

# AN ASSESSMENT ON IMPLEMENTATION OF E-SECURITY IN NIGERIAN SCHOOL ENVIRONMENT: THE CASE OF SOME SELECTED STATES IN THE NORTH EAST NIGERIA.

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## ABSTRACT

Nigerian schools are being threatened with insecurity of life and property as parents and guidance are sometimes afraid to send their children to school because of frequent kidnapping, Boko Haram insurgency, herdsmen and farmers clashes. This study therefore was carried out to assess the relationship between a school with e-security network system and the one without e-security network system to ascertain school security problem. Two hypotheses were formulated to guide the study. A structured questionnaire titled “E-Security Network and a Conducive Learning Environment Questionnaire (ECLEQ)” was used to collect data from 1523 respondents from some selected nursery, primary, secondary and tertiary institutions in North East Nigeria. Copies of the questionnaire were administered to teachers and the school management of the various schools sampled. Analyzing data using Pearson Product Moment Correlation (PPMC) the results indicate that, the school without a good e-security network is more vulnerable to insurgency while the ones with good e-security network are a safe ground for learning. This is comparable with both reviewed literatures, and the perceptions of teachers, parents, guidance and school management boards. The paper concludes that the perception about insecurity in Nigeria schools can be eliminated if all the schools can adopt e-security networking approach in their school compound and its environs.

**Keywords:** School Environments, E-Security, Internet of Things (IoT), Insecurity, Insurgency.

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## INTRODUCTION

The word e-security emanated from the word security meaning to protect from danger. Wikipedia define security as the degree of resistance to, or protection from harm. It applies to any vulnerable or valuable asset such as; personal properties and protection of human life. E-security in the other hands is the type of security whereby electronic devices such as security camera, biometric machine, electric fence, computer system and audio device are used by security operatives to monitor and

secure a particular environment (Akpabio and Ogiriki, 2017; Henry, Echa and Alfred, 2017).

Security in information technology (IT) according to Madelyn Bacon (2016) is the defence of digital information and IT assets against internal and external malicious and accidental threats. The threat includes detection, prevention and response to threats through the use of security policies and implementation. Emerging hacking security challenges can also be address through Internet of Things (IoT) application and implementation.

The use of information and communication technology (ICT) has made security challenges in our school environment reduced to the barest minimum. Some schools use some of these electronic devices and are safe from insurgency while others are victim of insurgency. Hence Jack Hassard, (2013) noted that if video cameras and other ICT device are installed in the classrooms and school compound the school will be secured and safe. This will give a lead to combating insurgency. The use of biometric machine has also been identified by Henry, et al, (2017) to increase security and provide convenient and additional tiers of security in school. Though, biometrics is an expensive security solution, it should be combined with other electronic device to combat security crimes in Nigerian schools.

IoT (Internet of Things) foster a safe and secured learning environment. Andrew Meda (2016) in line with this study explained how classrooms and school environment can be monitored with IoT through tracking capacities for safety through ICT devices. According to Jack Hassard (2013), apart from improving teaching, video cameras also creates a conducive learning environment in which students are safe and secured. Deval Patrick of Massachusetts in the United State according to Sheriff Deputies (2017) states that; “no child will be able to succeed academically if they don’t first feel safe in school. No teacher will be able to teach at their best, if they aren’t confident, there should be plan in place to ensure that school is well prepared for an emergency” which Nigerian schools are not exceptional especially in the face of insecurity in the North East, Nigeria.

Information and communication technology (ICT) in line with Henry et al (2015) view, ICT played a key role in both economic growth and improvement of educational standard in Nigerian universities. Apart from the increase in efficiency in educational research and providing skills acquisition to learned and unlearned in the society, it also provides enabling environment for learning through providing security for teachers and learners. It is against this background that this study is focused on investigating the negative parental perception about insecurity in Nigeria schools and to assess the relationship between a school with e-

security network system and the one without e-security network system to ascertained school security problem.

The objective of this study is to address the problems of ineffectiveness in securing of lives and properties within and outside the school environment due to frequent kidnapping, Boko Haram insurgency attack such as, suicide bombing and abduction of school children in schools in Nigerian schools by using electronic medium. To successfully carry out this study, two different school environments were compared. The school environment that uses electronic device for detection of crime and the school environment that does not used electronic device to detect crime before it happens, prevention of such crime from happening and maintaining a well secured and conducive learning environment for staff and students in Nigerian schools.

### Research Hypotheses

Two hypotheses were postulated and tested at 0.05 level of significance. They are;

**HO<sub>1</sub>:** There is no significant relationship between the use of e-security network in securing the school compound and the use of the old security system (gate man).

**HO<sub>2</sub>:** There is no significant relationship between a safe and well secured school environment and environment that is not safe and secure.

### MATERIALS AND METHODS

The study adopted the survey research design. Questionnaire and observation were used to collect data from a sample of 1523 respondents were selected using accidental sampling technique, this approach is applicable since the number of respondents is large. A 5-point likert scale questionnaire comprising of 28 items titled: E-Security Network and a Conducive Learning Environment Questionnaire (ECLEQ) designed by the researcher was used to collect the needed data in this study. This is)”. The response options fall between SA to SD, where SA represents strongly agree, U represents indecisive, D represents disagree and SD represents strongly disagree. The instrument administered were collected, scored and coded by the researcher for statistical analysis. The

mean ( $\bar{x}$ ) and standard deviation (SD) of the respondents on the variables involved in the hypotheses were analyzed using Pearson's Product Correlation coefficient (PPMC) to measure the relationship between the two variables in each hypothesis.

## RESULTS AND DISCUSSIONS OF FINDINGS

### Hypothesis one:

**H<sub>01</sub>:** There is no significant relationship between the use of e-security network approach in securing the Nigerian school compound and the use of the old security system (gate man).

Pearson Product Moment Correlation Statistics was employed to test this hypothesis, the result of the analysis is shown in table one.

Table 1: Result of Pearson's Product Moment Correlation Analysis of the Relationship between the use of e-security networking system and old security system in securing Nigerian school environment.

Variable	$\bar{x}$	SD	$\sum x$	$\sum x^2$	$\sum xy$	$r_{xy}$
Use of e-security networking system	83.67	10.73	130301	14904545	13005565	0.532*
Old security system	81.11	11.31	128780	14604908		

\*  $P < 0.05$ ,  $df = 1521$ , Critical  $r = 0.060$

Data in table 1 shows that the calculated r-value is 0.552 is was found to be greater than the critical r-value of 0.060 at 0.05 level of significance with 1521 degree of freedom. On the basis of this, the null hypothesis was rejected. This means that there is a significant relationship between the used of e-security networking system and old security system (gate man) in securing Nigerian school environment.

### Hypothesis two:

**H<sub>02</sub>:** There is no significant relationship between a safe and well secured school environment and environment that is not safe and secure.

Hypothesis two was tested using Pearson's Product Moment Correlation Statistics as shown in table 2.

Table 2: Result of Pearson's Product Moment Correlation Analysis of the Relationship between studying in a safe and well secured school environment and environment that is not safe and secured.

Variable	$\bar{x}$	SD	$\sum x$	$\sum x^2$	$\sum xy$	$r_{xy}$
Studying in a safe and well secured school environment	83.39	10.82	130904	14784362	13101846	0.561*
Studying in an environment that is not safe and secured.	81.11	11.31	128780	14604908		

\*  $P < 0.05$ ,  $df = 1521$ , Critical  $r = 0.060$

Data in table 2 reveals that the calculated r-value (0.561) which is greater than the critical r-value of 0.060 at 0.05 level of significance with 1521 degree of freedom. On the basis of this, the null hypothesis is rejected. This means that there is a significant relationship between studying in safe and well secured environment and studying in an environment that is not safe and secured.

## DISCUSSION OF FINDINGS

The analysis of the data collected on the first hypothesis of the study showed that a significant difference exists between the use of e-security networking system and old security system in securing Nigerian school environment and students enjoy schooling in a safe and well secured

environment. This study is in line with Jack Hassard, (2013) who asserted that cameras are good to be installed in the classroom to improve learning and security challenges within and outside the school compound. The finding also lends credence to the work of Henry et al (2017) which revealed that, biometric machine can improve security challenges and aid in school supervision.

The work of Andrew Meda, (2016) disclosed how IoT through tracking device can help in tracing stolen school vehicles, prevent cybercrimes from occurring. However, Madelyn Bacon and Sheriff Deputies (2015) explained that insecurity in school can be prevented by educating, training of staff and students and adopting e-security approaches in schools rather than just boosting security personnel at school gate. Furthermore, the result of this finding could be explained by the fact that the use of video cameras, biometric machines, electronic fence and IoT are being monitor centrally and as such can improve security challenges in Nigerian schools.

## RECOMMENDATIONS

In order to achieve these, parents/guidance who are ICT experts should assist the school management with their technical skills by contributing to the e-security project in the school.

The school management should employ information technology expert with core mandate to build, develop and configure information technology devices and machines, keep search security data, update daily basis, oversee the information technology (IT) department in the school, editing multimedia content, managing information technology (IT) report and feed the school management with such reports for action.

The school should render social responsibility like provision of good water supply, electricity, employment slot for qualified members of that community and in turn requests them to also help in keeping watch of the school environment and report any suspected persons to the security agency.

Government should approve security agency to work with the school management and the host community to prevent insurgency in Nigerian school compound.

The school management should build school block with IoT devices and purchase vehicles with IoT device also to alert them on future damages that may occur in future (please refer to figure 1).

Finally, government should develop school curriculum that encourages security training and awareness among students and also permits school security operative to occasionally organize security awareness programme for students and teachers in the school.

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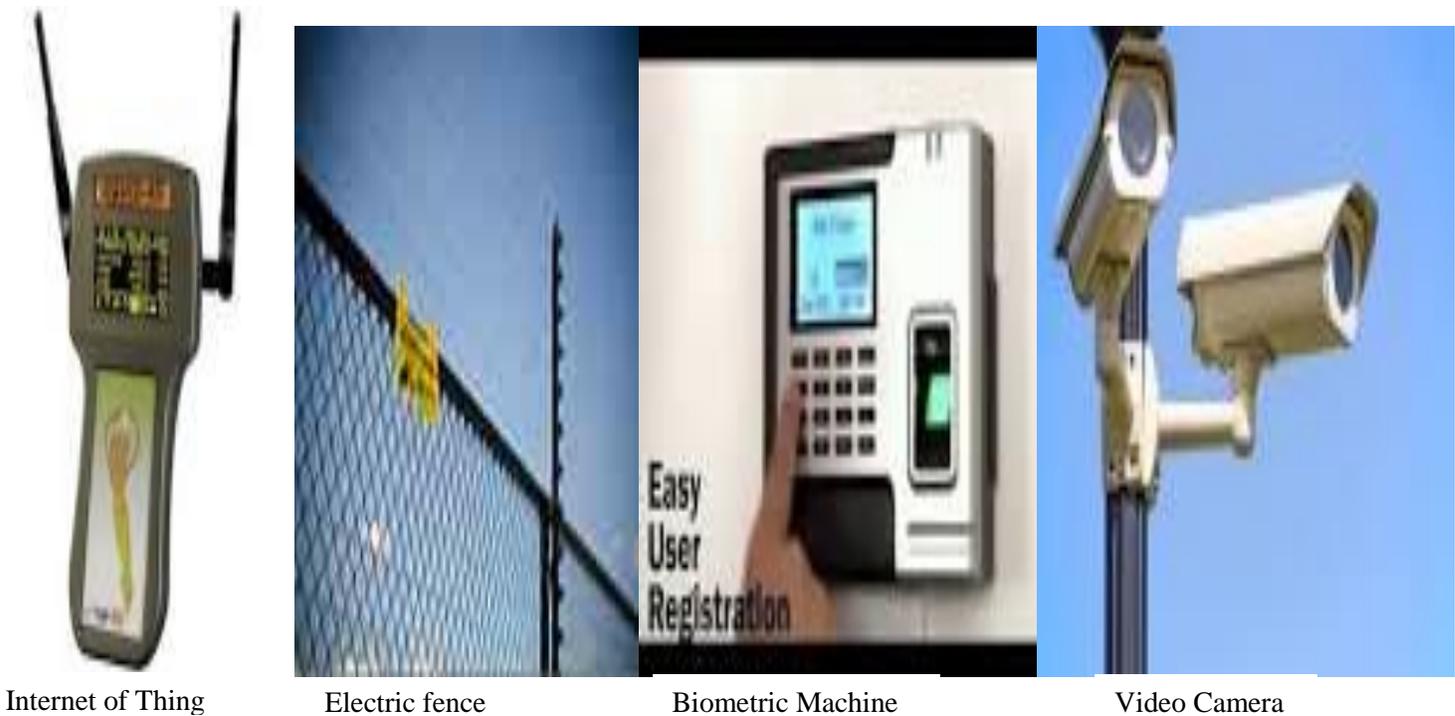


Figure 1: e-security device