



ARTIFICIAL INTELLIGENCE IN EFFECTIVE ADMINISTRATION OF NIGERIAN SCHOOLS

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Abstract

Artificial intelligence is presently yielding a lot of benefits to the world and every facet of human endeavors and school administration is no exception. The application of Artificial Intelligence (AI) in effective school Administration has shown a lot of potentials to improve accuracy and timeliness of educational activities and practices. For example, AI helps to create and update content more efficiently, ensuring that the learning materials are up to date and relevant to achieving educational goals. This helps students to stay informed about the latest developments of their chosen fields of study and prepares them for future endeavors and challenges. Hence effective school administration can thus be enhanced through the application of artificial intelligence which helps in the achievement of educational goals. It is on this background, this paper examined Artificial Intelligence in the effective administration of Nigerian schools. The paper therefore explores clarifications of concepts, application of AI in school administration, the implications of AI as well as the challenges of AI in effective administration of schools; as it proffers possible solutions to the observed challenges.

Key words: Artificial Intelligence, Effective Administration.

Introduction

The application of artificial intelligence in administrative effectiveness in Nigeria schools has shown enormous benefits to the institution and all stake holders in education. This is evident as excess data about students, staff, programmes, institutions etc abounds. Through the application of AI in school administration, these excess data are easily manipulated to yield timely and accurate results for the achievements of educational goals and developments of the nation.

Artificial intelligence is a kind of stimulant of human intelligence proceeded by machines especially computer system. Specific application of AI in educational administration includes expert system, external language processing, speech recognition, machine view etc.

The history of AI in Nigeria can be traceable to when the Nigerian government established the National Center for AI and Robotics (NCAIR) in the 1980s. The NCAIR was established to promote research and development in Ai and robotics but today its importance in school administration cannot be overemphasized. Examples of the use of AI include the identification of students' strengths and weaknesses which help to improve the learning experience and performance of students; AI can also conduct routine tasks such as record keeping, scheduling and grading thereby freeing up teachers' time so they can focus on other areas of school activities and practices. Hence, the application of Ai in educational administration creates promising future due to its benefits yet it comes with limitations and



challenges which when curtailed could lead to effective administration of Nigerian schools so as to achieve educational goals.

Conceptual clarification

Concepts clarified include Artificial Intelligent, Effective school Administration.

Artificial Intelligence

Artificial intelligence is defined as the ability of a computer or robotic which is controlled by a computer to perform tasks that are usually done by human beings. Such control is paramount because they require human intelligence and discernment. Artificial Intelligence is also known as the advanced technology that stimulates human intelligence with the aid of machines learning conditions, mental networks and Natural Language Processing (NPL).

Artificial intelligence are simulations of human intelligence processes by machines especially computer systems. AI is currently used to transform different areas of endeavours and education is no exception. However, AI has made its way into the field of education especially educational administration and management.

Specific applications of artificial intelligence include expert system, neutral language processing, speech recognition and machine vision.

Artificial intelligence is a specialty artificial computer science that is concerned with creating systems that can replicate human intelligence and problem-solving abilities. This could be done by taking mere data and processing it and learning from the part in order to strengthen and improve in the future.

However, computer programs would need human interference in other to fix bugs and improve processes. Artificial intelligence is the intelligence of machines or software as opposed to the intelligence of humans or animals. AI is a wide range branch of artificial computer science concerned with building machines capable of performing tasks. AI stands for Artificial Intelligence is a technology that mimics human intelligence to perform tasks.

Effective Administration of schools

Administration can be defined as the process of organizing leadership, it involves the styles in which managers manage and how best the people in the organization can lead and be directed. The concept of Administration is viewed as the task of planning, organizing, directing and controlling. The administrator of the school oversees the school development as well as its staff and students. Peretemonde in Ogieva, (2016) viewed Administration as concerned with the performance of executive duties, carrying out of policies and decisions to fulfill a purpose, and the controlling of the day to day running of an organization. Educational Administration can also be viewed as the careful and systematic arrangement and use of resources (human and material), situations and opportunities for the achievement of the specific objectives of educational organizations.

Ogieva (2016), view Administrative Effectiveness as the measure of the ability of schools' heads, administrators, heads of departments to perform their administrative duties using methods, principles and practices to establish and execute the goals, policies, plans and procedure to achieve predetermined goals. Effective administration of schools therefore, involves leadership, teacher development students' assessment budgeting and resource management. By using appropriate management techniques and tools, educational institute can improve their efficiency and effectiveness to provide quality education to students.

Application of AI in School Administration

The application of Ai is gaining grounds in all areas of life especially in the area of education administration.



Application of Ai in education was put forward by Singh andSing (2022) and Smith (2022) which can be applied to school administration include;

1. Personalize learning: AI can be applied in such a way as to aid personal education learning. This is done based on individual students needs ability and preference as well as intent.
2. Automated grading system: AI can conduct the assessments and grading process of students. This helps to save teachers time and can be used for other activities.
3. Prediction of student performance; AI can analyze student activities such as student performance, attendance, and other factors, so that those at disadvantage can easily be treated and assisted.
4. Student safety on campus: AI can be used to discover student behavior and potential threat through Ai powered surveillance system by alerting the school security personnel early.
5. Admission of student: AI can analyze student's application data and identify those that are most suitable in a given program.
6. Predictive analytics: AI can analyze through student data to predict their performances.
7. Teachers support: AI can assist teachers in tasks in different areas such as lecture planning, score grading as well as the provision of feedback.
8. Students support; AI can provide students with answers to questions thereby assisting teachers and administrators to have time to focus on often pressing issues in the school
9. Curriculum development; Ai can assist schools automate financial aid applications and ensure that financial aid is given to eligible students.
10. Financial aid service: Ai can also be used to identify the market trends and the skills and knowledge need in the future and incorporated into the curriculum thereby enhancing the development of breast programs and curriculum.
11. Intelligent tutoring system: AI provides tutoring system can also assist in tutoring adapt to learning needs and identify the progress of individual students.
12. Virtual assessment and check books; Ai can help students to work instant answers to questions thereby giving teachers and administrators enough time to utilize they time on other pressing task.

Others include;

13. Virtual class: AI application also features in virtual class. This makes it easy for students and teachers to participate in class activities at convenience. It makes teaching and learning flexible
14. Virtual meetings: staff are often engaged in meetings virtually. Creating room for ease and convenience. Even meetings with students are made possible with AI.

Imperatives of AI in Administrative effectiveness of Nigerian schools

The importance of AI in the Administrative effectiveness of Nigerian schools cannot be overemphasized, these include;

1. It enhances learning outcome: Gupta (2020) observed that Ai helps to improve on student learning outcome. ONeil and Chang (2019) suggest that Ai powered tutoring system can provide personalized feedback and adaptive learning experiences that are geared towards each need of students' age their learning styles. More also, AI can be used to identify areas where students are having challenges through the analysis of students levy Faye such as assessments scores and behavioral patterns.
2. Intelligent coaching of students: Oneil and Chang (2019) the intelligent teaching ability of AI. This is done by providing personalized and adaptive feedback to students. This is done through the collection analysis of students' data and performance, theory learning patterns and engagement so as to provide individual support and intervention.
3. Immediate feedback; AI has the ability to provide immediate feedback studentsso that they can identify the areas of strengths and weaknesses.



4. Ease in developing content; AI can be used to develop curriculum content as well as work schedules. Job description can also be developed using AI assisted tools. This creates ease in administrative effectiveness of schools.
5. It improves students' performance and enhances teaching and learning practices; AI has the ability to identify suitable methods of technology and determine the most suitable materials to enhance effective learning outcomes.
6. It enhances improved administrative tasks performance: Using AI administrative undoubtedly help to improve the performance of administrative tasks. Example include assigning grades to scores, keeping records etc. this therefore leaves teachers with enough time to perform other relevant duties assigned to them.
7. Ease in generating information and data; With the application of AI, it is much easier to generate information or data about staff performance, students' performance, bio- data etc for effectiveness in administration.
8. Personalize learning; Through Ai teachers can customize their methods of teaching to suit the needs (learning styles and ability) of individual students. This therefore can lead to improved learning outcomes.
9. AI tools undoubtedly helps to improve efficiency and reduce errors, which leads to a more effective and efficient performance of duties in the educational administration in Nigeria schools.
10. It enhances adequate students' assessment. Through AI tools, large data which can be used to identify students' development and improvement are provided for accurate feedback. Hill, Song and West (2020), observed that AI based assessment tools can reduce bias and subjectivity in grading, leading to fairer and more consistent evaluation of students' performance.

Challenges of Application of AI in Administrative Effectiveness of Nigerian Schools.

1. Unemployment; It could lead to loss of job/ unemployment - in educational application of AI in administrative effectiveness could lead to loss of job. For example, the administrative task which is automated by Ai could lead to displacement of individual whose were allocated to do the jobs. This may further aggravate the problem of unemployment presently witnessed in Nigeria.
2. Inadequate technical expertise and resources for AI and availability of resources; Much is yet to be desired in Nigeria where there are inadequate technical expertise and resources. There is public outcry over inadequate resources in education. The application of AI in educational administration is no exception.
3. Inadequate ethical and legal guidelines to protect the privacy of students and prevent AI from been used for surveillance purposes and ensure data security. There is tendency that AI to produce biased results as a result of inadequate ethical and legal guidelines. More also access to large data which includes personal information on students, staffs as well as department leaves much to be desired.
4. Prone to Abuse; AI can also be abused as it can be used to generate data. Consideration for human inadequacies is left out.
5. Inadequate compatibility; this is evident as different institutions in Nigeria use different. For example, some use EMIS, others use LMS while others use MIS. This variation affects the compatibility of the application of AI in Administrative effectiveness in Nigerian schools.
6. Bias and discriminations are eminent in the use of Artificial Intelligence (AI) Mason & Rennie (2018) argued that AI Algorithm may replicate and amplify biases and discrimination in educational system leading to further inequality and injustice. This is evident during students' evaluations and admissions as where Ai may perpetuate racial and gender biases in students.
7. Loss of personal touch and human considerations: This is one of the limitations of Ai in education Administration in Nigeria. There is no enough human interaction which may create some level of vacuum in the students. As was observed by Peter and Beckey (2020) observed



that there is tendency for to reduce human interaction which may not be satisfying to students as their experiences with humans is being reduced.

8. Inadequately transparency and interpretation: Inadequacy of transparency and interpretation could pose more hindrance to education administrative effectiveness in the area of making effective decision that will improve the performance of the institutions.

Suggestions on the Way Forward on the Application of Artificial Intelligence in Educational Administration

Administration of Education in Nigeria is faced with a lot of challenges as mentioned above. However, the following are suggested solutions if the benefits of AI must be achieved.

1. School Administrators must understand that there is the tendency of AI to be its bias in its usage and therefore, discrimination is eminent. This knowledge is paramount so as to ensure adequate, better and equitable use of AI.
2. Management of Educational institutions must ensure that the use of AI does not replace human inputs. They must ensure its use does not displace the staff but only to support their work for achieving educational goals and to ensure students' performance is increased
3. Management of Educational institutions must ensure that application of AI is used transparently and ethically and students' privacy and security must be ensured. More so, individual data must be absolutely secured as one uses AI.
4. Effective and adequate professional development must be provided by educational Administrators. Staff and students must be trained on the skills and knowledge needed for adequate use of AI.
5. School Administrators should ensure that the different systems work coherently and effectively for the achievements of educational goal.

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