

Proficiency in the Usage of Information Communication Technology Tools and Academic Performance of Students in Colleges of Education in Kwara State

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Abstract

*Information and Communication Technology (ICT) plays a vital role of students' academic performance in Colleges of Education. However, academic performance of students in the colleges of education in Kwara State has been declining over the years. This study therefore investigates proficiency in ICT tools (projector, public address system, interactive white board) and academic performance of students in colleges of education in Kwara State. Three research questions and four research hypotheses guided the study. The study adopted descriptive research design. Two set of instruments were used for this study. Crumbach alpha was used to ascertain the reliability of the instrument with reliability coefficient of 0.83 The population of this study comprised **all the 488 academic staff in the three government owned colleges of Education in Kwara State** Proportional sampling technique was used to select 151 out of 207 academic staff from Kwara State college of Education, Ilorin, 106 out of 128 from Kwara State college of Education Technical, Lafiagi, and 107 out of 143 from Kwara State College of Education, Oro respectively. This gave a sample size of 364. The research questions raised for the study were answered using percentage while the research hypotheses formulated were tested using Pearson product moment correlation statistic at 0.05 level of significance. The findings of the study include that ICT tools in colleges of education in Kwara State are often utilized; that level of students' academic performance in colleges of education in Kwara state is high; that there is significant relationship between utilization of ICT (projector, public address system, interactive white boards) and students' academic performance in colleges of education in Kwara State. it was concluded that ICT is a necessity for any college of education to achieve its goals among which is high students' academic performance. The study therefore recommends that adequate training should be organized regularly to aid their technical know-how of the tools and that Projector needs constant electricity supply in order to be used effectiveness. More projectors can be bought in order to meet the demand.*

Keywords: *ICT, projector, public address system, interactive white board, students' academic performance*

Background to the Study

Information Communication Technology and is a global collection of different types of computers and computer networks that are linked together just as telephone enable one to talk to someone on the other side of the earth who also has a phone. ICT enable a person to exchange information with other computer and computer users anywhere in the world. In recent years there has been a groundswell of interest in how computers and the internet can best improve the effectiveness of education at all level and in both formal and non-settings.

Today, ICT facilities are available for use in hospital, schools, business, universities, transports, and individual home. The use of computer and internet is still at it infancy in developing countries due low infrastructure and cost of access. ICT is making dynamic changes in society. It is influencing all aspect of life. Through ICT, the world would be influenced by the information age where the ability to excel would be determine by the source, availability, quality, and value of information. ICT is the most attractive tool for successful development of the education sector and industries that would gear the awareness and facilitate craftsmanship in business world for the younger generation .Therefore, there is need to migrate towards gaining relevant knowledge, skill and establishing networks for economic partnership. Al-Emran and Malik (2016), who stated that the options available for information communication technology in colleges of education include computer, electronic books, computer graphics technology, instructional television programmes, motion films, live broadcast satellite, video conferencing and web television.

Ekireghwo (2010) defined Information and Communication Technology as the use of three technologies computing, microelectronics and telecommunication and how these technologies are used to collect, store, process and distributes any form of information by electronic means. Iftakhar (2016) defined Information and Communication Technology (ICT) as the integration of computer technology mainly in the form of internet and information management system. Hemrungrate, Jakkaew, and Assawaboonmee, (2017) also described Information and Communication Technology (ICT) as the acquisition, processing and dissemination of Information by a micro-electronics based combination of computing and communications. Information and Communication Technology (ICT) is an indispensable tool in this digital age .It plays a vital role in learning delivery effectiveness in Colleges of Education.

The major goal of undergraduate students is to do well academically so as to increase their chances of getting a reasonable return of their investment. Education is both an investment and consumption. The consumption benefits ranges from development in communication skills, social skills, managerial skills and many more. Education is also an investment because individual student spend enormous resources on it with the sole aim of increasing in value so as to attract more monetary reward. One of the parameters of measuring the value of students is their academic performance. Ijaiya, (2012) explained that, what parents look forward to at the end of any academic term is the performance of the students. To achieve high academic performance there are several things that must be put in place. Ibe-Bassey (2022) points out that usage of projector makes learning delivery easy and effectively aid students learning. The author further revealed that it saves time and lessen cost.

Academic performance of students in the colleges of education in Kwara State has been on the decline over the years. This may not be unconnected with students' level of proficiency of ICT. Teaching learning process in this era requires a lot of knowledge and skill of ICT. Almost all information are passed through social media like Whatzapp, Facebook, Tiktok among others.

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Many lectures are delivered through Zoom, Skype or Google classroom. Assessment of students are sometimes carried out through Google mix or Computer based test.

According to Alabi (2020), the physical separation between some students and the lecturer tends to create a feeling of isolation on the part of the students leading to negative attitudes, and this is because lecturer and the students did not have face-to-face relationship as it is done in traditional learning. While some students view learning through satellite TV and internet as advantageous, and student's attitude towards I C T are generally positive. According to the Author, the use of public address system assist a lot in class control and learning delivery. Especially in large classes where the students can hardly hear the lecturer unless aided by public address system. Lin and Jou (2016) also carried out a study on ICT as a tool for active learning. The study revealed that there was significant relationships among ICT tools like IWB and students' academic performance. For students to perform well academically, it therefore becomes necessary to be proficient in ICT. It is against this background that this study is carried out.

Statement of the Problem

Information communication technology has come to stay in the learning delivery all over the world. In developing world, students do not have to physically present before teaching/learning process takes place. In fact many offer many course online without leaving the four walls of their rooms. Though in these developed countries, all ICT facilities needed are provided including trained professional in ICT related skills. Lecturers and students are offered regular training to keep them updated with the trends.

This is not usually the case among Nigerian students, especially colleges of Education students. Inadequate provision of internet facilities, inadequate training for lecturers and students as well as shortage of ICT materials to effectively teach course and accessible to students. Internet facilities and proficiency in its usage are very important in effectiveness of teaching/learning process and invariably students' academic performance (Abdulkareem,2012). Students' academic performance in colleges of education in Kwara State in the last decade has not been encouraging. This is was revealed in the study carried out by Abdulkareem (2022) on welfare packages and lecturers productivity in colleges of education in Kwara State. one of the main goals of colleges of education is the production of certified teachers. Students' academic performance is the main determinants of the level of the achievement of goals or effectiveness of colleges of education. The low level of this academic performance of students calls for investigation.

This study therefore investigates proficiency in ICT and academic performance of students in colleges of education in Kwara State. It is unique because it adopts different contextual framework and to the best of the researcher's knowledge, there is no study that is the same as this study. It would therefore contribute to knowledge and proffer reasonable recommendations for better students' academic performance, not only in colleges of education in Kwara State but across universities in Nigeria.

Purpose of the Study

The major purpose of this study was to investigate the ICT proficiency and academic performance of students in colleges of education in Kwara. The purpose includes:

- to investigate the availability of ICT tools for academic performance of students in colleges of education in Kwara
- to examine the extent of utilization of ICT tools for academic performance of students in colleges of education in Kwara

- to investigate the level of academic performance of students in colleges of education in Kwara
- to investigate the relationship between proficiency in utilization of projector and academic performance of students in colleges of education in Kwara
- to determine the relationship between proficiency in utilization of public address system academic performance of students in colleges of education in Kwara
- to find out proficiency in utilization of interactive white board and academic performance of students in colleges of education in Kwara

Research Questions

Three research questions were set to guide the study

1. How available are ICT tools in colleges of education in Kwara?
2. How utilized are ICT tools in colleges of education in Kwara?
3. What is the level of students' academic Performance colleges of education in Kwara?

Main Hypothesis

There is no significant relationship between proficiency in information and communication technologies usage and students' academic performance in colleges of education in Kwara

Operational Hypotheses

1. There is no significant relationship between proficiency in utilization of projector and students' academic performance in colleges of education in Kwara
2. There is no significant relationship between proficiency in utilization of public address system and students' academic performance in colleges of education in Kwara
3. There is no significant relationship between proficiency interactive white board and students' academic performance in colleges of education in Kwara

Methodology

The study adopted correlational type of descriptive survey. The population of this study comprised all the 488 academic staff in the three government owned Colleges of Education in Kwara State (Kwara State College of Education, Ilorin, Kwara State College of Education Technical, Lafiagi and Kwara State College of Education Oro. Proportional sampling technique was used to select 151 out of 207 academic staff from Kwara State College of Education, Ilorin, 106 out of 128 from Kwara State College of Education Technical, Lafiagi, and 107 out of 143 from Kwara State College of Education, Oro respectively. The sample of the study is therefore 364 out of 488 academic staff.

Two set of instruments were used for this study and designed by the researcher entitled "ICT Usage Questionnaire (ICUQ) and Students' Academic Performance Pro-forma (SAPP). The ICTUQ comprised 6 items relating to the sub- variables of ICT availability and usage. The SAPP was used to collect the academic performance of students of Colleges of Education between 2020-2024 academic sessions to elicit information on students' academic performance. The ICUQ was validated by three experts in the Educational Management, measurement and evaluation, university of Ilorin. Pilot study was carried out to ascertain the reliability of the

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instrument and the data collected were analyzed using Cronbach Alpha and a reliability of 0.83 was arrived at, which show that the instrument was reliable. The research questions raised for the study were answered using descriptive statistics of percentage while the research hypotheses formulated were tested using inferential statistics of Pearson product moment correlation statistic at 0.05 level of significance. The p- values were compared with 0.05 level of significance. This is used in order to determine the relationship between the two variables.

Data Analysis

Answering Research Questions

Research Question One: How available are ICT tools in Colleges of education in Kwara State?

Table 1: Availability of Information Communication Technology Tools in Colleges of Edu.

S/N	Item	AA F (%)	OA F (%)	RA F (%)	NA F (%)
1.	Projector	109(29.95)	214(58.79)	41(11.26)	00(0.00)
2.	Public Address System	23(6.32)	182(50.00)	141(38.74)	18(4.95)
3.	White Board	33(9.07)	42(11.54)	157(43.13)	132(36.26)
4.	Other ICT aids	157(43.13)	182(50.00)	25(6.94)	00(0.00)
Percentage Average		22.12	42.56	25.02	10.30

Table one revealed that 22.12 percent of the respondents were of the opinion that ICT tools in colleges of education in Kwara State are always available, 42.56 percent were of the opinion that ICT tools in colleges of education in Kwara State are often available, 25.02 percent agreed ICT tools in colleges of education in Kwara State are rarely available while 10.30 percent were of the opinion that ICT tools in colleges of education in Kwara State are not available. Since the highest percentage of the respondents who were of the opinion that ICT tools in colleges of education in Kwara State are often available, it is suffix to conclude that ICT tools in colleges of education in Kwara State are often available.

Research Question Two: How utilized are ICT tools in colleges of education in Kwara State?

Table 2: Utilization of ICT tools in colleges of education in Kwara State .

S/N	Item	AU F (%)	OU F (%)	RU F (%)	NU F (%)
1.	Projector	157(43.13)	182(50.00)	25(6.94)	00(0.00)
2.	Public Address System	23(6.32)	182(50.00)	141(38.74)	18(4.95)
3.	White Board	91(25.00)	273(75.00)	00(0.00)	00(0.00)
4.	Other ICT aids	157(43.13)	182(50.00)	25(6.94)	00(0.00)
Percentage Average		29.25	56.25	13.27	1.23

Table two revealed that 29.25 percent of the respondents (on the average) were of the opinion that ICT tools in colleges of education in Kwara State are always utilized, 56.25 percent were of the opinion that ICT tools in colleges of education in Kwara State are often utilized, 13.27 percent agreed ICT tools in colleges of education in Kwara State are rarely utilized while 1.23 percent were of the opinion that ICT tools in colleges of education in Kwara State are not utilized. The highest percentage of the respondents were of the opinion that ICT tools in colleges of education in Kwara State are often utilized, it is therefore concluded that ICT tools in colleges

of education in Kwara State are often utilized.

Research Question Three: What is the level of students' academic performance in colleges of education in Kwara state?

Table 3: Students Academic Performance in Colleges of Education in Kwara State

Year	Distinction	Credit	Merit	Pass
1 2020	347	5032	15,936	1100
2 2021	298	4,699	16,464	1302
3 2022	303	7,820	17,107	930
4 2023	101	3,110	14,157	1519
5 2024	73	2,320	13,143	2091
Total	1,122	22,981	65,107	6942

Table 3 showed that 1,122 (1.2 %) students graduated with distinction, 22,981 (23.8%) students graduated with credit, 65,107 (67.70%) graduated with merit, while 6,942 (7.21%) students graduated with pass between 2011/2012 to 2016/2016 academic session in the colleges of education in Kwara state. It therefore showed that the level of students' academic performance in colleges of education in Kwara state is high.

Hypothesis Testing

The following hypotheses were formulated and tested at 0.05 level of significance:

Main Hypothesis

Ho: There is no significant relationship between utilization of ICT and students' academic performance in colleges of education in Kwara State.

Table 4: Relationship between Utilization of ICT and Students' Academic Performance

Status	N	Mean \bar{X}	SD	r-value calculated	Df	p-value	Remark
Utilization of ICT	364	27.15	1.99	0.67	362	0.001	Significant
Students' academic performance	364	24.87	1.81				

P<0.05 at 0.05 alpha level

It can be deduced from table four that the p value of 0.001 is less than 0.05 level of significance. Therefore the hypothesis that states that there is no significant relationship between utilization of ICT and students' academic performance in colleges of education in Kwara State is rejected. Thus, there is no significant relationship between utilization of ICT and students' academic performance in colleges of education in Kwara State.

Operational Hypotheses

Ho₁: There is no significant relationship between utilization of projector and students' academic performance in colleges of education in Kwara State

Table 5: Relationship between Utilization of Projector and Students' Academic Performance

Status	N	Mean \bar{X}	SD	r-value calculated	Df	p-value	Remark
Utilization of Projector	364	25.05	1.93				
Students' academic performance	364	24.87	1.81	0.67	362	0.000	Significant

P<0.05 at 0.05 alpha level

It can be deduced from table five that the p value of 0.000 is less than 0.05 level of significance. Therefore the hypothesis that states that there is no significant relationship between utilization of projector and students' academic performance in colleges of education in Kwara State is rejected. Thus, there is no significant relationship between utilization of projector and students' academic performance in colleges of education in Kwara State.

Ho₂: There is no significant relationship between utilization of public address system and students' academic performance in colleges of education in Kwara State

Table 6: Relationship btw Utilization of Pubic Address System and Students' Academic Performance

Status	N	Mean \bar{X}	SD	r-value calculated	Df	p-value	Remark
Utilization of Public Address System	364	26.21	1.95				
Students' academic performance	364	24.87	1.81	0.67	362	0.002	Significant

P<0.05 at 0.05 alpha level

It can be deduced from table six that the p value of 0.002 is less than 0.05 level of significance. Therefore the hypothesis that states that there is no significant relationship between utilization of public address system and students' academic performance in colleges of education in Kwara State is rejected. Thus, there is significant relationship between utilization of public address system and students' academic performance in colleges of education in Kwara State.

Ho₃: There is no significant relationship between utilization of interactive white board and students' academic performance in colleges of education in Kwara State

Table 7: R/ship between Utilization of Int white board and Students' Academic Performance

Status	N	Mean \bar{X}	SD	r-value calculated	Df	p-value	Remark
Utilization of Interactive White Board	364	24.99	2,11				
Students' academic performance	364	24.87	1.81	0.67	362	0.000	Significant

P<0.05 at 0.05 alpha level

It can be deduced from table seven that the p value of 0.000 is less than 0.05 level of significance. Therefore the hypothesis that states that there is no significant relationship between utilization of interactive white board and students' academic performance in colleges of education in Kwara State is rejected. Thus, there is significant relationship between utilization of interactive white board and students' academic performance in colleges of education in Kwara State.

Discussion of Findings

The answering of research question showed that ICT tools in colleges of education in Kwara State are often utilized. This conforms to the findings of Al-Emran and Malik (2016), who stated that the options available for information communication technology in colleges of education include computer, electronic books, computer graphics technology, instructional television programmes, motion films, live broadcast satellite, video conferencing and web television.

The answering of research questions two revealed that the level of students' academic performance in colleges of education in Kwara state is high. This is not in agreement with the findings of Abdulkareem (2022) who found out that lecturers' productivity in colleges of education in Kwara State is on the low side. Internet facilities and proficiency in its usage are very important in effectiveness of teaching/learning process and invariably students' academic performance (Abdulkareem, 2012). This was revealed in the study carried out by Abdulkareem (2022) on welfare packages and lecturers productivity in colleges of education in Kwara State.

There is significant relationship between utilization of ICT and students' academic performance in colleges of education in Kwara State. Al-Emran and Malik (2016), who stated that the options available for information communication technology in colleges of education significantly influence the performance of the lecturers in the classroom which invariably affects the students' academic performance.

There is significant relationship between utilization of projector and students' academic performance in colleges of education in Kwara State. Ibe-Bassey (2022) points out that usage of projector makes learning delivery easy and effectively aid students learning. The author further revealed that it saves time and lessens cost.

There is significant relationship between utilization of public address system and students' academic performance in colleges of education in Kwara State. This conforms to the findings of Alabi (2020), the physical separation between some students and the lecturer tends to create a feeling of isolation on the part of the students leading to negative attitudes, and this is because lecturer and the students did not have face-to-face relationship as it is done in traditional learning. While some students view learning through satellite TV and internet as advantageous, and student's attitude towards ICT are generally positive. According to the Author, the use of public address system assist a lot in class control and learning delivery. Especially in large classes where the students can hardly hear the lecturer unless aided by public address system.

There is significant relationship between utilization of interactive white boards and students' academic performance in colleges of education in Kwara State. This conforms to the findings of Lin and Jou (2016) who carried out a study on ICT as a tool for active learning. The study revealed that there were significant relationships among ICT tools like IWB and students' academic performance.

Conclusions

It is no gainsaying that information communication technology is a phenomenon that no educational institution can do without if truly the institution wants to remain in existence. The

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only thing that is constant is change and a serious educational institution needs to change with the changing world. Thus, this study revealed the importance and correlation that exist between ICT usage and students' academic performance in colleges of education. In other words, ICT is a necessity for effective learning delivery if any college of education wants to achieve its goals among which is high quality product with students' academic performance as one of its major determinants.

Recommendations

From the findings and conclusions of the study, the following recommendations are therefore made: that

- Adequate training should be organized regularly to aid their technical know-how of the tools.
- Projector needs constant electricity supply in order to be used effectiveness. More projectors can be bought in order to meet the demand.
- The public address systems number needs to be increased so that all lecturers can have access to one especially when lectures are going on simultaneously.
- Effort should be made by the school authority to provide more interactive boards in the classroom

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