around the world. It's changing the way we teach and learn by using adaptive, personalized, and data-driven methods (Negrete et al., 2025). AI can be considered a game-changer in technology, facilitating personalized learning experiences, automating content creation, and boosting teaching efficiency with tools such as generative AI and adaptive learning systems (Almasri, 2024; Cecchini et al., 2024). Schools and universities are adopting these technologies to create more dynamic, interactive, and responsive learning environments. This shift is helping students engage more deeply and achieve better academic results (Kazimova et al., 2025). However, there are significant concerns regarding data privacy, security, algorithmic bias, and the ethics of using AI

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in education. These issues remind us to implement AI responsibly, evaluate it critically, and monitor regulations (Yerbabuena Torres et al., 2024). Additionally, the COVID-19 pandemic accelerated the transition to digital and flexible learning, making AI technologies even more essential in education worldwide (Almasri, 2024).

In the Philippines, modular distance learning has become a key educational approach during disruptions, such as the COVID-19 pandemic. It has helped maintain learning with printed and self-directed materials (Bustillo & Aguilos, 2022). However, this change has entailed a significant increase in workload for teachers, particularly in preparing, organizing, and distributing modules, while managing limited resources and technological challenges (Rogelio A. Murro et al., 2023). To assist teachers, AI tools such as ChatGPT, Canva, and Grammarly have been increasingly used for lesson planning, content creation, and assessment making. This shift demonstrates that schools are beginning to recognize the importance of integrating AI and boosting digital literacy, with support from groups like the Department of Education (DepEd) (Cacho, 2024; Cresencio, 2023). Nevertheless, there are obstacles to the effective and fair use of AI, such as unstable internet connections, unequal access to digital tools, and insufficient training programs for teachers (Bustillo & Aguilos, 2022). Locally, teachers are exploring AI tools to create teaching materials, clarify content, and enhance productivity and efficiency (Espartinez, 2025). While AI facilitates faster execution and reduces workload, educators emphasize the need to carefully verify AI-generated work and caution against over-reliance on it, as it may compromise academic integrity and independent thinking (Moya Figueroa & Eaton, 2023). In addition, the introduction of AI is transforming teaching methods, professional development, and digital skills, highlighting the necessity to consider teachers' real-life experiences to gain deeper insights that can guide responsible AI use and policy-making (Gibson et al., 2023).

While there is a substantial body of literature on AI in education, much of the existing research tends to focus on its effectiveness, impact on student outcomes, and general technology integration. There are relatively few studies that delve into teachers' lived experiences, especially within the context of modular distance learning and in developing countries such as the Philippines. Furthermore, there seems to be a scarcity of in-depth qualitative evidence that captures how teachers practically utilize AI in their daily instructional practices, the specific challenges they encounter, and the strategies they employ to address these challenges. Additionally, only a limited number of studies examine AI's dual role as both a supportive instructional tool and a source of ethical and pedagogical concerns. To address these gaps, the present study adopts a phenomenological approach to explore and document teachers' lived experiences in using AI to support modular distance learning. It aims to generate nuanced and contextually grounded insights that can inform policy formulation, guide targeted professional development initiatives, and promote the responsible, ethical, and effective integration of AI in education.

Statement of the Problem

This study explored teachers lived experiences of using artificial intelligence (AI) to support modular distance learning. Specifically, it seeks to answer the following questions:

1. What are the lived experiences of teachers in using artificial intelligence to support modular distance learning?
2. How do teachers integrate artificial intelligence tools in the preparation and delivery of modular learning materials?
3. What challenges and insights emerge from teachers' use of AI in modular distance learning?

Methodology

Research Design

In this study, a qualitative research design steeped in the rich soil of phenomenology was employed to delve into the intricate tapestry of teachers' lived experiences as they navigated the uncharted waters of artificial intelligence (AI) in modular distance learning. Phenomenology was the chosen compass, guiding the exploration of the very essence of these experiences by illuminating how participants perceived, interpreted, and wove meaning from the threads of AI integration into their teaching practices. Rather than quantifying variables, this research sought to capture the vivid, first-hand narratives of teachers' realities, encompassing their cognitive, emotional, and professional responses to the adoption of AI. The phenomenological approach allowed for a profound exploration of shared patterns of experience while honoring the unique narrative of each participant, like individual stars in a vast constellation.

Participants and Sampling Technique

The study participants comprised 11 graduate student teachers with experience using artificial intelligence (AI) tools in modular distance learning. Respondents were selected using purposive sampling to ensure that only individuals with

relevant experience and knowledge of the phenomenon were included in the study. Specifically, participants were chosen based on the following criteria: they were currently enrolled as graduate students, had teaching experience in modular distance learning, and had used AI tools such as ChatGPT, Grammarly, Canva AI, or similar platforms to prepare or deliver modular learning materials. This sampling technique ensured that the gathered data were rich, relevant, and directly aligned with the study objectives.

Research Instrument

The primary research instrument used in this study was a researcher-developed semi-structured interview guide. The instrument was designed to collect both demographic information and in-depth responses related to the research questions of this study. The first part of the interview gathered the participants' profiles, including their years of teaching experience, subject area taught, years of experience in modular distance learning, and the AI tools they used. The second part consisted of open-ended questions focusing on their lived experiences using AI, how they integrated AI tools in preparing and delivering modular learning materials, and the challenges and insights they encountered. Follow-up questions were used to probe deeper into participants' responses and obtain more detailed explanations and examples. The interview guide was carefully reviewed to ensure clarity, coherence, and alignment with the study objectives.

Data Gathering Procedure

Prior to conducting the study, the researcher sought permission and informed the participants about the purpose, procedures, and nature of the research. Informed consent was obtained from each participant before the interview. Data were collected through individual semi-structured interviews, which were conducted either face-to-face or through online platforms, depending on the participants' availability and preference. Each interview lasted approximately 30–45 minutes. With the participants' consent, the interviews were audio-recorded to ensure the accuracy and completeness of the data. The recorded interviews were transcribed verbatim to prepare them for analysis. Throughout the data-gathering process, confidentiality and anonymity were strictly observed.

Data Analysis Procedure

The collected data were analyzed using thematic analysis to identify patterns and themes that emerged from the participants' responses. After transcribing the interviews verbatim, the researcher carefully read and re-read the transcripts to gain familiarity with the data. Significant statements and meaningful units related to the research questions were identified and systematically coded. These codes were then grouped into categories from which broader themes were developed. The themes were reviewed and refined to ensure that they accurately represented the participants' experiences. Finally, comprehensive descriptions were constructed to capture both what the participants experienced and how they experienced it, allowing the researcher to present the essence of teachers' experiences in using AI to support modular distance learning.

Ethical Considerations

Ethical principles were strictly observed throughout the study. The participants were fully informed about the purpose of the research, the procedures involved, and their right to withdraw from the study at any time without any penalty. Participation was entirely voluntary, and informed consent was obtained prior to data collection. To protect the participants' identities, pseudonyms were used in reporting the findings, and all personal information was kept confidential. Audio recordings and transcripts were securely stored and accessed only by the researchers. This study ensured that no physical, emotional, or professional harm would result from participation, thereby maintaining respect, integrity, and accountability in the research process.

Results and Discussion

Demographic Profile of Teacher Respondents in Modular Distance Learning

Variable	Category	Frequency
Years of Teaching Experience	1–5 Years	5
	6–10 Years	3
	11–15 Years	1
	16 Years and Above	2
Years of Experience in Modular Distance Learning	1 Year	3

	2 Years	6
	3 Years	2
Subject Area Taught	General Subjects	1
	English	1
	Filipino	1
	MAPEH	2
	Values Education	2
	Social Studies	1
	General Education	1
	Multiple Subjects (English, Math, Science, etc.)	2

Table 1 Demographic Profile of the Respondents

Table 1 presents the demographic profiles of the 11 participants. Regarding teaching experience, most participants (n = 5) had 1–5 years of experience, followed by three (n = 3) with 6–10 years, one (n = 1) with 11–15 years, and two (n = 2) with 16 years and above. This indicates a mix of early career and experienced teachers. Regarding modular distance learning, the majority (n = 6) had two years of experience, while three (n = 3) had one year, and two (n = 2) had three years. This suggests that most respondents were involved in modular learning during the recent implementation period. In terms of the subject areas taught, respondents came from various disciplines, including MAPEH, values education, English, Filipino, social studies, general education, and multiple subject areas. This diversity shows that AI use in modular distance learning spans different academic field

Distribution of Artificial Intelligence Tools Used by Teachers in Modular Distance Learning

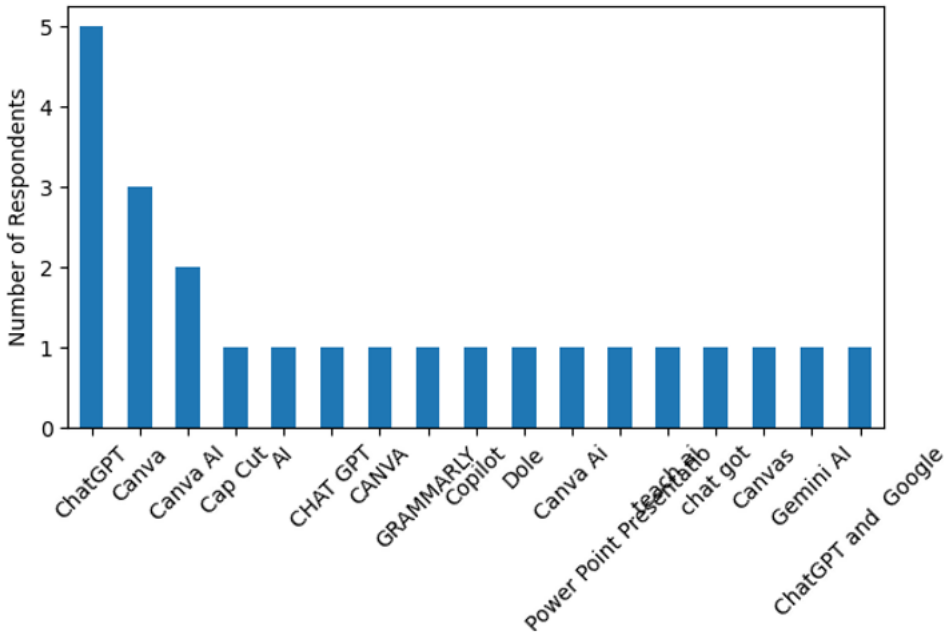

Figure 1 AI tools used (e.g., ChatGPT, Grammarly, Canva AI, etc.)

Figure 1 presents the distribution of artificial intelligence (AI) tools utilized by the respondents to facilitate modular distance learning. The findings indicate that ChatGPT emerged as the most frequently employed AI tool, with five (5) respondents acknowledging its use. This suggests that ChatGPT functions as the primary AI support tool among educators, likely because of its accessibility, versatility in content generation, and utility in lesson planning, assessment creation, and module development. Canva was identified as the second most frequently used tool, with three (3) respondents employing it for instructional material design and visual content preparation. This implies that educators appreciate AI-assisted design platforms for enhancing the visual appeal and clarity of modular teaching materials. Other tools, such as Canva AI, were reported by two (2) respondents, while several additional tools, including Grammarly, Copilot, Gemini AI, and PowerPoint Presenter AI, were mentioned by one (1) respondent each. The presence of multiple tools with single-user frequency

reflects exploratory and individualized adoption patterns, where educators experiment with different AI platforms based on their instructional needs and familiarity levels. The distribution further suggests that while AI integration is evident, it remains concentrated in a few dominant tools, particularly ChatGPT. \ Overall, the findings underscore that AI adoption in modular distance learning is both expanding and diverse, with generative AI tools playing a central role in providing instructional support to teachers.

Themes of Teachers' Lived Experiences in Using Artificial Intelligence in Modular Distance Learning

Theme	Description	Respondents
Increased Work Efficiency and Productivity	Teachers described AI as making their tasks easier, faster, more organized, and more convenient for preparing modular materials and learning activities.	R1: "It makes my work more efficient and organized." R3: "Easily done." R5: "Everything went smoothly when I used ChatGPT." R6: "It makes work easier and more activities could be created." R9: "It helps improve my learning activity and content." R11: "Helped me understand lessons better and finish tasks faster."
Instructional Support and Enhancement	AI is perceived as a tool that improves clarity, enhances learning activities, and supports content delivery and personalization.	R2: "It's a powerful tool for clarity, but it requires careful checking." R4: "It helps improve learning efficiency and personalization." R7: "It helps a lot, especially in elementary level." R10: "It helps improve my learning activity and content delivery."
Reduced Workload and Task Burden	AI can help teachers reduce their workload, particularly in correcting grammar and completing routine tasks.	R8: It makes work easier and precise

Table 2 Themes on Teachers' Lived Experiences in Using Artificial Intelligence as Support in Modular Distance Learning

Table 2 highlights how teachers view artificial intelligence (AI) as a helpful tool that boosts their work efficiency, improves the quality of their teaching, and lightens their workload in modular distance learning. Teachers have noted that AI helps them complete tasks more quickly, organize their lessons better, and enhance the clarity and delivery of their teaching materials. This indicates that AI serves not only as a productivity booster but also as a teaching aid that supports effective educational practices. These insights align with earlier studies showing that AI technologies can enhance instructional design and take over routine teaching tasks (Almasri, 2024). Moreover, integrating AI encourages meaningful learning experiences and boosts teaching efficiency (Gibson et al., 2023). Additionally, well-crafted instructional materials play a key role in effective teaching and better learning outcomes (Anselmo, 2023). Similarly, teachers' awareness and readiness to use AI are crucial for successfully integrating technology into education (Anselmo et al., 2026).

Integration of Artificial Intelligence in Preparing and Delivering Modular Learning Materials

Theme	Description	Respondents
Content and Lesson Development	Teachers integrated AI into lesson guides, created learning activities, prepared modules, generated feedback, and developed instructional materials.	R1: "I use AI to draft lesson guides, create activities…" R5: "I integrate Artificial Intelligence in preparing modules." R9: "Lesson draft and motivation." R10: "Can help create lessons, activities, and feedback."
Task and Activity Preparation	AI can be used to generate and organize tasks or activities for students.	R2: "Automatically translate or transcribe content." R6: "Tasks to be given to students were done using AI."
Instructional Support During Delivery	AI tools are utilized during online classes and teaching to support explanations and enhance instruction.	R4: "By using it during online class." R7: "By using the AI apps in searching for answers."

Time-Saving and Practical Assistance	Teachers use AI to save time, simplify difficult tasks, and select helpful content for modules.	R3: "Supplement my activity in terms of hard time." R8: "AI is very easy to use so I save a lot of time." R11: "By taking what can be helpful."

Table 3 Integration of Artificial Intelligence in Preparing and Delivering Modular Learning Materials

Table 3 illustrates the active integration of artificial intelligence (AI) by educators in the preparation and delivery of modular learning materials. This integration encompasses content development, task preparation, instructional support, and time-saving assistance. Educators frequently utilize AI to draft lessons, create activities, generate feedback, and organize learning tasks, underscoring AI's significant role in enhancing instructional preparation and delivery. This indicates that AI facilitates more efficient and structured teaching practices, particularly in modular distance learning, where preparation is time-intensive. Furthermore, AI enables educators to simplify complex tasks and select pertinent content, thereby enhancing the overall quality of instruction. This finding is consistent with research emphasizing the importance of teachers' awareness and readiness for the effective integration of AI in education (Anselmo et al., 2026). Additionally, the incorporation of technology in teaching enhances critical thinking and instructional strategies, contributing to improved learning experiences (Anselmo et al., 2025). Moreover, the integration of digital tools, such as AI, enhances student engagement and supports improved learning outcomes through more accessible and interactive instructional materials (Anselmo et al., 2026). This is further corroborated by studies highlighting that AI enhances instructional design and promotes adaptive and efficient teaching practices in contemporary education (Almasri, 2024).

Challenges and Insights in the Use of Artificial Intelligence in Modular Distance Learning

Theme	Description	Respondents
Internet Connectivity Issues	Teachers identified unstable or limited Internet access as a major challenge affecting AI use and modular learning preparation.	R2: 'Lessons must now focus[...] on online validation'. R3: "Stability of internet connection." R4: "Should have a strong internet connection." R6: "If no internet connection, learning will be suspended." R9: "Internet."
Accuracy and Need for Validation	Respondents emphasized that AI-generated content must be checked carefully because of possible inaccuracies and misinformation.	R1: "AI-generated content sometimes…" R7: "Validation is needed." R10: "Possible inaccuracies."
Overreliance and Academic Integrity Concerns	Some teachers observed the risks of overdependence on AI and related issues, such as students copying content without critical thinking.	R8: "Copycat ideas – learners just copy and paste." R11: "Challenges may include overreliance."
Need for Critical Evaluation Skills	Teachers recognized the importance of guiding students to evaluate information and use AI responsibly.	R5: "Challenges I encountered…' (Monitoring responsible use).

Table 4 Challenges and Insights in Using Artificial Intelligence in Modular Distance Learning

Table 4 discusses the challenges and insights teachers face when using artificial intelligence (AI) in modular distance learning. It highlights key issues, such as internet connectivity problems, the need to validate AI-generated content, the risks of overreliance, and the importance of honing critical evaluation skills. The findings show that shaky or limited internet access can hamper the effective use of AI tools, especially in schools with fewer resources. Teachers also pointed out that AI-generated content might not always be accurate; therefore, it needs careful checking to ensure the quality and reliability of teaching materials. There are also concerns about overreliance and academic integrity, particularly with students who might lean too heavily on AI-generated outputs without engaging in critical thinking. These findings suggest that, while AI can offer great instructional benefits, it also brings ethical and practical challenges that must be addressed. This is supported by studies that stress the importance of using AI responsibly and maintaining academic integrity in educational settings (Moya Figueroa & Eaton, 2023). Moreover, research underscores the need for critical evaluation and informed use of AI to ensure meaningful learning and effective teaching practices (Gibson et al., 2023).

Follow-Up Responses on AI Application, Professional Impact, and Teaching Practice Adjustments in Modular Distance Learning

Theme	Description	Respondents
Practical Application of AI in Instruction	The teachers provided specific examples of using AI to draft lessons, create activities, prepare assessments, correct grammar, and generate instructional materials.	R1: AI is used to draft lesson guides and activities. R5: Integrated AI in preparing modules and tasks. R6: AI is used to create tasks for students. R9: AI was used for lesson drafts and motivation activities. R10: AI is used to generate lessons, activities, and feedback.
Professional Growth and Increased Efficiency	The respondents reported that AI improved their efficiency, enhanced lesson clarity, and strengthened their digital skills as educators.	R2: Although AI is powerful, it requires checking and improving evaluation skills. R4: AI improves learning efficiency and personalization. R7: AI has helped significantly, especially with elementary instruction. R11: AI helped me complete tasks faster and better understand the lessons.
Need for Critical Evaluation and Responsible Use	Teachers recognized the importance of validating AI-generated content and guiding students to avoid over-reliance and misuse.	R1: AI-generated content sometimes requires careful verification R7: Validation is necessary when using AI in medicine. R8: Learners tend to copy and paste outputs from the Internet. R10: AI may lead to overreliance and possible inaccuracies.
Adjustment in Teaching Practices	Teachers made changes by becoming more cautious, setting clearer guidelines, and encouraging the responsible use of AI.	R3: Recognized the need for a stable Internet connection and proper integration. R8: Became more attentive to student misuse. R11: Became more mindful of balancing AI use with personal teaching input.

Table 5 Follow-Up Responses: Specific Examples, Professional Impact, and Changes Made

Table 5 presents the follow-up responses of teachers regarding the application of artificial intelligence (AI), its impact on their professional practices, and the adjustments they made in modular distance learning. The findings reveal that teachers thoughtfully apply AI in various instructional tasks, such as drafting lessons, creating activities, preparing assessments, and generating instructional materials, demonstrating its usefulness as a supportive tool in teaching. Moreover, teachers have reported that AI has contributed to their professional growth by improving efficiency, enhancing lesson clarity, and strengthening their digital skills. However, the results also highlight the importance of critical evaluation and responsible use, as teachers have recognized the need to validate AI-generated content and guide students in avoiding overreliance. In response to these challenges, teachers have adjusted their teaching practices by becoming more cautious, setting clearer guidelines, and maintaining a balance between AI use and their own pedagogical input. These findings suggest that while AI enhances instructional practices and professional development, its effective integration requires reflective teaching and responsible use. This aligns with studies emphasizing that AI can support teaching efficiency and innovation when used critically and ethically (Almasri, 2024). Furthermore, the integration of AI in education encourages adaptive teaching practices and continuous professional development among educators (Gibson et al., 2023).

Discussion Analysis

Figure 2. Conceptual Coding Tree of Teachers' Experiences Using Artificial Intelligence in Modular Distance Learning
Source: Author's processing with the help of Ligre v.6.5.1 (Logiciels Ex-l-tec, 2024).

Figure 2 presents a compelling conceptual coding tree derived from a thematic analysis of teachers' lived experiences with artificial intelligence (AI) in modular distance learning. This diagram powerfully illustrates the interconnected themes that emerged from participants' responses, underscoring AI's transformative role in education. Notably, AI significantly boosts work efficiency and productivity, offers unparalleled instructional support and enhancement, and fosters professional growth and pedagogical adjustment. These themes unequivocally demonstrate that AI is not merely a productivity tool aiding teachers in lesson preparation and content development; it is a revolutionary mechanism that enhances instructional clarity and supports personalized learning. However, the presence of challenges such as internet limitations, content accuracy issues, and overreliance underscores the urgent need for critical evaluation and responsible AI use. The dynamic interplay of these themes suggests that AI integration is a transformative process that elevates teaching practices while demanding continuous reflection and adaptation from educators. This finding resonates with studies affirming that when integrated effectively, AI can dramatically enhance instructional efficiency and innovation (Almasri, 2024). Furthermore, research emphatically highlights that AI in education promotes adaptive teaching practices and supports the development of more responsive and learner-centered instructional approaches (Gibson et al., 2023). Additionally, the integration of cutting-edge technologies in education fortifies pedagogical practices and significantly boosts both teacher and student engagement in modern learning environments (Ellorin et al., 2024). Similarly, technology-enhanced learning tools, such as immersive and AI-supported systems, are pivotal in advancing teaching strategies and enriching learning experiences in science education (Anselmo et al., 2024).

Conclusion

This study examined the lived experiences of educators utilizing artificial intelligence (AI) as a support mechanism in modular distance learning. The results suggest that AI significantly enhances instructional efficiency and content quality while alleviating workload. Educators have incorporated AI throughout the instructional process, from lesson planning to material delivery, underscoring its practical utility in modular settings. However, the effective integration of AI is contingent on infrastructure readiness, digital literacy, and ethical awareness. Concerns regarding Internet access, content accuracy, and student overreliance underscore the need for responsible implementation. Notably, the use of AI has prompted reflective professional growth, encouraging educators to develop critical evaluation skills and adapt their pedagogical strategies accordingly. Consequently, AI in modular distance learning should be regarded not merely as a technological tool but as a transformative educational support system that necessitates structured guidance, institutional policy, and ongoing professional development.

Implications

The findings of this study have significant implications for educational practices, institutional policies, and professional development. The integration of AI in modular distance learning presents considerable potential to enhance instructional efficiency, improve content quality, and support teacher productivity. However, the challenges identified, such as internet connectivity limitations, accuracy concerns, and risks of overreliance, indicate that effective AI implementation requires structured guidance and institutional support. Schools and educational leaders should formulate clear policies and provide targeted training programs to enhance teachers' AI literacy, ethical awareness, and content-validation skills. Furthermore, investing in a reliable digital infrastructure is crucial to ensure equitable access to and consistent use of AI tools. At the professional level, teachers must continue to develop reflective and critical practices to balance technological assistance with pedagogical judgment. Ultimately, sustainable AI integration in modular distance learning depends on a collaborative effort among educators, institutions, and policymakers to promote the responsible, informed, and equitable use of emerging technologies.

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Competing Interests Statement

The authors declare that they are not aware of any competing financial interests or personal relationships that may have influenced the work reported in this article.

Data Availability Statement

The data analyzed in this study were derived from participants' responses collected through interviews and from previously published sources, all of which are properly cited in the reference list. Owing to ethical considerations and the need to protect participant confidentiality, the raw interview data are not publicly available but may be accessed from the corresponding author upon reasonable request, subject to applicable data privacy guidelines.

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Appendices

No Appendix included in this study