

Effects Of Experiential Learning Strategy On Senior Secondary School Students' Interest And Achievement In Practical Agricultural Science In Some Selected School In Borno State, Nigeria

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This paper examines the integration of Artificial Intelligence (AI) within the context of Christian Religious Education at Ahmadu Bello University (ABU) Zaria, Nigeria. It emphasizes the transformative role of AI in enhancing educational practices, particularly during the Covid-19 pandemic, and its potential to personalize learning experiences tailored to individual students' needs. The study, predominantly based on secondary data, identifies significant contributions of AI, including personalized learning pathways, mental tutoring systems, and enhanced analysis of biblical texts, which collectively aim to foster deeper engagement and understanding among students. However, the research also highlights challenges such as data privacy concerns, potential biases in AI outputs, and the risk of over-reliance on technology, which may undermine essential human elements of education. Ultimately, the paper advocates for the ethical and responsible integration of AI in Christian education, urging stakeholders to address these challenges while harnessing AI's potential to enrich the spiritual and academic journeys of students. Recommendations for future practices and policies are provided to ensure that AI's application aligns with Christian values and promotes a safe, inclusive learning environment.

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Introduction

Christian Religious Education plays a vital role in shaping people's character and spirituality while also developing a deeper understanding of Jesus Christ's teachings. With rapid advancement of technology, particularly artificial intelligence (AI), the educational environment has experienced huge paradigm shifts in tertiary institutions in the country. As artificial intelligence (AI) has got more digitised, and has become more prevalent in educational institutions, there is the need to assess its integration into the sector. It has emerged as a driving force in tertiary institutions, particularly the teaching and learning of Christian religious education at Ahmadu Bello University Zaria, and is transforming its learning landscape especially during the Covid-19 infection in 2020. Since AI

has transformed many areas, and also offers significant possibilities for the growth of Christian religious education, there is need to sustain its advocacy in the sector. Its inclusion into Christian religious education makes availability and accessibility of knowledge to the students under reference which hitherto was not possible.

Leveraging AI capabilities in learning platforms enables the production of curricular tailored to each individual, taking into consideration their levels of comprehension, learning preferences, and personal development. As a result, each student can have a unique and meaningful learning experience throughout their spiritual and intellectual journey. According to Ringo and Pasaribu (2020), apart from providing specific learning goal, AI enable students to have a better grasp

of their academic routines by evaluating biblical passages. This AI analytical skill makes it important in uncovering fundamental themes in the Bible to help students to savvy contextual and thorough meanings of biblical verses.

Statement of Problem

Understanding the appropriate balance between technological advancement and religious principles allows Christian religious education to enhance students' learning experiences, helping them to grow in faith while representing the essence of Christian religious education's teachings. As technology advances, the use of AI in the teaching and learning of Christian religious education has piqued attention and could also produce mixed bag of successes and continuing challenges. However, Lang (2023) maintains that, despite AI's huge talent in teaching and learning of Christian religious education, we must be very careful when it comes to the moral implications emanating from its use since educators have the responsibility of ensuring that students feel safe while carrying out their academic activities as well as their spiritual lives. In other words, AI can lead to availability of knowledge and access to the same, it could also promote social vices in the sector. In ABU Zaria for instance, it has promoted social vices among the youths who used AI and spend unduly long time on it. Nevertheless, the researcher has noticed that its integration into the teaching and learning of Christian religious education still remain imperative. As a result, this paper therefore, sets out to advocate for integration of AI into the teaching and learning of Christian religious Education at the Ahmadu Bello University (ABU) Zaria. The materials for this study were mainly gathered from

secondary sources such as Christian journals, and the internet.

Clarification of Key Concepts

Artificial Intelligence (AI)

According to Ferguson (2023), AI refers to systems or technologies that use human intelligence to execute tasks and that can evolve based on the data they collect. He further added that it is a type of digital learning whereby computers use reform learning methods to retrieve knowledge from data. Going by the above definition by Ferguson, one can say that AI is an aspect of information technology that develops intelligent computer systems that can formulate, evaluate, and react to inputs.

Christian Religious Education

Christian religious education according to Ezeobi (2022), is the teaching and learning of Christian ideas, beliefs, and customs that seek to foster spiritual advancement, virtue cultivation, and an understanding of Christian tenet and their application to daily life. The concept is based on the idea that education should help people develop a personal relationship with God and live according to Christian ideals. It is a component of the holistic-oriented education that leads students to progressive habit for social responsibility towards the community to which they belong and have a share. Abolarin and Babalola (2023) also define Christian religious education as a type of education which the curriculum, teaching techniques, and educational philosophies are founded on a Christian religious worldview that assigns existence to a supreme being. It is the cultivation and training of the intellect, emotion, and will to allow the three to function as harmoniously and optimally as possible in all circumstance. They went on to say that Christian religious education is designed to bring pupils to the acquisition of values by shaping their character

for successful life and acceptability before God in worship. It is designed and incorporated into the school curriculum and also taught at home alongside the teaching in school, since the home is the first school in human life.

Discussion of major findings.

It can never be out of place to think whether AI can be of any relevance to Christian Religious Education since artificial intelligence is a technology or intelligent machine designed to solve problems that require cognitive intelligence while Christian religious education deals with development of the person's mind, study of religious beliefs and practices, our relationship with our creator (God) and fellow human being. The answer is AI is very important in the teaching and learning of Christian religious education because the era of relying completely on orthodox method of learning is beginning to face out due to integration of AI which no doubt has transformed many areas of our lives and education is not an exception. The following is the discussion on the major findings arising from the study:

Personalised Learning

Ringo and Pasaribu (2020) submit that personalised learning is the technique that emphasises on the student's learning process and caters for their talents and concerns. This type of learning provides them with a variety of learning experiences that allow them acquire knowledge. By implication, this learning approach goes beyond the orthodox style of learning, which is one of the reasons why educators especially Christian religious educators are increasingly supporting this viewpoint, as students may benefit from a customised educational environment. According to Ocampo and Gozum (2024) one of the benefits of incorporating AI into the teaching and learning of Christian religious

education is the ability to provide personalised learning experiences for each student by analyzing vast amounts of data, such as students' learning styles, comprehension levels, and spiritual development, AI can determine individual strengths, limitations, and learning preferences, allowing the construction of customised curriculum and learning materials. AI can cater for each student's distinct needs via personalised learning, ensuring that the content supplied is relevant to their unique abilities and interests. For example, students who prefer visual learning can be given multimedia-rich materials, whilst those who prefer textual learning can be given content in written form. This customised learning technique strengthens student commitment and grasp of the subject content thereby, boosting a resilient nexus between student and their study material. Due to AI modification of learning materials to match individual expectations, students feel important and reinforced in their academic journey and this consequently, can go a long way to encourage the learner to develop a sense of autonomy or influence over their academic journey resulting in greater academic achievement and deeper spiritual connection. Also, the ability of AI to assess students' progress and spiritual breakthrough within a period of time ensure continuous advancement during academic process by enabling educators to particularly note and support those students experiencing academic challenge. By accessing data in relation to students' spiritual development, AI can offer focused proposals for supplementary components that would improve spiritual understanding and connection with the Christian ideals as demonstrated in the Faculty of Education and distance learning center in ABU Zaria. In a nutshell, personalised learning using AI enables students to actively participate in their religious education, resulting in a more

meaningful and enriching spiritual experience. By taking into account individual learning preferences and spiritual needs, AI ensures that each student can start a personalised and effective learning journey that promotes deeper engagement and growth in their Christian faith (Ocampo and Gozum, 2024).

Mental Tutoring System

This is an aspect of AI-powered technique with the capability to basically reshape or modify the way students are assisted academically. Systems of this nature allow learners to electronically interact with their tutor by unveiling problem-solving test and addressing their feedback, bringing about one-on-one coaching in real time. Bradac and Kostolanyova (2017) and Khoa and Nguyen (2021) opine that using these teaching strategies, cognitive or mental tutoring systems can provide tailored help, resulting in in-depth learning and the development of critical thinking skills.

Support for Teachers

The daily lives of educators extend beyond instruction. It also entails several administrative, time-consuming, and energy-intensive chores, such as grading assignments and test, preparing materials, filling out forms, and producing reports. The application of generative AI can streamline and accelerate some of these processes and also enables the teacher to reach a large number of students at the same time, allowing teachers to work less and dedicating more time to their students' needs. Tomic and Randovanovic (2024) state that planning of lesson is one of the most time-consuming and overwhelming aspect of being a teacher, however, AI tools can mitigate or lessen this burden by generating in-depth lesson plans through gathering materials from across the internet.

Biblical Texts Analysis

Incorporating (AI) in the teaching and learning of Christian religious education is a

huge benefit to students since it is equipped with proficiency to decode natural language which brings about a remarkable change for in-depth research of biblical passages in Christian religious education. According to Ojieabu (2024) AI's ability to recognise linguistic patterns, nuances, and contextual meanings allows it to delve deeply into the scriptures, bringing profound insights into biblical text patterns that aid in deeper understanding and interpretation of Christian teaching. These has been used extensively in Christian religious section in the Faculty of Education and distance learning center in ABU Zaria. Supporting Ojieabu, Dos Santos, Nizan, Israel, Nunesde, & Frango, (2023) highlight that AI's evaluation of texts in the bible has demonstrated robust findings and goes beyond superficial knowledge by pinpointing core themes, recurring ideas, and connection between various sections that cuts across the Bible. By identifying styles and comparing various sections of the scriptures, AI can present all-encompassing insight of the synergy of Christian teachings, clarifying the unity of biblical message by various writers. Based on the work of the aforementioned authors, AI can unravel the historical contexts in which biblical texts were written, and this understanding of the cultural and historical background improves the interpretation of the scriptures, providing valuable context to grasp the intended messages.

Spiritual Guidance

According to Ringo and Pasaribu (2020), one of the importance contributions of AI to the teaching and learning of Christian religious education is that it serves as online spiritual counselor guiding students through their spiritual quest. One of the thing AI does is employing data on the spiritual activities and developmental progress of students and then

offer useful guidance and recommendations that correspond to their preparation. This in return enables students conquer spiritual challenges and form a stronger relationship with God. Toevs (2023) opines that the role of AI as a virtual spiritual counsellor or advisor provides several benefits to Christian religious education students in their spiritual experiences. One of such benefits is that, AI can provide live assistance that is not limited by time and space. In this regard, students can request for spiritual assistance that can help them deal with their spiritual challenges round the clock. It is worth noting at this juncture that the ability of AI to analyse data on students' religious activities makes it easy for the system to recommend additional spiritual activities for learners by offering spiritual texts, meditation techniques, or suitable religious practices based on their understanding and interests. This on the other hand, may go a long way to make students feel more at home to interact with the machine than physical tutor, allowing them to think and progress in their academic and spiritual growth more openly. This aspect should be encouraged in the teaching and learning of Christian religious studies section of the Faculty of Education, ABU Zaria.

Challenges of Integration of AI into Christian Religious Education

It is vital to note that the use of AI in teaching and learning of Christian religious education has added value by making the process more successful by introducing hitherto untapped dimensions. However, the possible setbacks must not be overlooked. There are several factors that militate against the successful use of AI, a few of which are worth considering:

Safeguarding of Data

The use of AI in teaching and learning of Christian religious education specifically when

it comes to online platforms and collaborative situation, brings concerns about the safety of data since it deals with collection and analysis of student data and also their spiritual activities and progress. Tomic and Randovanovic (2024), opine that to guarantee the safety of data along with student's privacy, instructor's hands should be on the desk to ensure that student data are well preserved and used entirely for educational and spiritual purposes. This should be the primary duty of educators especially in the Christian religious section of the Faculty of Education ABU Zaria to guide against the use of data gathered for learning being used for another purpose or cybercriminals installing malware into school system.

AI Technology addiction

Incorporating of AI in Christian religious education is good and a welcome idea because of the benefits derived from the use however, this should not result in an over reliance on the technology because the tendency of AI eroding human potentials is very high. Isaacs (2024) in his view states that even though AI can improve learning efficiency, it cannot replicate the depth of human educators. By implication, understanding human relationships and compassionate spiritual direction are useful in fostering students' faith and spiritual growth therefore, when students become unnecessary reliant on AI outputs without human involvement, it may limit the utility of this technology.

Accessibility of soft wares

These soft wares are very pricey, making it difficult for some institutions and students to assess them due budgetary constraints. However, this presents an accessibility issue and consequently widening the gap between those who have the purchasing power and those who do not have.

Compatibility of Content with Christian Values

One of the primary issues with integrating Artificial Intelligence (AI) in Christian religious education is making sure that the content is compatible and align with Christian teachings. The fact that AI can bring together, analyse, and present spiritual information to students cannot be overestimated, however, it is essential to ensure that the content offered is in line with Christian values and teachings. Christianity's fundamental spiritual ideals must be considered when designing AI methods and content for teaching and learning of Christian religious education. For example, AI chatbots typically collect metadata from the internet hence, the possibility of AI chatbots to gather incorrect beliefs about theology is very significant. Ty, (2023) claims that a thorough understanding of Christian theology and religious values is required to ensure that AI does not give material that violates Christian beliefs or has a harmful impact on learner's spiritual development.

Maligning and Ethical Concerns

The use of AI raises ethical concerns, such as who will be held accountable if an AI tutor provides incorrect information, and what if the teaching contains theological bias, or specific prejudices, as AI may provide recommendations or information that is unbalanced or inaccurate in the context of Christianity. For example, AI might be configured to slander or favour specific spiritual beliefs or practices, ignoring the greater spectrum of Christian teachings. It is in line with this that Ty (2023) says that constant monitoring and evaluation are required to verify that these technologies are devoid of bias and give fair and objective results, which aligns with the aforementioned difficulty.

Conclusion

It is a known fact that the integration of artificial intelligence (AI) into the teaching and

learning of Christian religious education in Nigeria has come to stay and signifies an impotent advancement as the world is going digital and this is more than the ability to read and write. This has provided both educators and learners innovative devices and methodologies that provide valuable insights into Christian religious education. It is worth noting that even with this amazing skills of AI to enrich learning and educational experiences, it cannot replace human educators because there are important aspects of teaching like mentoring, emotional support which can be handled better by human teachers. Educators must make sure that the information provided with the help of AI are correct and free from theological bias and this can only be done by using the lens of God's word to critically examine and interpret them.

Recommendations

It is therefore recommended as follows:

- i. The government in collaboration with the various learning institutions should create awareness on the benefit of using AI in the teaching and learning of Christian Religious Education and how it can be integrated into the system.
- ii. Educators should enlighten learners that even with the capabilities of AI and the benefits derived from the use, AI cannot replace humans as it is impersonal and this could lead to loss of meaning and purpose in life.
- iii. Computer literacy should be made mandatory for both teachers and students as this will go a long way to discover new methods of teaching and overcome some of the factors militating against the of use of AI in teaching and learning.
- iv. Since the use of AI is of paramount importance because of its capability in the teaching and learning of Christian Religious Education, schools in

collaboration with the government, should try and make AI technology accessible for learners,

- v. Ethical concerns relating to data privacy, religious biases should be addressed by educators to ensure the safety of data and students' privacy, and lastly educators should shoulder the responsibility of establishing ethically sound AI systems that are consistent with principles, thereby promoting comprehensive and integrity-driven religious education.

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