

Leveraging Artificial Intelligence for Teacher Collaboration: Enhancing Teacher Training and Continuous Professional Development in Nigerian Colleges of Education

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Abstract

This study explored the potential of Artificial Intelligence (AI) in enhancing teacher collaboration and professional development (CPD) in Nigerian Colleges of Education. The study was to find out how AI can assist teachers in how they can collaborate in their professional growth as well as the challenges they face in Nigeria. The participants included 12 teachers from different colleges of education with exposure to AI technology. The six emerging themes are the awareness of AI in collaboration with teachers, the effect of AI on teaching and cooperation, the role of AI in the professional learning of teachers, the challenges of integrating AI in their work, how technological aid assists teachers in insights and policy relating to the incorporation of AI in teaching. The study unveiled that though respondents perceived that AI was present, there remained considerable barriers to the integration of the tool, which include technological restraints and lack of training. The call for supporting collective professional learning over customisation of education through AI was made with concerns about resources and preparedness. It was found that AI has a great opportunity to transform the practices of teacher professional development and innovate cooperative relations between learning developers. The implications of these findings for Nigerian colleges include colleges should begin investing in AI infrastructure, sufficient professional development programmes should be provided for teachers, and appropriate policies should be encouraged and supported.

Keywords: Artificial Intelligence, teacher collaboration, professional development, Nigerian Colleges of Education, AI integration

1. Introduction

Many challenges confront the education system in Nigeria, particularly that of the colleges of education, whereby the training and professional development of teachers has been immensely affected. These institutions are very important in ensuring that workers educating the children are well equipped for the task in an ever-changing world. Teacher training plays a significant role in enhancing the learning system since facilitators are able to know the prerequisites for enhancing students' learning and participation (Oyetoro, 2019). However, teacher training in Nigeria is disadvantaged because of a lack of meagre resources, outdated methods, and poor collaboration among teachers (Steyn, 2014). Such challenges result in the poor preparation of teachers in order to address students' needs and a disparity between education standards and the need for quality teachers. Lack of infrastructure, inadequate pay and professional development, and too many pupils per class contribute to less effective teaching and learning, limiting the teachers to what is already known and available in the market and current research.

AI can be efficient in addressing the mentioned challenges by improving the collaboration and professional development of teachers. It is crucial to state that the integration of AI technologies can transform the nature of interactions, learning, and professional development of teachers in a number of ways. When used to design professional development, AI can create assignments based on students' needs, pinpointing that each challenge and deficiency in their knowledge can be solved by an individual approach (Luckin & Cukurova, 2019). Also, AI can bring real-time analysis of teaching practise and development of educational practises in terms of strong and weak areas of a teacher in order to innovate constantly.

Integrating AI into teacher training programs allows for tailored professional development that addresses specific needs ("Integrating Artificial Intelligence in Science Teacher Education for Enhanced Pedagogical Practices," 2024). Computer learning solutions can provide self-learning solutions to students and teachers by providing professional development at different career phases. Also, artificial intelligence helps in the constant availability of resources and training necessary in a growing field.

With the help of AI, one could build platforms where teachers could work simultaneously and share the content, ideas, approaches, and initiatives, as well as co-discuss lesson plans. Such platforms create a professional social environment, which in turn helps educators learn from each other. This is particularly the case in Nigerian colleges of education, which might be physically distant from each other and might have poor physical facilities that do not allow face-to-face communication. Traditional educational technologies do not solve this problem to the same extent; AI-based technologies close this gap through peer mentoring and collaborative lesson planning, leading to enhanced teaching practices.

The use of AI in Continuous Professional Development (CPD) is most effective in Nigerian colleges of education due to inadequate funds and the availability of old resources in training teachers. This can be achieved with the assistance of delivering flexible, cost-effective, and adaptive training opportunities that AI enables for educators across the nation. For instance, the use of artificial intelligence can present sets of professional development courses that the teachers can take at their convenience; hence can be an easier way of ensuring that the teachers update themselves with new practices (Ensign et al., 2024). This flexibility is highly desirable in the context of a system that requires teachers who can hardly attend face-to-face workshops due to time constraints, large workloads, and geographical barriers.

However, there are many difficulties that need to be solved in order to make the best use of the advantages of AI in Nigerian colleges of education. These are; limited infrastructure, limited access to technology and technological phobia of the educators (Nwosu et al., 2024). Most Nigerian colleges cannot offer the technological requirements needed for AI-based implementation. However, the current level of teachers' technological understanding is still low, and this is why they can remain sceptical about using AI tools for several reasons, including their performance or difficulty level. Hence, there is a need to develop elaborate training programmes that will enable educators to apply AI tools in their educational practice. (Xu & Ouyang, 2022). Professional development needs to go beyond this and also employ cognitive change for educators to accept the AI tools and incorporate them in the classrooms. It is equally important that specific guidelines need to be issued as well as training sessions that would allow educators to incorporate AI into strategies easily.

Given the above therefore, this study seeks to explore how artificial intelligence can be used to facilitate teacher collaboration, with a view to improving training and enhancing continuous teacher professional development in Nigerian colleges of education.

2. Literature Review

The use of AI in learning has been realised in recent years with the purpose of innovating learning activities to make them more effective. In its capacity, AI can be described as the ability of a machine to act, think and adapt in the same manner as a human being including the abilities of learning, reasoning as well as self-adjustment. When it comes to education, AI means such solutions as personalised education systems, intelligent educational systems, automatic grading systems, and data analytics, which help to evaluate the performance and learning activities of students. These are intended to enhance learning processes by assisting educators in their teaching practises with the result of enhancing performance.

Currently, other countries that have developed a strong AI education system have integrated AI technologies to improve teacher's cooperation and training. For example,

platforms such as Google Classroom and Microsoft Teams are used in the United States, where the platforms are equipped with artificial intelligence that can enhance communication and collaboration among instructors. They can help teachers exchange resources, co-design unit and lesson plans, and engage in online professional learning communities in order to cultivate a collaborative culture (Kasepalu et al., 2022). In the same manner, in the People's Republic of China, many of the educational-assisting platforms under Artificial Intelligence's applicability have helped the students learn in a customised way and at the same time, the teachers get to understand the performances of the students and hence get to improve on the ways they teach the students(Nguyen &Ng, 2020). These examples will prove that employing the potential of AI in the sphere of learning collaboration can bring benefits to the development of educators.

Group cooperation is essential for the professional growth of teachers who work together in sharing their experiences, strategies, and ideas on class performances as well as the approaches to solving emerging problems in the learning environment. Workshop conducted by colleagues suggests that learning effectiveness in teaching practice enhances the effectiveness of students' outcomes. Consequently, methods used in tutor training lessons in Nigerian colleges of education are generalist in nature and do not allow the teacher in training to experience peer support as often as they are observed. Such models may include workshops, seminars, and lectures, which are not effective in creating constant interactions among teachers (Kim et al., 2022).

Through the use of AI, some of these challenges may be handled by creating tools that support teachers in their collaborative work. For instance, through the use of AI, it is possible to design applications whereby teachers can mentor, share resources, and collaborate in designing teaching activities. They can also include other AI-enabled tools for communication between teachers so that the latter do not spend their time on administrative matters but focus on productivity and improvement of instructions (Kamalov et al., 2023). Some studies suggest that it is possible to harness AI in identifying the specific deficits of the teacher and provide him/her with the appropriate materials and, or training. For instance, through the help of an AI system, one can determine the strengths and areas of weakness of the teachers, thereby providing them with services that may be required to enable them to perform their tasks efficiently. Some examples from other educational contexts show that integration of AI into collaborative practises leads to better educational practises and learners' positive outcomes suggesting the need for inclusion of AI into teachers' knowledge base (Nguyen et al., 2022).

However, although the application of AI has many opportunities in the learning process, there are certain difficulties arising when trying to implement it in Nigerian colleges of education. Several factors hinder the utilisation of AI technologies effectively which include inadequate internet connexion and hardware devices (Isma'il et al., 2024). Many colleges do not have the infrastructure needed for

implementing AI with the result that teachers are unable to deal with these technologies effectively. Moreover, it has been identified that the level of receptiveness of teachers who are willing to integrate AI technologies differs as some teachers have fears over the reliability and beneficial impact of AI on educators.

Despite its potential, there is a lack of adequate policies across the country to support the use of AI in the educational sector or assist in the provision of resources for such a purpose. Nevertheless, AI's ability to enhance teachers' cooperation and professional development will only remain a promise if there is no adequate policy support or institutionalisation.

Finally, it is imperative to point out that the use of AI offers great potential to boost collaboration and professional learning among teachers in Nigerian colleges of education, and it is also important to identify and unmask the existing challenges in order to find an effective solution to maximise the benefits of the implementation. It is important to continue researching how to reduce technological challenges in the implementation of AI and supporting teachers to enhance the adoption of technology in the education sector by implementing the right policies. From this context, it is clear that the application of AI can be a way by which the Nigerian colleges of education can reshape the teacher training programmes and culture constructive for the educators and learners.

3. Methodology

Research Design

The study used an exploratory research design that involved conducting semi-structured interviews in order to establish the teachers' attitudes and practises concerning the application of AI in improving their collaboration, as well as for supporting their CPD in Nigerian Colleges of Education. The purpose was to know about the potential in which artificial intelligence can influence the interpersonal relations of educators and their learning potential in enhancing the teaching-learning process.

Participant Selection and Sampling Technique

To reach out to the teachers, the study used purposive sampling and a target of 12 categories of teachers were selected, which included teachers who were always involved in continuous professional development, teachers from different disciplines, and teachers with different experiences on AI in education.

Inclusion Criteria

- Teachers who are 18 years and above and who engage in CPD.
- Teachers who have applied the use of AI in their teaching practice, in their collaboration with other educators, or for their professional improvement.
- Teachers with expertise or experience in the use of Artificial Intelligence technologies in their practice.

The participants were selected from four strategic Nigeria Colleges of Education in different urban centres, which are;

Table 1: Recruited Four Key Nigerian Colleges of Education

College	Location	Teacher Demographics
Federal College of Education	Zaria	Experienced educators, a mix of urban and rural backgrounds
National College of Education	Lagos	Diverse educators, some advanced in AI use for CPD
Oyo College of Education	Ibadan	Young professionals, early adopters of technology
Enugu College of Education	Enugu	Educators from various subject disciplines, some skeptical of AI

Data Collection Procedure

Semi-structured face-to-face interviews were conducted with teachers across these colleges. The interviews took place in faculty rooms and staff lounges within the selected institutions, where teachers were approached and invited to participate. Each interview lasted between 30 to 45 minutes and was audio-recorded with the consent of the participants.

A thematic interview guide was used to explore the following key areas:

Table 2: Semi-Interview Questions

No.	Topic	Interview Question
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1	Awareness of AI in Teacher Collaboration	"Are you aware of any AI-based tools used for teacher collaboration or professional development? How do you think they can impact your work?"
2	Impact on Teaching and Collaboration	"Do AI tools influence your teaching practices and collaboration with other educators? Can you share an example where AI helped you in your teaching or CPD?"
3	AI and Teacher Professional Development (TPD)	"How do you think AI can assist you in your professional development? Do you feel it can provide personalized learning or skill enhancement opportunities?"
4	Challenges in Adopting AI for Collaboration	"What challenges do you face in integrating AI into your teaching or CPD efforts? Are there technical, personal, or institutional barriers?"
5	Role of Technology and Teacher Insights	"Would you be interested in using an AI-powered platform for CPD tracking or collaboration with other educators? Why or why not?"
6	AI for Personalized Learning Recommendations	"How would you feel about receiving personalized training recommendations based on your teaching data and professional growth goals?"
7	Policy Recommendations for AI Integration in Education	"What improvements would you suggest for AI-based tools or platforms to better support teachers' professional development?"

Data Analysis

The audio-recorded interviews were transcribed verbatim and analyzed using thematic analysis. Following Braun and Clarke's (2006) six-step framework, the analysis involved:

- **Familiarization with the data** – Reading and reviewing the interview transcripts.
- **Generating initial codes** – Identifying key phrases and recurrent concepts.
- **Searching for themes** – Grouping related codes into broader themes.
- **Reviewing themes** – Ensuring consistency across participant responses.
- **Defining and naming themes** – Refining thematic categories.
- **Producing the report** – Extracting representative quotes and key insights.

4. Results and Discussion

Results

The findings obtained from the semi-structured interviews that focused on teachers' perceptions, attitudes, and behaviour towards AI in teacher collaboration, as well as in professional development (CPD) in Nigerian Colleges of Education, are discussed in this section. The area of interest is connected with the use of AI tools in collaboration with educators, their professional development and the consequences for enhancing teaching effectiveness. To that end, the superordinate themes that emerged from the thematic analysis of data gathered from the teachers are provided below to capture their level of engagement with AI in education.

Participant Information

Concerning the sampling, the researcher conducted face-to-face interviews with 12 participants, which included several types of categories of teachers: teachers who actively participate in CPD, teachers from different fields of speciality, and teachers with different levels of experience using AI in their teaching practice. The interviews were done at the face-to-face modality in some selected colleges of education in Nigeria, and the interviews lasted between 30 and 45 minutes. The ideas gathered from the participants enhanced the perception of difficulties, advantages, and possibilities of applying AI to teachers' cooperation and learning process.

Themes

From the interviews conducted, six key themes emerged:

1. Awareness of AI in Teacher Collaboration
2. Impact on Teaching and Collaboration
3. AI and Teacher Professional Development (TPD)
4. Challenges in Adopting AI for Collaboration
5. Role of Technology and Teacher Insights
6. Policy Recommendations for AI Integration in Education

Each theme is examined in detail in the following sub-sections, providing an in-depth analysis of the data collected. **Table 3** presents the qualitative thematic analysis results, summarizing key responses from interviewees related to each theme.

Table 3: Qualitative Thematic Analysis Summary

Respondent Reference	Awareness of AI in Teacher Collaboration	Impact on Teaching and Collaboration	AI and Teacher Professional Development (TPD)	Challenges in Adopting AI for Collaboration	Role of Technology and Teacher Insights	Policy Recommendations for AI Integration in Education
Respondent 1 (Experienced Educator)	Aware of AI but limited experience.	Sees AI as helpful but not fully integrated.	Believes AI could enhance personalized learning.	Lack of institutional support.	Interested in mobile AI tools for teacher collaboration.	Suggests government-supported training programs for AI integration.
Respondent 2 (Young Professional)	Familiar with AI applications but unsure of specifics.	Finds AI helpful in managing teaching tasks.	Sees potential in AI for enhancing subject knowledge.	Resistance to new technologies from colleagues.	Would use an AI tool for collaboration if it's easy to use.	Recommends a standardized AI platform across institutions.
Respondent 3 (Veteran Teacher)	Aware of AI but skeptical about its application.	Feels AI could improve student-teacher interactions.	AI would aid in tracking personal professional growth.	Limited access to AI resources in their college.	Would prefer a tool to track CPD activities.	Advocates for funding to support AI training in education.
Respondent 4 (New Teacher)	Recently introduced to AI in the classroom.	Finds AI useful in streamlining teaching tasks.	Would like AI-driven feedback for teaching improvement.	Lack of AI literacy in the teaching community.	Would use AI for collaboration but needs more guidance.	Calls for curriculum integration of AI training for teachers.

Respondent 5 (Tech-Savvy Educator)	Highly aware of AI in education.	Uses AI tools regularly for lesson planning and collaboration.	Believes AI can revolutionize CPD and make it more personalized.	Struggles with institutional adoption of new technologies.	Supports AI-driven systems for personalized professional growth.	Recommends policy incentives for institutions adopting AI tools.
Respondent 6 (Subject Specialist)	Limited awareness, needs more training.	Open to using AI but has not used it extensively.	AI could assist in managing curriculum and teaching strategies.	Concerns over technical training and skill gaps.	Prefers AI for collaborative lesson planning.	Suggests more accessible training resources on AI.
Respondent 7 (Innovative Educator)	Familiar with AI but believes it's underutilized.	Thinks AI could reduce workload and improve collaboration.	AI would help in gaining insights into student performance.	Lacks adequate infrastructure to fully embrace AI.	Interested in using AI for collaborative learning with colleagues.	Advocates for stronger government support in AI adoption.
Respondent 8 (Expatriate Teacher)	Familiar with AI tools from overseas, but not local applications.	Finds AI tools effective but not well integrated in Nigeria.	Would appreciate more AI tools for cross-collaboration.	Cultural resistance to AI and technology.	Would like AI tools for cross-institutional collaboration.	Proposes international partnerships to bring AI tools to Nigerian colleges.

Respondent 9 (Early Adopter)	Strong awareness of AI applications in teaching.	Actively integrates AI for administrative tasks and collaboration.	Sees AI as a means for skill enhancement and real-time feedback.	Technical challenges and resource constraints.	Supports the use of AI for customized CPD training.	Recommends incentivizing institutions that invest in AI.
Respondent 10 (Senior Educator)	Very aware of AI but has not integrated it.	Sees AI's potential for student-centered learning.	Believes AI can improve professional development programs.	Averse to changing traditional methods.	Would use AI to enhance collaboration with peers.	Calls for policy changes to support AI-based education tools.
Respondent 11 (Innovative Educator)	Highly aware, actively uses AI tools in teaching.	AI has significantly improved teaching effectiveness.	Believes AI-driven CPD could provide tailored learning opportunities.	Difficulty in ensuring equal access to AI tools across the college.	Would welcome a platform for collaborative knowledge-sharing.	Advocates for government-sponsored AI research in education.
Respondent 12 (Skeptical Teacher)	Somewhat aware but remains skeptical.	Does not see AI as essential in their practice.	Doubts AI's role in enhancing professional growth.	Concerned about data privacy and ethical issues.	Would only use AI for non-sensitive tasks.	Suggests clear regulations on AI use in education.

Discussion

The current section focuses on the analysis of the interviews conducted with teachers in Nigerian Colleges of Education and their knowledge, attitudes, and behaviours

towards AI as a tool to foster teacher collaboration and professional development (CPD). From the interviews conducted, six themes were deduced and include awareness of AI in teacher collaboration, its effect on teaching and collaboration, AI and TPD, AI implementation barriers, the role of technology and teachers' views, and policy recommendations on AI in education. The present discussion also employs theoretical models and entails the use of quotations derived from the participants to validate the themes identified.

Theme 1: Awareness of AI in Teacher Collaboration

The study showed that participants had a casual attitude or different extents of knowledge in regard to cooperation with AI in teaching. Some of the participants were conversant with AI and the possibilities of applying it in learning, while others had no clue about this knowledge. For instance, Respondent 1 (Experienced Educator) mentioned, "I am aware of AI, but my experience with it is limited." This shows that though there is awareness of AI, most educators are in the exploratory phase of the application of AI tools. Conversely, Respondent 5 (Tech-Savvy Educator) shared, "I actively use AI tools in my teaching," demonstrating a higher level of awareness and engagement. This variation is sharply in harmony with Wang and Liu's opinion (2021) that the adoption of AI remains in a somewhat experimental stage across a wide range of regions, including Nigeria.

However, other participants, such as Respondent 3 (Veteran Teacher), were more sceptical about AI's application in the classroom, stating, "I don't think AI is suitable for our current teaching environment." There is a perceived lack of appreciation and awareness amongst the teachers, so there must be large-scale awareness programmes, let alone programmes about the viability of AI in education.

Theme 2: Implication of Teaching and Collaboration

The learning that the study made is that AI tools' effectiveness was observed in the shifting of teaching practises and possibilities for collaboration between teachers. Respondent 7 (Innovative Educator) stated, "AI tools have helped me collaborate more effectively with my colleagues, especially in lesson planning." This corroborates the study by Kasepalu et al. (2022), noting that Google Classroom and Microsoft Teams, among the AI platforms of innovation, provide a platform through which teachers can discuss and share resources as well as coordinate lesson planning.

Specifically, few participants stated that the role of AI in their practice remained lowly hiked among other duties. Respondent 9 (Early Adopter) noted, "While AI has improved my administrative tasks, it hasn't had a significant impact on my teaching methods." This implies that although the use of artificial intelligence is capable of handling administrative tasks, when it comes to changes in instructional procedures, it

is not very effective, specifically in traditional schools where teachers lack the understanding of the new changes.

Theme 3: AI and Teacher Professional Development (TPD)

All participants showed much concern towards the possibility of using AI in a professional development manner. Respondent 2 (Young Professional) shared, "AI can help identify my teaching strengths and areas for improvement, making my professional growth more personalised." This conclusion is similar to that made by Nguyen et al. (2022), who have stated that some AI-based systems can be used for tracking the professional development needs of teachers and reporting them with potential areas of improvement. Similarly, Respondent 6 (Subject Specialist) emphasised, "AI could help me track my professional development over time and suggest relevant resources."

However, several teachers expressed their concerns about this by stating that they have no adequate preparation and support to implement, understand, and use AI within their training processes. Respondent 4 (New Teacher) pointed out, "I would love to use AI, but I need proper training and guidance." This is similar to the findings of Bozkurt et al. (2021), who discussed the difficulties teachers experience in not being well-trained to apply AI in teaching.

Theme 4: Challenges in Adopting AI for Collaboration

The first issue highlighted in the study was the main problem encountered by teachers, which related to the inability to integrate AI applications due to technical issues and inadequate formal support. Respondent 3 (Veteran Teacher) explained, "My college does not provide enough resources or training for AI, so it's difficult to adopt these tools." This supports the findings by Isma'il et al. (2024), who also highlighted that the limitation of technological facilities specific to internet connexion and available devices jeopardises the efficiency of applying AI in educational institutions in Nigeria.

Also, some of the teachers said that they have some questions regarding the accuracy of the AI applications. Respondent 8 (Expatriate Teacher) stated, "AI tools work well in other countries, but in Nigeria, they often don't perform as expected due to infrastructure issues."

Theme 5: Role of Technology and Teacher Insights

There was significant concern with advancing technology, specifically – artificial intelligence to the development of interprofessional collaboration and professional growth. Respondent 10 (Senior Educator) stated, "I would love to use AI tools for collaborative lesson planning and professional growth." Nguyen and Ng (2020) are of the similar opinion that AI could enable synchronous and asynchronous discussions,

lesson exchange, as well as joint implementation plans for teachers. Moreover, Respondent 7 (Innovative Educator) mentioned, "I believe AI can enhance my ability to reflect on my teaching practices and make data-driven decisions." This makes it possible for AI to be used in targeted ways in which teachers could enhance their practises in instruction continually.

Nevertheless, some issues were pointed out by teachers who opined that using AI was too complicated. Respondent 4 (New Teacher) shared, "AI tools seem complicated, and I don't feel confident using them without proper training." This concern addresses the lack of utensils necessary to consummate research with user-friendly AI and proper training to enable teachers to feel at ease while using such a system (Kamalov et al., 2023).

Theme 6: Policy Recommendations for AI Integration in Education

The respondents proffered several ideas that could assist in enhancing the implementation of Artificial Intelligence in education. Respondent 5 (Tech-Savvy Educator) suggested, "Government policies should incentivise schools to adopt AI tools, providing funding and training." Similarly, Respondent 9 (Skeptical Teacher) emphasised the need for clear regulations on the use of AI in education, stating, "There should be strict guidelines to ensure that AI is used ethically and effectively in the classroom."

These are in agreement with Nguyen et al. (2022), who forged an argument stating that successfully implementing artificial intelligence in education needs to have backing from an institution as well as policies set. Furthermore, Respondent 2 (Young Professional) highlighted, "I think a nationwide campaign promoting AI literacy for teachers would be helpful," suggesting the importance of widespread education and training to increase teachers' readiness to adopt AI tools.

Implications of the Findings

The findings of the study have some policy, educational, and trainer-institution implications for policymakers, educators, and institutions involved in the training of teachers in Nigeria. The research asserts that the incorporation and utilisation of AI have the propensity to support social collaboration and professional learning, but this comes with barriers, for instance, a lack of structures in the learning environment and inadequate training and training on issues to do with change. Thus, it would benefit the Nigerian government and educational institutions to invest in AI structure, train teachers to integrate it and develop relevant guidelines that would regulate the use of AI in education for its positive impact.

In so doing, AI might serve as a helpful tool to enhance cooperation among teachers and support professional development in Nigerian Colleges of Education to enhance

the basic teaching-learning processes and, consequently, students' learning achievements.

5. Conclusion

The purpose of this study is to discuss the possibilities of AI to strengthen the cooperation between teachers and to improve their professional education in Nigerian Colleges of Education. Some of the findings have shown that although educators and trainers have a good understanding of the benefits of AI technology, the adoption is hampered by technological constraints, lack of training, and organisational culture constraints. AI effectively enhances teamwork from the point of view of enhancing learning, automation of work-related problems, and peer support; however, the implementation of the AI system depends on infrastructure and professional development.

6. Recommendation

- **Investing and Incorporating AI Literacy for Teachers:** Nigerian colleges of education should embrace proper technology and incorporate AI literacy for teachers to ensure a good policy environment that supports the use of AI in teaching and learning activities. Besides, the programmes to prepare teachers should also include modules focusing on AI technologies so that educators can learn how to use these technologies properly.
- **Proper Policy Framework:** With proper policies, structures, and backing, applying AI can reform the processes of working in the teaching profession, and such improvements can help the country's education sector. Therefore, integrating AI in Nigerian colleges of education is critical to overcoming existing issues in teacher training and professional practice.
- **Access To Fund and Resources:** Government should provide and ensure that teachers in college of education have access to fund and other necessary resources such as AI tool, software, and hardware to enhance teachers collaboration, training and continuous professional development.
- **Further Research Engagement:** Future research should seek to establish how these solutions can be used at the college level within Nigeria and other various Nigerian contexts, whether in terms of the AI solutions that are currently available or how such solutions can best be implemented with the available resources. Further research should also look into the overarching effects of AI on the quality of teaching as well as students' performance.

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