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## Relationship between Physics Knowledge and Technological Development in Awka Education Zone

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### ABSTRACT

*There have been controversies among scholars and experts if the knowledge of Physics can enhance the technological development of Nigeria while some are of the opinion that Physics boost the technological development of Nigeria, others are against this assertion even to the extent that the number of Physics courses studied by the technological and engineering students dropped from 20% as witnessed in BMAS university curriculum to 10-12% in the current CCMAS. The reduction of the number of Physics courses is a testament to them that Physics knowledge does not enhance the technological development of Nigeria. The sharp decline in the hatred for the knowledge of Physics education led the researcher to determine if the Physics knowledge can enhance technological development of Nigeria. The study also determined if acquiring technological skills as the NUC experts said in the CCMAS can also enhance technological development in Nigeria as the NUC experts said that the reason for removing Physics courses and adding more technological courses was for the technological development of Nigeria. The study was guided by four research questions and four research hypotheses. The study was a correlational research design. The population for the study was 2249 Physics respondents which comprises of 2185 SSS II Physics students and 64 Physics teachers in 22 schools in Awka Education zone. The sample size of the study was 289 Physics respondents which comprises of all the Physics teachers in the Awka Education zone and 10% of the population of students. Simple random sampling was used to sample the Physics students while no sampling technique was used for Physics teachers. The students were sampled for the answering of the research purpose 4. Three (3) research instruments were used for data collection which were Physics Knowledge Questionnaire (PKQ), Technological Skill Acquisition Questionnaire (TSQ) and Technological Development Questionnaire (TDQ). These instruments were validated by two (2) experts in Physics education and one expert in Measurement and Evaluation from the Department of Science Education, University of Nigeria Nsukka and their comments were incorporated in the final draft of the questionnaires. The instruments were tested using 40 respondents in Onitsha Education zone. The reliability indices of PKQ, TSQ and TDQ were 0.82, 0.85 and 0.84 respectively using Cronbach Alpha. The instruments were administered to the respondents by the researchers and research assistants, and after their responses were recorded and analyzed using mean score. Mean, standard deviation and Pearson Product Moment Correlation Coefficient were used to answer the research questions while Linear Regression Analysis of Variance was used to test the null hypotheses at 0.05 levels of significance. The study discovered that there was no significant relationship between Physics teachers' knowledge on Physics and technological skills acquisition; no significant relationship between possession of technological skill acquisition and technological development; no significant relationship between students' and teachers' opinions on Physics knowledge and technological development and there was moderate significant positive relationship between the Physics teachers' possession of Physics Knowledge and technological development in Awka Education zone. These findings implies that the negative perception of the role of Physics in technological development is because those experts do not have the adequately and moderate knowledge of Physics. The finding also implies that obtaining the technological skills do not transcend that the nation will develop technologically but obtaining adequate knowledge of Physics and the technological skills and utilizing them adequately will transcend into the technological development of Nigeria. Thus, the study recommended that Federal and State Governments must provide provisions and enablement that will make the Physics teachers to*

*adequately utilize their Physics knowledge and other technological skills that they have obtained for the technological development of Nigeria.*

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**Keynotes:** Physics, Technological development, Awka Education zone, Technological development

## INTRODUCTION

Physics is defined as a branch of science that deals with the study of matter, energy, its conservation, forces, cause, effect, and their interactions in nature. Physics is a discipline of questioning, experimenting, inquiring and thinking, which engage students in innovation and creativity (Fasanya, Joel, Ahmed and Oche, 2023). Physics is one of the basic scientific disciplines studied by students in senior secondary schools in Nigeria. Jegede and Adedayo (2023) reported that Nigerian national aim of teaching Physics in secondary schools is to produce young scientists who will be able to design the technological devices that will make day-to-day activities easier and living more comfortable. The study of physics helps an individual to acquire knowledge about life and the environment in which he or she lives. Physics equips students with systematic thinking and provides the theories necessary for understanding the mechanism of how the things man relies on work (Imo & Kefas, 2016). Physics provides students with analytical, problem solving and quantitate skills which are relevant for other natural sciences such as Biology, Chemistry and Astronomy. Physics serves as a frontier to other scientific fields such as medicine, engineering, pharmacy, geology among others. Discoveries in Physics led to invention of aero plane, satellite, machines such as, generator plant (Fasanya, 2023). Physics provides an opportunity for the construction and operation of workable gadgets such as X-ray machine, motor cars, and electrical energy generation plant was introduced into the new Physics curriculum. Physics plays a crucial role in the development of machinery, tools, and equipment that make life easier. Daramola and Omosewo (2022) argued that the advancement of any nation depends on its worthwhile technological infrastructure and development. The advancement of any nation is determined by its strong and formidable foundation in Physics Education. One of the goals of the senior secondary school Physics curriculum (FRN, 2014) is to enable students acquire scientific skills and attitudes as a preparation for technological application of Physics to stimulate and enhance creativity. This assertion is reflected exactly as stated by the Federal Government of Nigeria (2014) in her National Education Scheme (2014) designed for secondary school

Physics to have the following objectives;

1. To provide basic literacy in physics for fundamental living in society.
2. To acquire essential scientific skills and attitudes as a preparation for the technological application of physics.
3. To stimulate and enhance creativity.

In the 21st century, developed nations focus on improving science and technology and this is done through enhancement of the teaching and learning of Physics. However, some scholars have faulted these assertions on the importance of Physics, according to Omotayo (2019), since that 1954, Physics has been taught in schools, its effect on the technological development is not seen. Ajayi (2018) stated that despite the introduction and continuous use of the Physics curriculum in the schools many years ago, Nigeria still lacks the technology that could satisfy her daily needs and comfort. Alonge (1982) remarked that the content of science taught in the school is void of local environment and do not identify with the technological needs of the society. The Physics curriculum does not take into consideration the cultural values and beliefs of the society for which it was designed (Alonge, 1982). The Physics curriculum and instructions in Nigerian schools still reflect the colonial orientation which is devoid of African values and environmental factors. These negative assertions made Jegede and Adedayo (2023) to suggest for the reformation of Physics curriculum content used in Nigerian secondary school presently in order to align with the challenges of 21<sup>st</sup> century strive towards technological development. Bawan and Udo (2019) remarked that the content of science and physics, in particular, taught in the school void of local environment and do not identify with the technological needs of society, in the 21st century. The Physics curriculum does not take into consideration the cultural values and beliefs of the society for which it was designed (Bawan, Kamgba and Obi, 2024).

Udo (2023) stated that all the negative assertions of the role of Physics on the technological development of a nation is because those scholars have wrong perceptions of Physics. Udo (2023) stated further that it was because of the negative perception of experts on the role of Physics on the technological development that made the experts in National Universities Commission (NUC) to remove many Physics courses in Engineering and technological courses in that are being offered in BMAS. In CCMAS, the Physics courses offered in those courses occupy 9 – 10% of all courses unlike in BMAS, where it occupy 15-18%. The sharp drop of Physics courses is as a result of negative perception. In fact, students offering physics have failed to link the relationship between Physics and technological development (Obi and Udo, 2024). It is rather unbelievable to remark, based on interview with some senior secondary school Physics students, that most students offering Physics lack the knowledge of the importance and relevance of Physics with their environment and human development (Jegede and Adedayo, 2023). They do not see the subject as a means of solving practical social problems but rather jest the acquisition of abstract concepts that have no bearing with the Physical situation (Jegede and Adedayo, 2023). This is in support of Olarewaju (2016) who reported that students felt that Physics curriculum is too rigid and irrelevant to their experiences in Nigeria. Fajonyomi (2017) reported that the students still do not see the correlate that exists between Physics and these courses that are practically based in resolving life issues. Failure of the students to relate Physics to relevant societal problems make them to study the subject without objectivity or interest. Many take Physics perhaps because of peer influence or suggestions by elderly person (Jegede and Adedayo, 2023). Thus, they see the so-called rigorous tasks involved in its study as a mere waste of time and too abstract to study. Thereby, they see no need for such wasted time in doing exercises and eventually make them conceive negative attitude towards Physics.

These controversies among scholars and their perceptions on the role of Physics toward the technological development of a nation that prompted the researcher to ask; is there a relationship between Physics knowledge and the technological development of Nigeria, especially in Awka Education zone? This question asked by the researcher seem to have been answered by some scholars, while the likes of Udo (2023) revealed that there is a moderate relationship between the Physics knowledge and the technological development. The author, Udo stated further that learning Physics offers the student an opportunity to think critically, reason analytically and acquire the spirit of enquiry. This is why he asserted that: Physics is crucial for effective living in the modern age of science and technology. Given its application in industry and many other professions, every student must be given an opportunity to acquire some of its concepts, principles, and skills in Physics. Another scholar like Obi, Abugu and Ayogu (2017) reported that there is a strong relationship between the between the Physics knowledge and the technological development. However, Bawan, Kamgba and Obi (2024) revealed that the current Physics knowledge does not bear any relationship with the technological development of Nigeria. For Bawan, Kamgba and Obi (2024) to buttress their point, they revealed further that even though efforts have been geared towards reforming the curriculum to suit the needs of the society for which it is meant to serve, but the Physics curriculum still lacks the values and materials that connect it to the immediate environment. In such a case, the advocacy of technology using Physics knowledge as a means of satisfying society is likely to be a mirage (Bawan, Kamgba and Obi, 2024). Olatoye, Akintunde & Ogunsanya (2020) asserted that there is a weak relationship between Physics Creativity and Academic Achievement of Business Administration students. This is as the students perceived the subject, Physics as abstract and difficult, as it involves different representations such as experiment, formulae and calculations, graphs, among others, one may not be able to acquire full knowledge about the subject without relating creativity to intellectual activity and knowledge (Olatoye, Akintunde & Ogunsanya, 2020). Ajayi (2020) revealed that the current Physics knowledge has a strong relationship with the technological development. This is as the author asserted further that the reform in the current Physics curriculum is able to suit the needs of the society for which it is meant to serve. These back and forth assertions from experts needs to be investigated in the sense that there is need to ascertain from experts themselves if there is a relationship between the Physics knowledge and technological development. Hence, the researcher embarked on this study to determine if there is a relationship between the Physics knowledge and technological development in Awka Education zone.

### **Purpose of the Study**

The aim of this study was to determine relationship between the Physics knowledge and technological development in Awka Education zone. Specifically, the study determined;

1. The relationship between Physics knowledge and technological skills acquisition in Awka Education Zone.
2. The relationship between possession of technological skill acquisition and technological development in Awka Education Zone.
3. The relationship between Physics knowledge and technological development in Awka Education Zone.
4. The relationship between students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone.

### **Research Questions**

The following research questions guided the study

1. What is the correlation between Physics knowledge and technological skills acquisition in Awka Education Zone?
2. What is the correlation between possession of technological skill acquisition and technological development in Awka Education Zone?
3. What is the correlation between Physics knowledge and technological development in Awka Education Zone?
4. What is the correlation between students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone?

### **Research Hypotheses**

The following research hypotheses which were tested at 0.05 levels of significance guided the study.

1.  $H_0$ : There is no significant relationship between Physics knowledge and technological skills acquisition in Awka Education Zone.
2.  $H_0$ : There is no significant relationship between possession of technological skill acquisition and technological development in Awka Education Zone.
3.  $H_0$ : There is no significant relationship between Physics knowledge and technological development in Awka Education Zone.
4.  $H_0$ : There is no significant relationship between students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone.

## **RESEARCH METHODS**

In an attempt to correlate between the Physics knowledge and technological development in Awka Education zone, correlation research design was adopted for the study. The choice of this design was that the study aims at establishing it indicates the degree of relationship between two variables using correlation coefficient. The population for the study was 2249 Physics respondents which comprises of 2185 SSS II Physics students and 64 Physics teachers in 22 schools in Awka Education zone as at 2024/2025 academic session (Post Primary Schools Service Commission, PPSSC, Awka zone). The sample size of the study was 289 Physics respondents which comprises of all the Physics teachers in the Awka Education zone and 10% as prescribed by Nworgu (2015) for population of students in thousands for the students which is 225 SSS II Physics students. Simple random sampling was used to sample the Physics students while no sampling technique was used for Physics teachers. The students were sampled for the answering of the research purpose 4.

The instruments used for the study were Physics Knowledge Questionnaire (PKQ), Technological Skill Acquisition Questionnaire (TSQ) and Technological Development Questionnaire (TDQ), which were developed by the researcher. The instruments were made up of two sections; Sections A and B. Section A requested for the respondents' bio-data while section B aimed at obtaining the respondents' opinions on the instrument. The instruments were validated by two experts in Physics education and one expert in Measurement and Evaluation from the Department of Science Education, University of Nigeria Nsukka and their comments were incorporated in the final draft of the questionnaires. The instruments were tested using 40 respondents in Onitsha Education zone. The reliability indices of PKQ, TSQ and TDQ were 0.82,

0.85 and 0.84 respectively using Cronbach Alpha. The instruments were administered to the respondents by the researchers and research assistants, and after their responses were recorded and analyzed using mean score. Mean, standard deviation and Pearson Product Moment Correlation Coefficient were used to answer the research questions while Linear Regression Analysis of Variance was used to test the null hypotheses at 0.05 levels of significance. In answering the research questions 1 – 4, the reliability correlation coefficient was interpreted in line with Nwana (2011)'s assertions which is as follow

Correlation values from 0.80 – 1.00	= Very High positive Relationship;
Correlation values from 0.60 – 0.79	= High positive Relationship;
Correlation values from 0.40 – 0.59	= Average positive Relationship;
Correlation values from 0.20 – 0.39	= Low positive Relationship;
Correlation values from 0.00 – 0.19	= Very Low positive Relationship;
Correlation values from 0.00 – -0.19	= Very Low negative Relationship;
Correlation values from -0.20 – -0.39	= Low negative Relationship;
Correlation values from -0.40 – -0.59	= Average negative Relationship;
Correlation values from -0.60 – -0.79	= High negative Relationship;
Correlation values from -0.80 – -1.00	= Very High negative Relationship.

In testing the research hypothesis, the null hypothesis ( $H_0$ ) was rejected when the significance of F (value of the test statistics) is less than 0.05. Otherwise do not reject at 0.05.

## RESULTS AND DISCUSSION

**Question 1:** What is the correlation between Physics knowledge and technological skills acquisition in Awka Education Zone?

**Table 1: Pearson Product Moment correlation between Physics knowledge and technological skills acquisition in Awka Education Zone**

Criterion	N	Mean	Std	R	Interpretation
PKQ	64	2.909	0.297	0.214	Low positive Relationship
TSQ		2.557	0.329		

Table 1 shows that the Physics teachers in Awka Education zone have adequate knowledge of Physics with the mean score of 2.909 with the standard deviation of 0.297. The table also shows that the Physics teachers agreed to have acquired the necessary technological skills with the mean rating score of 2.557 and a standard deviation of 0.329. Furthermore, the table shows that there is a low positive relationship between the Physics teachers' acquisition of Physics knowledge and their acquisition of technological skills with a correlations coefficient of 0.214.

$H_0$  1: There is no significant relationship between Physics knowledge and technological skills acquisition in Awka Education Zone.

**Table 2: Regression Analysis of the Relationship between Physics Knowledge and Technological Skills Acquisition in Awka Education Zone**

Model		Sum of Squares	Df	Mean Square	F	Sig.	Dec.
1	Regression	.314	1	.314	2.985	.089 <sup>b</sup>	NS
	Residual	6.516	62	.105			
	Total	6.830	63				

The Regression Analysis of Variance (ANOVA) shows that F-ratio is 2.985 and is not significant at 0.089. Since 0.089 is greater than 0.05, the null hypothesis 1 is accepted as stated. Thus, there is no significant relationship between Physics teachers' knowledge on Physics and technological skills acquisition in Awka Education Zone. Thus, the low positive relationship between the Physics teachers' acquisition of Physics knowledge and their acquisition of technological skills is not significant.

**Question 2:** What is the correlation between Physics teachers' possession of technological skill acquisition and technological development in Awka Education Zone?

**Table 4: Pearson Product Moment correlation of Physics teachers' possession of technological skill acquisition and technological development**

Criterion	N	Mean	Std	R	Interpretation
TDQ	64	3.204	0.288	0.062	Very Low positive Relationship
TSQ		2.557	0.329		

Table 4 shows that the Physics teachers' response to the Technological development of Nigeria is very adequate with the mean rating score of 3.204 and a standard deviation of 0.288 while they have moderately agreed that they have acquired the necessary technological skills with the mean rating scale of 2.557 and a standard deviation of 0.329. The table shows that there is a very low positive relationship between Physics teachers' possession of technological skill acquisition and technological development in Awka Education Zone with a correlations coefficient of 0.062.

H<sub>0</sub> 2: There is no significant relationship between possession of technological skill acquisition and technological development in Awka Education Zone.

**Table 4: Regression Analysis of the Relationship between Possession of Technological Skill acquisition and technological development in Awka Education Zone**

Model		Sum of Squares	Df	Mean Square	F	Sig.	Dec.
1	Regression	.020	1	.020	.240	.626 <sup>b</sup>	NS
	Residual	5.192	62	.084			
	Total	5.212	63				

The Regression Analysis of Variance (ANOVA) shows that F-ratio is .240 and is not significant at 0.626. Since 0.626 is greater than 0.05, the null hypothesis 2 is accepted as stated. Thus, there is no significant relationship between possession of technological skill acquisition and technological development in Awka Education Zone. Thus, the very low positive relationship between Physics teachers' possession of technological skill acquisition and technological development is not significant.

**Question 3:** What is the correlation between Physics knowledge and technological development in Awka Education Zone?

**Table 5: Pearson Product Moment correlation of Physics teachers' possession of Physics Knowledge and technological development**

Criterion	N	Mean	Std	R	Interpretation
TDQ	64	3.204	0.288	.457 <sup>a</sup>	Average positive Relationship
PKQ		2.909	0.297		

Table 5 shows that the Physics teachers agreed that they have moderate knowledge of Physics with the mean rating scale of 2.909 and a standard deviation of 0.288 and their response to the Technological development of Nigeria is very adequate with the mean rating score of 3.204 and a standard deviation of 0.288. Their responses showed that there is average/moderate positive relationship between the Physics teachers' possession of Physics Knowledge and technological development with a correlations coefficient of 0.457.

H<sub>0</sub> 3: There is no significant relationship between Physics knowledge and technological development in Awka Education Zone.

**Table 6: Regression Analysis of the Relationship between Physics knowledge and technological development in Awka Education Zone in Awka Education Zone**

Model		Sum of Squares	Df	Mean Square	F	Sig.	Dec.
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1	Regression	.151	1	.151	1.849	.049 <sup>b</sup>	S
	Residual	5.061	62	.082			
	Total	5.212	63				

The Regression Analysis of Variance (ANOVA) shows that F-ratio is .240 and is not significant at 0.049. Since 0.049 is less than 0.05, the null hypothesis 3 is rejected as stated. Thus, there is significant relationship between Physics knowledge and technological development in Awka Education Zone. Thus, average/moderate positive relationship between the Physics teachers' possession of Physics Knowledge and technological development is significant.

**Question 4:** What is the correlation between students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone?

**Table 7: Pearson Product Moment correlation of students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone**

Criterion	N	Mean	Std	R	Interpretation
Teacher	64	3.059	.224	.164 <sup>a</sup>	Low positive Relationship
Student	225	2.495	.224		

Table 7 shows that the students' opinions on Physics knowledge and technological development was 2.495 and a standard deviation of .224 which means that the students do not have the adequate knowledge of Physics as relate to technological development while the teachers has the mean rating score of 3.059 and a standard deviation of .224. The relationship between students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone is low with the correlations coefficient of 0.164.

H<sub>0</sub> 4: There is no significant relationship between students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone.

**Table 8: Regression Analysis of the Relationship between students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone**

Model		Sum of Squares	Df	Mean Square	F	Sig.	Dec.
1	Regression	.085	1	.085	1.715	.195 <sup>b</sup>	NS
	Residual	3.078	62	.050			
	Total	3.163	63				

The Regression Analysis of Variance (ANOVA) shows that F-ratio is 1.715 and is not significant at 0.195. Since 0.195 is greater than 0.05, the null hypothesis 4 is accepted as stated. Thus, there is no significant relationship between students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone. Thus, the low relationship between students' and teachers' opinions on Physics knowledge and technological development is not significant.

### Major Findings

From the results in Tables 1 to 8, the study discovers the followings;

1. There is no significant relationship between Physics teachers' knowledge on Physics and technological skills acquisition in Awka Education Zone.
2. There is no significant relationship between possession of technological skill acquisition and technological development in Awka Education Zone

3. There is significant relationship between Physics knowledge and technological development in Awka Education Zone. Thus, average/moderate positive relationship between the Physics teachers' possession of Physics Knowledge and technological development is significant.
4. There is no significant relationship between students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone

### **Discussion of the Findings**

The findings of this study reveals that the perception of the teachers and the students are not tally as the study showcased that there is no significant relationship between students' and teachers' opinions on Physics knowledge and technological development in Awka Education Zone. This findings has exposed the bad perception that those experts in other fields had over Physics because their perception on the knowledge of Physics and that of the Physics experts won't be the same. This may be the reason why scholars like Fajonyomi (2017) reported that the students still do not see the correlate that exists between Physics and these courses that are practically based in resolving life issues and Bawan, Kamgba and Obi (2024) to buttress their point, they revealed further that even though efforts have been geared towards reforming the curriculum to suit the needs of the society for which it is meant to serve, but the Physics curriculum still lacks the values and materials that connect it to the immediate environment. The negative assertion of these scholars like Bawan, Kamgba and Obi (2024) have shown that these scholars may not necessary be the experts in Physics education as thought. If they do, their perception and that of their students shouldn't be the same as the study has clearly shown that the perception of the students do not correlate with that of their teachers. Since the students are seeing Physics as being rigorous and a mere waste of time and too abstract to study, the Physics teachers that have adequate knowledge of Physics shouldn't see Physics as such. This made be the actual reason that prompted technological experts in the NUC to have reduced the number of Physics courses offered in the technological and engineering courses to 10% because they were once Physics students who saw Physics as an abstract and a waste of time, and had the aim of making it easier for the young graduands to have little or no knowledge in Physics.

Also, the study discovered that significant moderate relationship between Physics knowledge and technological development in Awka Education Zone. This finding is in line with the assertions of scholars like Ajayi (2020) who revealed that the current Physics knowledge has a strong relationship with the technological development. Udo (2023) revealed that there is a moderate relationship between the Physics knowledge and the technological development. Obi, Abugu and Ayogu (2017) reported that there is a strong relationship between the between the Physics knowledge and the technological development. The slight difference between Obi et al (2017)'s finding and that of this study's finding is that in this study, there is moderate level of relationship between Physics teachers' level of Physics knowledge and the technological development.

Lastly, the study disclosed that there is no significant relationship between possession of technological skill acquisition and technological development in Awka Education Zone. This finding implies that Physics teachers accepted to possesses adequate technological skill acquisition do not means that they apply them for technological development. It means that Federal Government of Nigeria has a lot of role to play toward the technological development of Nigeria. That a student has adequate knowledge of Physics does not transcend toward technological developmet of Nigeria. According to Odo (2019), it means that what the students did with the knowledge of Physics determine the technological development of nation. If the student does not adequately utilize the knowledge of Physics, there is no way that there would adequate development of a nation. Odo (2019) stated further that a student has half knowledge of Physics is worse than not having at all. These assertions are implies that, the Physics teachers must ensure that the students have adequately learnt the knowledge of Physics, and that Government must provide provisions and enablement that will make the Physics teachers to adequately utilize their Physics knowledge and other technological skills that they have obtained for the technological development of Nigeria.

### **CONCLUSION**

The study concludes that there is moderate level of relationship between Physics teachers' level of Physics knowledge and the technological development and that a teacher has an adequate knowlgedge of Physics and have obtained basic technological skills do not mean that Nigeria will be developed

technologically but what the teacher does with the knowledge. Thus, the study discovered that there is no significant relationship between possession of technological skill acquisition and technological development in Awka Education Zone.

### RECOMMENDATIONS

Considering the findings in this study, the following recommendations are made:

1. Government must provide provisions and enablement that will make the Physics teachers to adequately utilize their Physics knowledge and other technological skills that they have obtained for the technological development of Nigeria.
2. The students, parents, Physics teachers, society and the government should be having an open rally towards learning of Physics for faster development of technology in Nigerian society.
3. There is need for shift of emphasis from certificate acquisition to the acquisition of practical skills and attitude needed for self-reliant life.
4. Training and workshops should be organized for in-service and pre-service Physics teachers in Physics knowledge in order to enable them to make Physics teaching a practical oriented rather than the Physics teachers theorize the teaching of Physics. This will enable them acquire reasonable knowledge capable of producing individuals with enough self-reliance skills.
5. Since scientific and technological development and its sustenance are to some extent hinged on the competency of the Physics teachers, Physics teachers should give their Physics teaching a human face. Physics teachers should be transparent to the students in revealing the important of Physics and relating every concept in Physics to its application in everyday activities for more understanding of Physics and improvement in technological development.
6. Government should encourage the commercialization of successful research in Physics that is Science and technological oriented in our institutions of higher learning. This will lead to innovations and inventions and create “technology incubation centres” near people.
7. Government should be ready to invest heavily in Science, Technological and Physics Education. Good salaries/allowances should be paid to Science, Technological and Physics teachers, all the necessary materials/equipments and infrastructure needed should be made available, conducive atmosphere for teaching and learning should be provided. With this, the corresponding effect would be performance according to expectations. Nigerian graduates would be properly equipped with all the necessary skills they need for self-reliant life. Hence, the dilemma of seeing uncountable number of unemployed graduates roaming on the street seeking for jobs will drastically reduce.

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