

Harnessing AI in management of Education for Skills Development and Economic Transformation

Aderonke Esther Olumoyo
Olajumoke Adebunmi Abiyere
Mary Folakemi Olukorede

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Abstract: *This paper examined the usage of Artificial Intelligence (AI) in Management of Education for Skills Development and Economic Transformation at all levels. The study discussed the meaning of Artificial Intelligence, Management in Education, the Application of AI in Management of Education, and the various Challenges associated with the usage of AI in Educational Management. It was concluded that AI when properly harnessed can be used for Skills Development in Educational Management. It was there recommended that more ICT or AI specialist be recruited to the Educational institutions for effective usage of AI in Management of Education. ICT Facilities should be made available to schools. Power supply (Electricity or solar power) should be provided for the Educational Institutions for effective usage of AI in Management of Education among others.*

Keywords: artificial intelligence, management of education, educational institutions.

INTRODUCTION

Artificial intelligence (AI) is the ability of a machine to perform tasks that are usually done by humans. This is to say that artificial intelligence system can teach, learn, reason, draw, and solve problems. They can also adapt their behavior based on their experiences. Artificial intelligence (AI) is also seen as a set of technologies that enables computers to perform a variety of advanced functions including the ability to see, learn, teach, understand and translate written and spoken languages, compute analyze data, make inferences, recommendations among others. According to Kavlakoglu (2024) Artificial Intelligence (AI) is the technology that enables computers and machines to stimulate human learning, comprehension, problem solving, decision making, creativity and autonomy. Applications and devices equipped with AI can see and identify objects.

They can comprehend and respond to various human languages. They can make comprehensive recommendations to users and experts. AI can act as an independent entity which can be used to replace the need for human intelligence or human intervention.

Artificial intelligence refers to the development of computer systems capable of performing tasks that typically require human intelligence (ASFA 2022) AI technologies involves various techniques and approaches such as machine learning, deep learning, natural languages processing, computer vision and robotics. These technologies enables computers to input data, analyze data, recognize voices, patterns, make predictions and recommendations and automate complex processes. AI is useful across many fields including health, finance, transportation, agriculture, construction, customer care and education etc.

According to ASFA (2022) AI has the potential to transform industries, improve efficiency and create new opportunities. AI are programs developed to perform series of tasks that are being used for a wide range of activities such as medical diagnosis, electronic trading platforms, robot control and remote sensing. The roles of Education in socio- political and economic development of a nation cannot be over-emphasized. To this end, huge resources are devoted to its provision. Nevertheless, the extent to which education fulfills its aims and objectives within the context of national goals depends on the effective and efficient management of educational system. Educational stakeholders such as educational policy makers, planners, administrators and supervisors must be well equipped with modern techniques and practices such as Artificial intelligence for management of Education for skills development and economic transformation.

Management is defined as the coordination of all resources of an organization through the process of planning, organizing, directing and controlling in order to attain organizational objectives Nwachukwu (1988) , management is the effective and efficient utilization of human and materials resources for the attainment of organizational goals through appropriate leadership behavior(coordination). The end product of managerial activities is the achievement of organizational goals. The moment such activities fail to achieve the goals of the organization they become mismanagement. Management permeates all organizations and no organization can function effectively without good management (educational institutions inclusive).

Educational management is the task of coordinating the educational system with the optimum use of the human and materials resources for achieving its goals and objectives. Educational management deals with the planning and organizing human and materials resources to realize the goals of educational institutions. From the foregoing, educational management covers school program planning, implementation, organizing, controlling, coordination and evaluating performance, decision making, curriculum development and planning, school plant management, students and teachers activities, human capacity development, school-community relationship, academic circular planning, co-curricular program, school security, examination, disciplinary procedures for both staff & students, acquisition and distribution of instructional materials for the school among others. AI has been observed to be an advanced technology that can be used in

management of education for skills development, curriculum planning, enhance the learning process, improve student outcomes and ease administrative tasks.

Areas of AI in Management of Education

Artificial intelligence can be used in Management of education in the following areas:

- Security and safety: AI can be used to improve the security and integrity of assessment through plagiarism detection and proctoring which is used to monitor examination conditions to prevent cheating. AI powered surveillance systems monitor school premises for potential safety threats. AI can be used to analyze video feeds and alert security personnel to suspicious activities thereby enhancing the overall safety and security of the school environment. Olumoyo (2022) opined that genuine teaching and learning can only occur in secure and protected school environment she therefore recommended the use of technologies like CCTV to be installed at strategic locations to monitor the movement of persons(staff, students, visitors) for quick and detection of criminal activities within the institutions.
- Teachers support: AI can be used to analyze students learning style and strength to create tailored content and activities. It can be used to automate grading, scheduling, lesson planning, feedback, and report generation. It can also assist teachers in curriculum development and drawing quizzes or test for the pupils.it can also help teachers manage classroom behaviour and engagement, thereby significantly reducing the workload on educators. AI can be used to create interactive quizzes and games that respond to students input, keeping learners motivated and actively involved.
- Teachers' skills development: with the era of AI technologies, a teacher may not necessarily be an expert before teaching a subject effectively. AI will help teachers to ask questions, and give accurate answers concerning the subject matter. For instance an English language expert can teach Agricultural science or Home Economics effectively with artificial intelligence tools as it will give them the insight into both theories and the practical aspect of the subjects
- Financial management: AI can help school managers detect fraud, ensure efficient financial management, optimize budgets and so on.
- Professional development and continuous learning: AI supports continuous learning and professional development for teachers by providing resources and courses that are based on educators career goals and teaching needs.
- Students support: AI is an assistive technology which can help students with learning disabilities to learn at their own pace as it can analyze student data to predict performance and identify students at risk. It can also provide support to students at all time making learning more personalized, inclusive and effective for example, student with hearing disabilities can make use of speech recognition software that transcribes spoken words into written text. Educational games also provide personalized learning experiences for young children,

Challenges of Artificial Intelligence in Managing Education

Despite the incredible advantages of AI there are challenges relating to its usage which are:

1. **Inadequate Internet Access:** this may hinder effective application of AI in management of education in Nigeria. Many of our educational institutions are in the rural areas where there are poor internet facilities or non at all. Most of the public schools seem not to be able to afford to provide internet services in their schools. According to Ogunode, Lawal & Olubunmi (2021) the problem of internet connectivity is a challenge in schools in Nigeria. They also concurred that the poor internet accessibility in Nigeria has affected the development of digitalization of education in the Post – Basic Education and career development in Nigeria.
2. **Inadequate Power Supply:** AI usage cannot be effective without adequate power supply. Many towns and cities in Nigeria do not have access to stable power supply. This has been a major challenge which affect the usage of AI for management of education in Nigeria especially public primary schools across Nigeria. The problems of electricity has been hindering the students and teachers from integrating digital technologies into their teaching and learning programmes. It is observed that most of our schools are cited in the rural areas where there is no access to electricity and those schools in the urban have no stable supply. This Day reports in 2022 that Nigeria has the lowest access to electricity globally with about 92 million persons lacking access to power which is stifling the country industrial growth and causing other problem.
3. **High Cost of Maintenance:** AI facilities are expensive which most of the public educational institutions may not be able to afford. The high cost of maintaining AI facilities in schools has limited many school managers to adopt its usage despite its effectiveness. It appears that Funding of education in Nigeria is inadequate therefore administrators cannot effectively maintain the AI facilities in their schools where available.
4. **Lack of Technical Expertise:** the shortage of ICT teachers of AI expert is another challenge hindering the application of AI in schools for management of Education. It is observed that most of our public schools do not have computer teachers. Igbokwe (2023) noted that lack of technical expertise and resources is a major challenge in the usage of AI in schools. AI requires specialized skills and expertise which most of the educational institutions are lacking. It therefore make a great challenge in effectively utilizing AI for management of education
5. **Lack of Ethical and Legal Guidelines:** AI system often collect and analyze large amounts of personal data which reduce privacy and bring security issues. One of its challenges in educational management is the lack of ethical and legal guidelines. This means that AI can produce biased and discriminatory results. It is also essential that AI is used ethically and transparently. Igbokwe (2023) opined that AI should have guidelines that protect student privacy, ensure data security and prevent AI for being used for surveillance purposes.
6. **Over Dependence on AI:** another major challenge of AI observed is that most of the students and teachers now depend on AI to solve problems. Over dependence of AI technologies can make teachers and students to be lazy, dependent and become an addictive behaviours.

Arising from the foregoing, it was concluded that Artificial intelligence AI is a veritable technological tool that is very useful in education sector. AI if properly harnessed by educational managers, teachers, students, parents and other stakeholders in education will lead to skills development and economic transformation in the education system.

Recommendation

In light of the findings of this study, the researcher would like to make the following recommendations:

1. Internet facilities should be provided in all educational institutions across the country so that teachers and administrators will be able to harness AI for the purpose to which it is needed at all time
2. There should be power supply (Electric or solar power) generator and provision of funding for fuel which is an alternative to electricity in all schools as AI facilities cannot be used without adequate power supply
3. ICT or AI expert should be recruited at least one ICT teacher for primary school, 2 or three for secondary schools to facilitate the usage of the AI technologies in the schools. There should be regular training and re- training of the teachers to keep them abreast of the current trend in the usage of AI in education.
4. The government should increase the funding of educational institution and ensure adequate provision and maintenance of AI facilities in the educational institutions.

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