



## APPLICATION OF ARTIFICIAL INTELLIGENCE IN THE MANAGEMENT OF STUDENTS SERVICES IN PUBLIC SECONDARY SCHOOLS IN SOUTH EAST ZONE, NIGERIA

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### **Abstract**

*This study was on Application of Artificial Intelligence In The Management Of Students Services In Public Secondary Schools In South East Zone, Nigeria. The study had two objectives which are; Application of artificial intelligence on the management of students security services in the secondary school in south East Zone, Nigeria; Application of artificial intelligence on the management of students library services in the secondary school in south East Zone, Nigeria. In line with these objectives, two research questions and two null hypotheses were asked and formulated respectively. Descriptive research design was adopted for the study. A total of 380 respondents were sampled from the total population of 28,791 using research advisor (2006). The two null hypotheses were tested using One Way Analysis of Variance (ANOVA) at 0.05 alpha level of significance. Descriptive statistics was used to analyze the bio- data of the respondents. Major findings of the study were that: Artificial intelligence is yet to be applied in the management of student's security services in secondary schools in south east zone, Nigeria, and that Library services are still rendered manually in most schools without the application of artificial intelligence in secondary schools in south-east zone, Nigeria. The following recommendations were made: Efforts should be made to sensitize the relevant stakeholders in education to see the need for dramatic change in the provision of students security service in the light of artificial intelligence in secondary schools in South East Zone, Nigeria and that Library services are crucial for the intellectual well being of students, deployment of artificial intelligence in this direction should be given the need priority by all concerned stakeholders in secondary schools in South East Zone, Nigeria. The study concluded that Artificial Intelligence can be used to play a major role in shaping the growth of education sectors in Nigerian with particular reference to students security and library services. It is not impossible, with the right mind set and commitment from the government.*

**Keyword:** Artificial Intelligence, Students Services, student's security services, student's library services

### **Introduction**

Secondary schools all over the world and in Nigeria plays vital roles in national development, especially in the training and development of the desired secondary school graduates full of vocational and technical skills. These skills make the secondary school graduates to be self-dependent and self-reliant thereby contributing immensely to the economic and social development of their nation and reducing the rate of unemployment and criminal activities. Students' services such as guidance and counselling, health care, security, recreational as well as school library services are important to the academic programme and could lead to a holistic and balanced education for the secondary school students. Students' services are rendered to cater for the welfare of the students with a view of helping them to build a solid foundation, while maximizing their educational pursuit and at the same time promoting personal and institutional prestige within and outside the educational spheres.

Artificial Intelligence (AI) is the ability of a digital computer, computer-controlled machine or robot to perform tasks commonly associated with intelligent beings like humans. Intelligence has been considered as one of the most important quality of human beings because every human behaviour has actually been ascribed to intelligence.

According to Kumar (2018), human beings are the most intelligent of all the created animals in the world. Artificial Intelligence (AI) was founded on the claim that human intelligence can be so precisely described that a machine can be made to simulate it. This raises philosophical arguments about the nature of the mind and the ethics of creating artificial beings endowed with human-like intelligence which are issues that have been explored by myth, fiction and philosophy since antiquity (McCorduck in Reagan 2018).



Artificial intelligence (AI), sometimes called machine intelligence, is intelligence demonstrated by machines in contrast to natural intelligence displayed by humans and other animals. This implies that machines can be made to perform tasks commonly associated with intelligent beings like humans and animals. It is an area of computer science with the help of digital electronics that emphasizes the creation of *intelligent* machines that work and react like humans. The term is frequently applied to the project of developing systems endowed with the intellectual processes and characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experiences (Reagan 2018).

Students' services therefore, can be defined as all the non-academic services rendered to the students at the school setting outside the formal classroom instructions. The researcher observed that adequate provision of these services is very vital in any educational institution as the services will enable students to develop love for school, participate in school activities and stimulate regularity and punctuality in school attendance. Jumare (2016) opined that students' services are referred to the provision of materials that could aid, assist and ease teaching and learning activities within or outside the school. The management of students' services provide students with healthy living and active citizenship while guidance and counseling shapes students study habits, emotional, psychological outlook and choice of career

### Students Security Services

School security services encompass all measures taken to combat threats to staff and students and property in education environment. One term connected to school security is school safety, which is defined as the sheltering of students from violence and bullying, as well as exposure to harmful elements such as drugs and gangs' activity. There are uncountable incidences of kidnapping, armed banditry, cultism, aggressive acts, fighting and vandalism in our society that has encroached into our education institutions. The need for security services in our schools become not only imperative but a necessity. The school is an organization that needs to have planned safety and security rules and regulations to protect its components so that the culture of teaching and learning is enhanced

### Types of School Security Services

School security could be categorized into the following according to (Jumare, 2020)

1. **School Security at the Gate:** This implies the routine check done by security personnel and in some cases assisted by teacher(s) at the school gate. The check usually ensures nobody takes any illegal item into the school premises. The checking also controls students late coming among others. These types of checking are done with the assistance of machines and other gadget where school could afford, while in some schools it is done manually using hands.
2. **School Security during Class Hours:** School security during class hours means cross checking school premises by security agents or teachers. The purpose of this check is to ensure all sections of the school are secured, that nobody or group of individual hide to commit any crime it is also aims at making sure students are not hiding in any place in the school without being in the classrooms. In some schools, this type of check is done using electronic machines (CCTV cameras) and dogs.
3. **School Security after Closing Hours:** This type of school security takes place when the school is closed. The aim of this type of security is to make sure school facilities are kept safe and in the event of any hazard e.g. fire, it is detected easily. In boarding schools it assists to control students' movement and illegal meetings. This security checks also help part off light and close doors and windows in the school premises. Trained dogs could also be used in providing after closing hours' school security

### Students Library Services

The library also promotes the development of reading skills and encourages long term learning habits through reading, listening to and viewing a variety of materials. The library is the integral part of the school system. School library services assist teaching by storing instructional materials such as textbooks, audio visual materials, magazines, newspapers, journals and reference materials. It is the function of this library to support the school curriculum by providing up-to- date information to keep teachers and students abreast of new development.



All libraries should render some of the following services to user.

1. Lending or Circulation Service
2. Reservation of Documents
3. Inter Library Loan
4. Assistance in the Use of Library and Library Tools
5. Reference Service
6. Reader Advisory Service
7. User Orientation

### **Application of Artificial Intelligence on the Management of Students Security Services in the Secondary School in South East Zone, Nigeria**

The management of security is paramount to the effective management of schools and it is an issue that has attracted a great deal of attention and concern from learners, educators, parents, and the public at large. School security management is the process of creating conducive and proper internal environment in the school (Dimsey, 2008). It can be likened to the efforts which are to be made to protect the environment where students learn and teachers teach in a warm and welcoming environment which will be free from intimidation and fear of violence (Henry, 2000). School security management is ways of providing security technologies and strategies which can be used to mitigate the formidable security threats in the school. There are plans or measures to be taken to protect and manage school violence, reduce security risks, and ensure that the school environment is safe for learning (Laura, 2014).

To manage the security of school plant, there should be procedures for dealing with emergencies when they occur, that is emergency school plan. This is a set plan on how to deal with accidents, illness and unexpected occurrences. All these procedures should be made known to all staff and learners and they should be practiced regularly. Security preventive measures are those pieces of equipment or manpower used to improve or add to the overall security of the school compound. This could be done by having security policies guiding the school and by having security resource officers

In Nigeria, almost all the works are done manually by humans, hence causing several economic dangers due to poor production and poor technology inclination. However, AI technology is efficient enough to reduce human efforts in various areas hence improving production and technology. The application of artificial intelligence in area of student security service is not only important but necessary and timely considering the level of insecurity in our society. In developed nations, in order to improve production in various activities in the economy, many of them are using artificial intelligence to create machine slaves that perform various activities on a regular basis. The use of artificial intelligence will assist humans to get the work done faster and with accurate results particularly in the provision of students security services. Error free and efficient worlds are the main motives behind artificial intelligence. In the recent years, many nations have started using AI technology to reduce human efforts, and also to get efficient and faster results, but Nigeria is yet to give the required attention in AI.

### **Application of Artificial Intelligence on the Management of students Library Services in the Secondary School in South East Zone, Nigeria**

No society can develop more than the knowledge base of its citizens Chinelo (2010) in The Nation Newspaper of May 27th. He decried the dying culture of reading among children as leaders of tomorrow. This is the pathetic state of the Nigerian society. It is either Nigerians are not reading or if they do, they do so reluctantly. Usoro and Usanga (2007), identified that in some parts of Nigeria, most children (especially those from rural areas or economically disadvantaged backgrounds) first meet books and reading materials in school, and have limited access to them in the home and in the community. The school library encourages its users to fully accept the responsibility for education and development. School libraries give individualized service, making sure that every library user gets information that meets his or her particular need. It also serves as a laboratory for it users to practice the skills of using indexes, abstracts, bibliographies, and catalogues; school libraries are being assisted by proper funding to acquire relevant and varied materials for these purposes. Books and non-book materials are provided. These are well organized, and the right calibers of staff are put in place to disseminate information directly or give assistance to those seeking information on their own (Solomon, 2020)



In the developed world, scientists are riding on the back of AI, hoping that machine intelligence will surpass the human intelligence. Scientists believe that once the AI system starts working in its full capacity, it will reinvent the world of technology that we know today and Nigeria will not be an exception if it places greater importance on the development of AI. AI will develop to a point where humans will be served or their responsibilities completely taken over by robots. In this way, humans can focus their strengths on higher levels of work in order to accomplish more and take technology to new heights. The provision of student's library services can be integrated with artificial intelligence in our secondary schools. This will go a long way improve on the services provided in our school libraries in the South East- Zone of Nigeria

### Objectives of the Study

- a) Application of artificial intelligence on the management of students security services in the secondary school in south East Zone, Nigeria
- b) Application of artificial intelligence on the management of students library services in the secondary school in south East Zone, Nigeria

### Research Questions

The study is guide by the following research questions

1. How is artificial intelligence applied on the management of students security services in the secondary school in South-East Zone, Nigeria
2. In what ways is artificial intelligence applied on the management of student library services in secondary school in South-East Zone, Nigeria

### Research Hypotheses

The following null hypotheses are postulated for the study

1. There is no significant difference in the opinions of respondent on application of artificial intelligence on the management of students security services in the secondary school in South East Zone, Nigeria
2. There is no significant difference in the opinions of respondent on application of artificial intelligence on the management of student library services in the secondary school in South East Zone, Nigeria

### Research Methodology

#### Research Design

This study is a descriptive survey research. It is a descriptive survey research because it is based principally on the views of the respondents from the population of study. The research design permits the gathering of information through the use of questionnaire and/or interview from a population based on appropriate sampling techniques. This agreed with the opinion of Mustapha in Usman et al (2021) that survey research is a technique in research where the desired characteristic of a given population is systematically examined.

#### Population of the Study

The population of the study comprised of all the principals, teachers and Quality Assurance Evaluators in public secondary schools in South East, Nigeria. The study was conducted in public secondary schools in Abia, Anambra, Ebonyi, Enugu and Imo. The population was 28,791 consisting of 815 principals, 26,526 teachers and 1,450 Quality Assurance in the South East Geopolitical Zone.

**Table 1: Distribution of Public Secondary Schools Teachers, Principals and Quality Assurance Evaluators in Secondary Schools in South –East, Nigeria.**

s/n	Education zones	No of Teachers	No of Principals	Q.A Officials	Total
1	Abia	1653	147	566	2513
2	Anambra	6615	182	177	7156
3	Ebonyi	4862	117	276	5372
4	Enugu	8889	170	156	9385
5	Imo	4507	199	275	5180
6	<b>Total</b>	<b>26526</b>	<b>815</b>	<b>1450</b>	<b>28791</b>

Source: States Ministry Education South East Geopolitical Zone, Nigeria (2020)





### Sample and Sampling Procedures

The researcher used purposive sampling techniques to select the principals and Quality Assurance officials, while proportionate sampling technique was used for teachers. Therefore, there were 100 principals, 230 teachers and 50 Quality Assurance officials making a total of 380 drawn from all the local governments in the five states of South-East Nigeria. This sample size is recommended by The Research Advisors (2006) with a 95% confidence level and 5.0% margin of error represented the sample of the study. Details of the distribution are on Table 2

**Table 2: Distribution of Sample Size per State in South –East, Nigeria.**

S/n	Education zones	No of Teachers	No of Principals	Q.A Officials	Total
1	Abia	30	20	10	76
2	Anambra	58	20	10	76
3	Ebonyi	53	20	10	76
4	Enugu	63	20	10	76
5	Imo	46	20	10	76
6	Total	230	100	50	380

### Instrumentation

The instrument for data collection was primarily questionnaire developed by the researcher the questionnaire, titled application of artificial intelligence in the management of students services in public secondary schools in South East Zone, Nigeria (AAIMSSPSSQ) was meant to elicit information from principals, teachers, and quality assurance official. The questionnaire which was self-designed consists of three sections, A, B and C with 20 item statement was used for this study. The Likert rating scale of strongly agree (SA), Agree (A), undecided (U), strongly disagree (SD) and disagree (D) were used to obtain raw data from the respondents.

### Procedure for Data Analysis

The data collected through the questionnaire was analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics frequency and simple percentage was used to analyze the bio-data of the respondents, while weighted mean of 3.0 was used to analyse responses of the respondents to the research questions. However, inferential statistics of the F-test One –Way Analysis of Variance (ANOVA) at 0.05 levels of significant was used to test the two (2) postulated hypotheses of the study in order to determine whether or not to retain the respective null hypotheses or otherwise.

### Results

**Hypotheses 1 (HO<sub>1</sub>): There is no significant difference in the opinions of respondent on application of artificial intelligence on the management of students security services in the secondary school in South East Zone, Nigeria**

**Table 3: Summary of Analysis of Variance (ANOVA) onthe opinions of respondent respondents on application of artificial intelligence on the management of student's security services in the secondary school in South East Zone, Nigeria**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.292	3	4.431	4.223	0.068
Within Groups	394.505	377	1.055		
Total	407.797	380			



From table 3 the F-value is 4.223 and the P-value is 0.068 at 0.05 levels of significance. Since the P-value is more than the level of significance set for the study, the hypothesis was therefore retained, thus, there was no significant difference in the opinions of respondent on application of artificial intelligence on the management of students security services in the secondary school in South East Zone, Nigeria

**Hypotheses 2 (HO<sub>2</sub>): There is no significant difference in the opinions of respondents on application of Artificial Intelligence on the Management of Student Library Services in the secondary school in South East Zone, Nigeria**

**Table 4: Summary of Analysis of Variance (ANOVA) on the opinions of respondent on application of artificial intelligence on the management of student library services in the secondary school in South East Zone, Nigeria**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.630	3	1.543	1.497	0.136
Within Groups	386.352	377	1.033		
Total	390.982	380			

From table 4, the F-value is 1.497 and the P-value is 0.136 at 0.05 level of significance. Since the P-value is more than the level of significance set for the study, the hypothesis is therefore retained, thus, there was no significant difference in the opinions of respondents on application of Artificial Intelligence on the Management of Student Library Services in the secondary school in South East Zone, Nigeria

#### **Findings:**

1. Artificial intelligence is yet to be applied in the management of student's security services in secondary schools in south east zone, Nigeria, but there is hope to do so in near future
2. Library services are most often rendered manually without the application of artificial intelligence in secondary schools in south-east zone, Nigeria.

#### **Discussions of the Findings**

This study was able to establish that; artificial intelligence is yet to be applied in the management of student's security services in secondary schools in south east zone, Nigeria, but there is hope to do so in near future. This was supported by the p-value of 0.068 on table 3. However, the study revealed that in the absence of artificial intelligence, most schools deployed different forms and mechanism of security services in order to protect the lives of both teachers and the learners. It was further revealed that 96 % of the respondents agreed that the state governments does not have the machine, personnel and the financial capacity to deploy artificial intelligence for students security service for now. 85 % of the respondents further established that environmental and human factor may serve as major hindrance to the use artificial intelligence in secondary schools in south east zone, Nigeria

This study also established that; Library services are most often rendered manually without the application of artificial intelligence in secondary schools in south-east zone, Nigeria. This was supported by the p-value of 0.136 on table 4. However, the study revealed that most libraries does not have the structure and facilities that permits the use of artificial intelligence, hence manual library services becomes the order of the day. It was further revealed that 76 % of the respondents agreed that integrating artificial intelligence for student's library services will be difficult for now. 95 % of the respondents further established that the use artificial intelligence in the provision of student's library services is a necessity in near future in secondary schools in south- East Zone, Nigeria



## Conclusions

It has been acknowledged of most recently that machines are performing many smarter activities using cognitive intelligence in contrast to natural intelligence (NI) displayed by humans and other animals. Most of the developed nations have used artificial intelligence to grow every facet of their economy to become world power. Similarly, Artificial Intelligence can be used to play a major role in shaping the growth of education sectors in Nigerian with particular reference to students security and library services. It is not impossible, with the right mind set and commitment from the government.

## Recommendations

1. Efforts should be made to sensitize the relevant stakeholders in education to see the need for dramatic change in the provision of students security service in the light of artificial intelligence in secondary schools in South East Zone, Nigeria
2. Library services are crucial for the intellectual well being of students, deployment of artificial intelligence in this direction should be given the need priority by all concerned stakeholders in secondary schools in South East Zone, Nigeria

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