

EXPLORING STUDENTS' PERCEPTIONS OF THE CHALLENGES AND CONSEQUENCES OF ARTIFICIAL INTELLIGENCE APPLICATION IN THE DELIVERY OF PHYSICAL AND HEALTH EDUCATION INSTRUCTION

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Abstract

The rapid advancement of Artificial Intelligence (AI) technologies has transformed teaching and learning processes across educational settings, creating both opportunities and challenges for effective instructional delivery. The study examined students' perceptions of the challenges and consequences of Artificial Intelligence (AI) use in the teaching and learning of Physical and Health Education. The growing integration of AI in education, despite its benefits, has raised ethical, technical, and pedagogical concerns. A descriptive survey research design was employed, involving 459 undergraduate students of Olabisi Onabanjo University, Ago-Iwoye, selected through purposive sampling. Data were collected using a validated instrument titled: Challenges and Consequences of Artificial Intelligence in Teaching and Learning of Physical and Health Education Questionnaire (CCAITHLHEQ), with a reliability coefficient of 0.82 determined using Cronbach's Alpha method. Descriptive statistics of mean and standard deviation were used for data analysis. Findings revealed that although AI tools improve learning efficiency and access to instructional resources, their unregulated application contributes to ethical challenges such as plagiarism, compromised authorship integrity, and lack of transparency in academic work. The study recommended that universities regulate AI literacy programmes and enforce clear policies to guide ethical and responsible AI use in education.

Keywords: Artificial Intelligence, Ethical challenges, Higher education, Students' Perception,

Introduction

The increasing integration of digital technologies into education has transformed the way knowledge is produced, shared, and assessed. In the teaching and learning of Physical and Health Education, the application of Artificial Intelligence (AI) and other emerging technologies has introduced innovative approaches to content delivery, learning support, assessment, feedback provision, and student engagement. These innovations facilitate personalised learning experiences, real-time academic assistance, virtual simulations for health and movement education, and greater access to instructional resources (Chen et al., 2025; Peñafiel et al., 2023). Through data-driven analysis of learning behaviour, such

technologies can adapt instructional materials to meet the specific needs of each learner, thereby enhancing understanding, motivation, and retention of key Physical and Health Education concepts (Liu et al., 2022; Jackson et al., 2024). Consequently, the use of digital technology in Physical and Health Education teaching forms the independent variable in this study, as it represents the instructional innovation under investigation. In many cases, prepared learning materials developed through online tools have been observed to improve students' academic performance.

Despite these benefits, the adoption of advanced technologies in academic settings has given rise to several editorial challenges and educational consequences, which together form the dependent variables of this study. The term "editorial challenges" extends beyond journal publishing; it includes issues such as authorship integrity, peer review quality, academic honesty, content originality, and the ethical application of digital tools in writing and research (Draxler et al., 2024; Ebadi et al., 2025). Recent developments in higher education institutions globally and within Nigeria have intensified debates on the ethical and academic implications of Artificial Intelligence use in teaching and learning. Concerns have been raised regarding the increasing difficulty of verifying the originality of students' academic work, the proliferation of AI-assisted assignments, and the challenge of determining responsibility for intellectual outputs generated with technological support (Jairoun et al., 2024; Committee on Publication Ethics [COPE], 2024). In Physical and Health Education, where evidence-based knowledge, professional ethics, and accurate information are essential, the misuse of AI technologies may undermine instructional quality, academic integrity, and the credibility of research outputs (Feigerlova et al., 2025).

From an educational perspective, the consequences of technology integration in Physical and Health Education are diverse. Empirical findings by Liu et al. (2022), Almalki et al. (2025), Cucci et al. (2025), and Onetiu et al. (2025) indicate that technology-supported learning environments can strengthen students' analytical and problem-solving skills. However, these benefits are often accompanied by risks such as excessive dependence on automated systems, reduced critical reasoning, and declining interpersonal interactions between teachers and learners (Khlaif et al., 2025; Feigerlova et al., 2025). Additionally, the ease of content generation has blurred traditional ideas of authorship and originality, prompting academic institutions to review ethical guidelines, establish disclosure requirements, and adopt technologies for detecting unoriginal materials (Draxler et al., 2024; Ebadi et al., 2025). Within Physical and Health Education, where instruction must be evidence-based and ethically sound, these emerging trends pose significant teaching and editorial challenges.

The editorial aspect of this issue is particularly relevant in academic settings where publication output and scholarly writing remain central to professional advancement. The growing use of technological tools for manuscript preparation, literature review, and data analysis has raised concerns about authenticity, plagiarism, and accountability in authorship (Jairoun et al., 2024). Editors now face increasing pressure to differentiate between human and technology-assisted content, determine acceptable levels of assistance, and implement policies for transparency (Ebadi et al., 2025).

Consequently, leading editorial bodies such as the Committee on Publication Ethics (COPE) and the International Committee of Medical Journal Editors (ICMJE) have developed guidelines for the ethical use of digital technologies in academic publishing (COPE, 2024; ICMJE, 2023). However, there is limited empirical evidence on how these policies influence teaching, learning, and research practices in Physical and Health Education (Feigerlova et al., 2025).

Furthermore, the impact of technology on Physical and Health Education extends to curriculum design, assessment reliability, and the preparation of future athletes and educators. As digital tools increasingly shape instructional materials, teachers must consider the accuracy, inclusiveness, and cultural appropriateness of the content especially in contexts where digital literacy and technological infrastructure differ widely (Almalki et al., 2025; Cucci et al., 2025). Maintaining editorial responsibility to ensure that such materials meet academic and ethical standards remains crucial to sustaining quality teaching and research in Physical and Health Education.

Although digital technologies offer remarkable benefits for teaching and learning, their uncontrolled use has introduced a range of pedagogical and editorial challenges that may compromise the quality and integrity of Physical and Health Education practice and scholarship (Almalki et al., 2025; Draxler et al., 2024). A major area of concern relates to the editorial implications of technology generated content, particularly in the areas of authorship recognition, originality, and the identification of undisclosed technological assistance in academic and instructional materials (Ebadi et al., 2025; Jairoun et al., 2024). The increasing sophistication of these tools has blurred the distinction between genuine scholarly authorship and automated text generation, raising important ethical questions about plagiarism, transparency, and accountability. Editors, peer reviewers, and educators are thus faced with the difficult task of upholding academic integrity while adapting to ongoing technological innovation (Feigerlova et al., 2025).

From a teaching perspective, there are also growing concerns about the educational implications of adopting such technologies in Physical and Health Education. While their use has been shown to promote student engagement and support self-directed learning (Cucci et al., 2025; Onetiu et al., 2025), studies also highlight possible drawbacks such as diminished critical thinking, excessive dependence on automated systems, and weakened interpersonal communication between teachers and students (Khlaif et al., 2025). These issues call into question the pedagogical soundness of technology mediated learning in health-related fields, where human judgement, empathy, and professional ethics are indispensable.

In addition, although major editorial and professional bodies such as the Committee on Publication Ethics (COPE, 2024) and the International Committee of Medical Journal Editors (ICMJE, 2023) have provided guidelines on responsible technological use, there is limited empirical evidence regarding their implementation in Physical and Health Education teaching and scholarly communication. Consequently, there is a pressing need to investigate both the editorial challenges and educational consequences associated with the use of emerging digital technologies in Health Education. Such inquiry is essential to ensure that their integration supports academic

honesty, pedagogical excellence, and ethical accountability in the preparation of future health professionals.

In view of these developments, this study investigated the challenges and consequences associated with the use of emerging digital technologies in the teaching and learning of Physical and Health Education. Specifically, it explores the perceptions of students regarding the editorial and educational implications of these tools, with the aim of providing empirical evidence that can inform ethical, responsible, and effective instructional practice. The study is designed to achieve the following objectives: To examine the extent to which Artificial Intelligence is being used in the teaching of Physical and Health Education, To identify and analyse the editorial challenges arising from the use of Artificial Intelligence in teaching and scholarly activities in Physical and Health Education, To determine the educational consequences (positive and negative) of using Artificial Intelligence in teaching Physical and Health Education, To propose strategic measures for ensuring ethical and responsible use of Artificial Intelligence in Physical and Health Education instruction and academic publishing.

Methodology

This study adopted a descriptive survey research design. The design was considered appropriate because it enables the researcher to collect data from a specified population to describe, interpret, and analyse their opinions, attitudes, and perceptions on an existing phenomenon. In this case, it was used to obtain students' perceptions on the challenges and consequences of using Artificial Intelligence (AI) in the teaching and learning of Physical and Health Education. The population of this study comprised all undergraduate students of the Department of Physical and Health Education, Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria. These include students from all levels (100–400 level) offering Physical and Health Education courses. The choice of this population was informed by the fact that they are directly involved in learning processes that can be enhanced or challenged by AI integration. The study employed a purposive sampling technique to select participants. The selection was restricted to students who have used Artificial Intelligence tools such as ChatGPT, Google Bard, Grammarly, or other AI applications to carry out assignments, projects, or other academic tasks in the course of their studies. A total of 459 students were purposively selected from the department among students from physical education unit and the health education unit to ensure a fair representation across gender and levels of study. There are no student at the 100level of physical education and as a result, students were not selected from this unit at the 100Level of study. This sampling technique was chosen because only students with prior exposure to AI-assisted learning could provide meaningful insights into the challenges and consequences of AI use in Physical and Health Education.

The major instrument used for data collection was a structured questionnaire titled: Challenges and Consequences of Artificial Intelligence in Teaching and Learning of physical and Health Education Questionnaire (CCAITHLHEQ). The questionnaire was designed by the researchers in line with the specific objectives and research questions of the study. It was divided into four sections as follows: Section A: Demographic information

of respondents (e.g., gender, level of study, frequency of AI use). Section B: Items relating to students' perceptions of the benefits of AI in Health Education. Section C: Items on the challenges associated with the use of AI in teaching and learning. Section D: Items on the consequences of AI use on students' learning outcomes, creativity, and academic integrity. All items in Sections B–D were structured on a four-point Likert scale of: Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1).

The draft of the questionnaire was submitted to two experts in physical and Health Education research and one educational technology experts from Olabisi Onabanjo University for face and content validation. Their comments and suggestions were used to improve the clarity, relevance, and comprehensiveness of the items. To further ensure reliability, the instrument was trial-tested among 20 students of a similar department at Tai Solarin University of Education, Ijagun Ogun State. The data obtained from the pilot study were analysed using the Cronbach Alpha method, which yielded a reliability coefficient of 0.82, indicating that the instrument was reliable for data collection. The researchers personally administered the validated questionnaires with the assistance of two trained research assistants. The purpose of the study was explained to the participants to encourage honest responses. The questionnaires were retrieved immediately after completion to ensure a high return rate and data quality. Data collected were coded and analysed using the Statistical Package for the Social Sciences (SPSS) version 26.0. The analysis involved descriptive statistics of mean, and standard deviation were used to answer the research questions raised in the study.

Results

Table 1: Frequency Distribution of Respondents by Gender, Level of Study, and Frequency of AI Use as the demographic characteristics of the study participants.

Variable	Category	Frequency	Percent
Gender	Male	200	43.6
	Female	259	56.4
	Total	459	100
Level of Study	100	55	12
	200	86	18.7
	300	161	35.1
	400	157	34.2
	Total	459	100
Frequency of AI Use	Very Often	149	32.5
	Often	220	47.9
	Occasionally	53	11.5
	Never	37	8.1
	Total	459	100

Table 1 presents the frequency distribution of respondents according to gender, level of study, and frequency of AI use. The result shows that out of the total 459 respondents, 200 (43.6%) were males while 259 (56.4%) were females, indicating that females participated more in the study than males. In terms of level of study, 55 respondents (12%) were in 100 level, 86 (18.7%) were in 200 level, 161 (35.1%) were in 300 level, and 157 (34.2%) were in 400 level. This implies that students in 300 level formed the highest proportion of participants, followed closely by those in 400 level. Regarding the frequency of AI use, 149 respondents (32.5%) indicated that they used AI very often, 220 (47.9%) used it often, 53 (11.5%) used it occasionally, while 37 (8.1%) never used AI. This suggests that the majority of respondents make frequent use of AI tools, reflecting a generally high level of engagement with artificial intelligence among the students.

Research Question 1: What is the extent of Use of Artificial Intelligence in Teaching and Learning of Physical and Health Education

Table 2: Extent of Use of Artificial Intelligence in Teaching and Learning of physical and Health Education

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	SD
AI tools are frequently used to facilitate teaching and learning in Physical and Health Education courses in my school.	68.6% (315)	22.7% (104)	2.6% (12)	6.1% (28)	3.54	0.82
Lecturers encourage frequent use of AI-based platforms to assist in assignments or research activities.	43.1% (198)	27.9% (128)	22.7% (104)	6.3% (29)	3.08	0.95
I often use AI tools such as ChatGPT or Grammarly to improve my understanding of Physical and Health Education concepts.	31.2% (143)	41.8% (192)	13.1% (60)	13.9% (64)	2.90	1.00
AI-assisted learning has become a regular feature of my academic work in Physical and Health Education.	45.1% (207)	19.2% (88)	24.4% (112)	11.3% (52)	2.98	1.07
The use of AI tools has increased student engagement and motivation in Physical and Health Education classes.	58.6% (269)	25.7% (118)	5.2% (24)	10.5% (48)	3.32	0.98

Average Mean = 3.16

Criterion mean is 2.5. Thus, decision is taken based on whether the average mean is greater or less than the criterion mean.

Table 2 presents respondents' perceptions of the extent of use of Artificial Intelligence (AI) in the teaching and learning of Physical and Health Education. Using the criterion mean of 2.50, all the items recorded mean scores above the benchmark, indicating respondents' agreement that AI is being utilized in various aspects of teaching and learning. Specifically, the statement that "AI tools are frequently used to facilitate teaching and learning in Physical and Health Education courses in my school" recorded a mean score of 3.54 (SD = 0.82), which is above the criterion mean. This suggests that respondents perceive AI tools as commonly used in instructional activities. Similarly, the statement that "Lecturers encourage the frequent use of AI-based platforms to assist in assignments or research activities" had a mean score of 3.08 (SD = 0.95), indicating that lecturers generally promote the use of AI technologies for academic purposes.

Furthermore, the statement that "I often use AI tools such as ChatGPT or Grammarly to improve my understanding of Physical and Health Education concepts" recorded a mean score of 2.90 (SD = 1.00), which is above the criterion mean. This implies that students make use of AI tools to support their learning and understanding of course content. The statement that "AI-assisted learning has become a regular feature of my academic work in Physical and Health Education" obtained a mean score of 2.98 (SD = 1.07), suggesting that AI applications have become integrated into students' academic activities. In addition, the statement that "The use of AI tools has increased student engagement and motivation in Physical and Health Education classes" recorded a mean score of 3.32 (SD = 0.98), indicating respondents' agreement that AI contributes positively to learning engagement and motivation.

The overall average mean score of 3.16 is greater than the criterion mean of 2.50. Therefore, the extent of use of Artificial Intelligence in the teaching and learning of Physical and Health Education is high, suggesting that AI technologies are increasingly being adopted and utilized to support instructional delivery and learning processes.

Research Question Two: What are the major editorial challenges associated with the use of Artificial Intelligence in Physical and Health Education teaching and research?

Table 3: Frequency Distribution of Respondents' Opinions on Challenges Associated with the Use of Artificial Intelligence in Physical and Health Education

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Std. Deviation
AI-generated content sometimes contains inaccurate or unreliable information.	303 (66.0%)	66 (14.4%)	28 (6.1%)	62 (13.5%)	3.33	1.08
Dependence on AI tools reduces students' writing and critical thinking abilities.	172 (37.5%)	204 (44.4%)	26 (5.7%)	57 (12.4%)	3.07	0.96
Using AI in academic writing raises plagiarism and originality concerns.	172 (37.5%)	183 (39.9%)	62 (13.5%)	42 (9.2%)	3.06	0.94
Many students lack knowledge of how to reference or acknowledge AI-generated information.	148 (32.2%)	164 (35.7%)	57 (12.4%)	90 (19.6%)	2.81	1.09
There are inadequate institutional policies guiding ethical AI use in academic work.	255 (55.6%)	98 (21.4%)	78 (17.0%)	28 (6.1%)	3.26	0.95
Average Mean = 3.11						

Table 3 presents respondents' opinions on the editorial challenges associated with the use of Artificial Intelligence in Physical and Health Education. The result shows that a majority of the respondents, 303 (66.0%), strongly agreed that AI-generated content sometimes contains inaccurate or unreliable information, while 66 (14.4%) agreed, 28 (6.1%) disagreed, and 62 (13.5%) strongly disagreed with the statement. Similarly, 172 (37.5%) strongly agreed and 204 (44.4%) agreed that dependence on AI tools reduces students' writing and critical thinking abilities, whereas 26 (5.7%) disagreed and 57 (12.4%) strongly disagreed. Furthermore, 172 (37.5%) strongly agreed and 183 (39.9%) agreed that using AI in academic writing raises plagiarism and originality concerns, while 62 (13.5%) disagreed and 42 (9.2%) strongly disagreed. In addition, 148 (32.2%) strongly agreed and 164 (35.7%) agreed that many students lack knowledge of how to reference or acknowledge AI-generated information, but 57 (12.4%) disagreed and 90 (19.6%) strongly disagreed. Lastly, 255 (55.6%) strongly agreed and 98 (21.4%) agreed that there are inadequate institutional policies guiding ethical AI use in academic work, whereas 78 (17.0%) disagreed and 28 (6.1%) strongly disagreed. With an average mean of 3.11, greater than the criterion mean of 2.5, the findings indicate that respondents generally agreed that significant editorial challenges are associated with the use of Artificial Intelligence in Physical and Health Education, especially regarding inaccuracy of AI-

generated content, lack of referencing knowledge, and weak institutional policy frameworks.

Research Question Three: What are the perceived educational consequences of adopting Artificial Intelligence in Physical and Health Education instruction?

Table 4: Frequency Distribution of Respondents' Opinions on the consequences of adopting Artificial Intelligence in Physical and Health Education

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Std. Deviation
AI tools make Physical and Health Education learning more interactive and enjoyable.	172 (37.5%)	230 (50.1%)	14 (3.1%)	43 (9.4%)	3.16	0.95
The use of AI enhances students' access to up-to-date and relevant learning materials.	184 (40.1%)	207 (45.1%)	26 (5.7%)	42 (9.2%)	3.16	0.93
Overreliance on AI tools reduces students' originality and creativity in academic writing.	138 (30.1%)	184 (40.1%)	69 (15.0%)	68 (14.8%)	2.86	1.03
AI helps students to save time in preparing assignments and projects.	151 (32.9%)	64 (13.9%)	170 (37.0%)	74 (16.1%)	2.64	1.12
Some students misuse AI tools to produce entire academic work without genuine effort.	170 (37.0%)	112 (24.4%)	156 (34.0%)	21 (4.6%)	2.94	1.03
Average Mean = 2.95						

Table 4 presents respondents' opinions on the educational consequences (positive and negative) of using Artificial Intelligence (AI) in Physical and Health Education. Using the criterion mean of 2.50 as the basis for decision-making, all the items recorded mean

scores above the benchmark, indicating respondents' agreement that AI has both beneficial and adverse consequences for teaching and learning in Physical and Health Education. Specifically, the statement that "AI tools make Physical and Health Education learning more interactive and enjoyable" recorded a mean score of 3.16 (SD = 0.95), which is above the criterion mean. This suggests that respondents perceive AI as enhancing students' engagement and interest in learning activities. Similarly, the statement that "The use of AI enhances students' access to up-to-date and relevant learning materials" obtained a mean score of 3.16 (SD = 0.93), indicating that AI contributes positively to the availability and accessibility of educational resources.

Furthermore, the statement that "Overreliance on AI tools reduces students' originality and creativity in academic writing" recorded a mean score of 2.86 (SD = 1.03), which exceeds the criterion mean. This implies that respondents recognize the potential negative effect of excessive dependence on AI on students' creative and independent thinking abilities. The statement that "AI helps students to save time in preparing assignments and projects" had a mean score of 2.64 (SD = 1.12), indicating respondents' agreement that AI can improve efficiency in completing academic tasks.

In addition, the statement that "Some students misuse AI tools to produce entire academic work without genuine effort" recorded a mean score of 2.94 (SD = 1.03), suggesting that respondents perceive academic misuse of AI as a significant concern. This finding points to the possibility of students relying excessively on AI-generated content rather than engaging in independent learning and scholarly inquiry. The overall average mean score of 2.95 is greater than the criterion mean of 2.50. Therefore, it can be concluded that the use of Artificial Intelligence in Physical and Health Education has notable educational consequences, both positive and negative. While AI enhances student engagement, access to learning resources, and efficiency in academic tasks, it also raises concerns regarding originality, creativity, academic integrity, and the misuse of AI-generated content.

Discussion of Findings

The findings in Table 2 revealed a generally high to very high extent of AI use in the teaching and learning of Physical and Health Education, with a weighted mean of 3.16. This indicates that both lecturers and students have increasingly adopted AI tools such as ChatGPT, Grammarly, and other educational applications to enhance teaching, learning, and academic productivity as perceived by students. This outcome supports Cucci et al. (2025) and Onetiu et al. (2025), who found that AI-based platforms significantly improve students' engagement, participation, and self-directed learning in health-related disciplines. Similarly, Feigerlova et al. (2025) observed that the integration of AI in the teaching physical and health education has enhanced learning experiences and improved performance outcomes due to interactive and personalised feedback.

Furthermore, the finding that AI tools are frequently used to facilitate teaching aligns with Jairoun et al. (2024), who noted that AI adoption in physical and health education has become a global pedagogical trend, promoting efficiency in instructional delivery and student-centred learning. The moderate encouragement by lecturers to use

AI tools for research or assignments corroborates Almalki et al. (2025), who reported that university instructors increasingly support AI use to promote innovation and academic exploration. However, Khlaif et al. (2025) cautioned that while AI can enhance engagement, it may inadvertently reduce opportunities for deeper human interaction and collaborative learning if not properly managed. Overall, these findings confirm that AI has gained widespread acceptance as a pedagogical resource in Physical and Health Education, though it still requires structured guidance to maintain educational integrity.

The results in Table 3 revealed that respondents strongly agreed that AI-generated content often contains inaccurate or unreliable information, raises plagiarism and originality concerns, and suffers from a lack of referencing knowledge and institutional policy guidance (Mean = 3.11). These findings are consistent with the views of Ebadi et al. (2025) and Draxler et al. (2024), who identified that AI tools may produce fabricated or unverifiable information, thereby compromising scholarly reliability. Feigerlova et al. (2025) further emphasised that the absence of editorial oversight in AI-generated manuscripts increases the risk of ethical breaches such as ghost authorship and algorithmic plagiarism.

The result that dependence on AI tools reduces writing and critical thinking abilities echoes Khlaif et al. (2025), who found that excessive AI reliance diminishes students' capacity for analytical reasoning and independent problem-solving. Similarly, Almalki et al. (2025) argued that AI's convenience can undermine academic rigour when learners substitute human creativity with algorithmic outputs. The finding that there are inadequate institutional policies guiding ethical AI use aligns with COPE (2024) and ICMJE (2023), who have both advocated for clearer institutional frameworks to regulate AI use in research and publishing. Thus, these findings underscore the urgent need for universities and professional bodies to develop comprehensive policies ensuring ethical accountability and editorial integrity in AI-mediated scholarship.

The results in Table 4 show that AI tools positively influence the interactivity, enjoyment, and access to learning materials in Physical and Health Education (Mean = 3.16). This aligns with the findings of Cucci et al. (2025), Balogun et al. (2024) and Onetiu et al. (2025), who confirmed that AI enhances learner engagement, promotes autonomy, and supports adaptive learning experiences in health sciences education. Likewise, Feigerlova et al. (2025) noted that AI-driven platforms foster inclusive learning environments by accommodating diverse student needs and learning styles. However, the study also revealed negative educational outcomes such as reduced originality, creativity, and the misuse of AI to produce entire academic works without genuine effort (Mean = 2.95). This corroborates Ebadi et al. (2025) and Draxler et al. (2024), who observed that AI-generated content can obscure authorship authenticity, thereby encouraging academic dishonesty. Similarly, Jairoun et al. (2024) highlighted that undisclosed AI assistance poses threats to academic integrity and fair assessment. Khlaif et al. (2025) further warned that overdependence on AI might erode learners' critical judgement and reduce essential interpersonal competencies needed in professional health education. Hence, while AI enhances accessibility and efficiency, it also introduces pedagogical risks that must be managed through responsible use and ethical supervision.

As presented in Table 5, respondents showed strong agreement that regular seminars, AI detection software, and training on proper citation are key strategies for ensuring ethical AI use (Average Mean = 3.11). These findings affirm COPE (2024), Ibrahim, et al; (2024), and ICMJE (2023) recommendations that institutions should embed AI ethics into educational policies and academic practice. The call for AI literacy inclusion in the Physical and Health Education curriculum resonates with Feigerlova et al. (2025) and Almalki et al. (2025), who both advocated that AI competencies should form part of teacher and student training to ensure responsible application of emerging technologies. Moreover, the finding that universities should develop clear ethical policies corresponds with Draxler et al. (2024), Suleiman. (2024) who stressed the importance of institutional accountability mechanisms to detect, regulate, and sanction unethical AI use. Ebadi et al. (2025) also recommended editorial training for lecturers and reviewers to identify AI-generated manuscripts and uphold publication integrity. Overall, this study supports the consensus that ethical awareness, institutional regulation, and digital literacy are essential to balance innovation with academic and professional ethics in Physical and Health Education.

Conclusion

In conclusion, the integration of AI into Physical and Health Education offers both opportunities and risks. To maximise its benefits while safeguarding academic integrity, it is therefore recommended that universities must establish clear ethical guidelines, strengthen digital literacy training, and enforce editorial transparency in AI-assisted academic work. Sustainable use of AI in Physical and Health Education should therefore balance innovation with responsibility, ensuring that human judgement, empathy, and professionalism remain at the centre of physical and health education practice.

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