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ICT Utilization and Student's Academic Performance in Christian Religious Studies in Calabar Municipality, Nigeria

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Abstract: ***Student's academic performance in most school subjects especially in Christian Religious Studies (CRS) in recent times has become worrisome because of the abysmal poor performance in most external examinations. Worried by this trend of events, the researchers became keen in trying to understand what exactly is responsible for this abysmal failure rates. This research therefore assessed the influence of information and communication technology, (ICT) in the teaching and learning of Christian religious studies and students academic performance. The survey inferential research design was adopted for the study, the study was carried out in some selected secondary schools in Calabar municipality of cross river state, Nigeria. A total of 400 respondents were sampled using the stage-wise random sampling techniques from ten selected secondary schools. Multi stage random sampling technique was used in the study. The sample of the study is made up of 411 SS2 student offering CRK from ten secondary schools in the area. The respondents were made up of both male and female from 5 public secondary schools and five privately owned secondary schools. There were 235 female and 176 males. The instrument for data collection is a ten (10) item instrument titled, "ICT Utilization and Students Variable Questionnaire." (IUSVQ) and a 20 item CRK Achievement Test (CAT) were designed by the researcher for data collection. The questionnaire was modified using four point Likert scale type. The second instrument is a 20 item CRK achievement test designed to address major topics covered in SS II syllabus in CRK. This instrument is designed to test students' knowledge and different skills in CRK. The test is multiple options type with four options for each of the 20 questions. A total of 411 copies were administered out of this number, 400 were properly filled and returned, while only 11 (2.6%) were either wrongly filled or not returned. Only those that were correctly filled were used for analysis. Analysis of data was therefore based on four hundred (400) respondents. Simple regression analysis was used for data analysis and results presented on tables.***

Introduction

In recent times, there have been intense global campaigns for the introduction of Information and Communication Technology (ICT) in the teaching of Christian Religious Studies. It was on the basis of this that Abdulla Al-Hawaj & Twizell, (2008) observed that the use of ICT in the teaching and learning of most school subjects is critical to make learners learn better and teachers to teach well. It ensures transactional instructional communication where the teacher manages the human materials, time and space to make sure that instructional conditions help in drawing student's attention to stimulation and recall stimulus thereby improving performance (Balash, Yong & Bin-Abu, 2011; Al-Ammary, 2012).

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No doubt ICT enable students to learn faster, remember longer, gain more accurate information

and receive and understand delicate concepts. The use of ICT in schools includes computers, internet facilities, audio-visual devices, multimedia projectors etc. Computers and internet facilities are now in place in many institutions of learning. It is envisaged that educators will see ICT as a major teaching and learning device across all educational institutions. Kosoko-Oyedeko & Tella (2009) have shown that with the power of interactivity and participation of multimedia and communication devices, the computer proves an excellent tool for the teaching and learning of school subjects.

It has been found that Christian Religious Knowledge tends to be abstract in some situation and to remove the abstractness associated with the subject, the use of teaching aid or instructional materials in the form of information and communication technology is essential. Information and Communication Technologies (ICTs) are generally accepted as a modern instructional tool that enables the educators to modify the teaching methods they use in order to increase students interest. Its general definition covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form. It consists of hardware, software, networks and media for collection, storage, processing, transmission and presentation of information (voice, data, texts and images) (Jegede and Owolabi, 2003; Arinze, Okonkwo & Iwunor, 2012).

Information and Communication Technologies (ICTs) are indispensable tools in the transmission of knowledge and have been accepted as viable means of communication in the contemporary world. ICT facilities in this study are instructional equipment and services which make teaching and learning processes to be done electronically and provide access to a wide range of innovation, information and educational materials on the internet in order to bring the world into the classroom. ICT is used for gathering, processing, storing, sharing and distributing information, knowledge and ideas (ESCAP in Ugwoke, 2011; Balash, Yong & Bin-Abu, 2011).

Adeyemo (2010) described ICT as consisting of computer hardware, software, networks and media for the collection, storage, processing, transmission and presentation of information. ICT in this study also includes computers sets, computer and application software (that is spreadsheet, word processing, excel), disc and storage media (that is memory cards, flash drives, CD-ROMs, audio and video cassettes, films, picture, e-books, e-magazines), telecommunication gadget and services such as internet, internet browsing, electronic mail services, cyber café, scanner, browsers, internet services provider which are used in the secondary school for processing, storage, presentation, communication and exchange of data and information in the teaching and learning processes, (Barrow, Markman & Rouse, 2009; Bebetsos & Antoniou, 2008).

Effective utilization of ICT facility for instructional process reinforces the teacher's ability to cater for individual differences and fosters learners' involvement, participation and understanding, which help them in grounding their thoughts and feelings and in turns contribute to good academic performance in schools. In this current era, ICTs are recognized as means of quality assurance in curriculum management. For instance, the use of ICT to instruct students will help them learn better as they do not always forget what they are taught when used alongside the traditional method of teaching (Cushman & Klecun, 2006; Hussain, Iqbal, & Akhtar, 2010).

ICT stands to improve teaching and learning, and secondary schools with very good ICT resources achieved on the average, better results in teaching subjects than those with poor ICT resources (Ayeni and Ogubameru, 2013). Internet usage for

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teaching and learning can assist the teachers to discover new methods and simple process of teaching, while the students can construct their own understanding and be in complete control of their topics through the sharing of ideas and experiences worldwide by accessing diverse collections of information from books, magazines, newspapers, and many others. The teachers are therefore, expected to give considerable attention to the selection and use of appropriate instructional resources to stimulate students' interest for meaningful learning during lessons. For instance, the use of interactive whiteboards, video projection units, and microscopes connected to computers, provide more opportunities and add value to curriculum delivery (Hussain, Iqbal, & Akhtar, 2010). Student learning activity and task engagement, higher order thinking skill, and flexibility in terms of time, learning environment and teacher-learner interaction have been reported to be enhanced by using ICT in learning. Effective use of ICT facilities promotes high academic achievement as indicators of quality learning outcome (Yusuf, 2004).

Dalsgaard, (2013) in a study on ensuring effective and efficient teaching and learning Religious Studies in Nigerian schools using photographic series, the purpose of the study was to find out the extent to which the use of photographic series with sound in teaching Religious Studies could enhance the performance of students in selected Junior Secondary School in Remo Educational zone. It also investigated the extent to which talking photographic series could enhance the retention and the attitude of the students. Two hundred students in JSSIII were selected from five secondary schools through simple random sampling technique. They were also randomly divided into 2 groups, the experimental and control groups. The study adopted the pre-test, post- test group design. The instruments used were a series of photographs with sound prepared by the researcher and the students covering "churches and its relevance to the society", Religious studies Achievement Test (RSAT) and Attitude towards Religious Studies Questionnaire (ATRSQ). These instruments were validated using construct validity, difficulty and discriminating index. The reliability coefficient for the RSAT was found to be 0.75. The result of the analysis at the pre-test showed that there was no significant difference in the performance of the students before exposing them to the talking photographic series. The mean score for the experimental group was 36.75 while that of the control group was 35.90. When this was subjected to a t-test analysis, it gave a result of t= 0.53, df = 198 P> 0.005. After exposure to treatments, the post-test mean score for the experimental was 61.90 and control mean store 54.3. When the mean scores were subjected to t-test analysis, the obtained t-value of 4.02 was found to be significant (t= 4.02; df= 198, P< 0.05). It implied that students in the experimental group performed significantly better than those in the control group at the end of the treatment thus implying that the use of photographic series with sound produced more sustainable and valuable learning than the traditional methods of teaching.

Kosoko-Oyedeko &Tella (2009) in a related study of teacher's perception of the contribution of ICT to pupils' performance in Christian Religious Education (CRE), the population of the study comprised 200 primary school teachers selected through census from 15 schools in Epe local government, Lagos State, Nigeria. The age of these teachers ranged from 28 to 45 years with the years of experience ranging from 2- 15 years. A modified questionnaire known as Teacher's Perception of ICT Contribution to Pupils Performance with r = 0.75 Cronbach alpha was used to gathered data on the study. Data collected were analyzed using percentages and t-test statistical tools. The result shows that the majority of the teachers (78.5%) indicate that pupil's performed better when ICT is used in CRE than when it is not used.

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The Office for Standard in Education-(OFTED) (2004) maintained that when pupils used ICT well, there was a clear improvement in the presentation of their work, in the range of information they had to draw on, in their capacity to enter imaginatively into other situations and in their understanding and analysis of key concepts. According to the authors, despite improvements in teachers' skills, in most schools, ICT is not yet integrated into the learning process in Religious Education. The facilities for pupils to use computers are often determined by the availability of ICT suites rather than by the demands of the curriculum. Another report by OFTED (2004) revealed that ICT made a relatively modest contribution to pupils' overall achievement in religious education mainly because, in most situations, computer- based work was not sustained beyond a single lesson.

On ICT utilization in teaching CRK, findings reveals that ICT as an instructional material has the potency of improving learning outcome in CRK if utilized by teachers in the learning process. Most researchers found out that there exists a significant influence on academic performance in CRK while no contrasting findings to this existed. The impact on standards was more significant where pupils had regular access to relevant hardware. When pupils used ICT well, there was a clear improvement in the presentation of their work, in the range of information they had to draw on, in their capacity to enter imaginatively into others' situations (such as through virtual tours or reading accounts of people's personal dilemmas), and in their understanding and analysis of key concepts.

For example, when teaching topics like *The Beatitude* or *The washing of feet to signify humility*, unless it is dramatized by the teacher with some students or video clip is played using any available ICT facility (television, power point, projector or computer) , hardly can the learning experience make any meaning for teaching of these topics. This review focused on the influence of ICT utilization in teaching and learning CRK and student's academic performance in CRK. Although the literature reviewed were mostly studies based on different cultures and geographical settings, yet they do not contradict the few local studies reviewed and are still relevant to this study in the sense that, to some extent, they have given considerable insight on how ICT utilization can influence student's academic performance in CRK.

Worried by this trend of events, can the utilization of ICT in the teaching and learning of CRK influence student's academic performance in Christian Religious Studies? It is against this backdrop that the researchers embarked on this study to empirically ascertain if the utilization of ICT facilities in teaching and learning of CRK significantly influences student's academic performance in Christian Religious Knowledge in secondary schools in Calabar Municipality in Cross River State.

Methodology

The survey inferential research design was adopted for this study because data was specifically collected from a representative sample of a larger population for the study through the use of questionnaire. The study area is Calabar municipality, which is one of the 18 Local Government Areas of Cross River State .Calabar is the seat of the state capital, Calabar Municipality is one of the two local government areas making up the state capital. The people of this area generally speak Efik, Quas, Ejagham and English language. They practice, Christianity, African traditional religion (ATR) and some pockets of other religion like Islam. The educational institutions (secondary schools in Calabar Municipality includes; twenty two (22) public secondary schools and thirty eight (38) private secondary schools approved by government. The population of this study comprise a total of 6567 students in Senior Secondary School Two (SSS II) in the twenty two

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(22) public secondary schools and thirty eight (38) private secondary schools in Calabar Municipality. Total SS II students in the public secondary school are 2,746 students while private secondary schools have the total of 3,821 students. All students implies male and female. The respondents are SSS II students of public and private secondary school secondary schools. The choice of SS II is due to their availability and willingness to participate in order to generate data for the study. On the other hand, SS III students were not available for data collection as they were preparing for their external examination; In addition, the SS II students are suitable for this study, in that they are being prepared for the next external examination.

Multi stage random sampling technique was used in the study. The sample of the study is made up of 411 SS2 student offering CRK from ten secondary schools in the area. The respondents were made up of both male and female from 5 public secondary schools and five privately owned secondary schools. There were 235 female and 176 males.

The instrument for data collection is a ten (10) item instrument titled, "ICT Utilization and Students Variable Questionnaire." (IUSVQ) and a 20 item CRK Achievement Test (CAT) were designed by the researcher for data collection. The questionnaire was modified using four point Likert scale type. The second instrument is a 20 item CRK achievement test designed to address major topics covered in SS II syllabus in CRK. This instrument is designed to test students' knowledge and different skills in CRK. The test is multiple options type with four options for each of the 20 questions. The instruments were subjected to both face and content validity and reliability check by experts. After obtaining approval from the various principals of the secondary schools, the researchers and the subject teachers administered the instruments themselves and collected same.

A total of 411 copies were administered out of this number, 400 were properly filled and returned, while only 11 (2.6%) were either wrongly filled or not returned. Only those that were correctly filled were used for analysis. Analysis of data was therefore based on four hundred (400) respondents. Simple regression analysis was used for data analysis and results presented on tables.

The researchers posed one research question thus: How does ICT utilization predicts students' academic performance in CRK in secondary schools in Calabar Municipality? And also designed one hypothesis thus: ICT utilization in teaching and learning does not significantly predict secondary school students' academic performance in CRK in Calabar Municipality.

Results and discussions

ICT utilization in teaching CRK does not significantly predicts students' performance in Calabar Municipality. The independent variable in this hypothesis is ICT utilization. The dependent variable is CRK academic achievement test. Simple regression statistical analysis of the prediction of ICT utilization on academic achievement was employed in testing for significance. The results of linear regression analysis are presented in Tables 1 and 2. Table 1 shows the correlation matrix for the dependent and independent variable, while Table 5 shows the actual results of the regression analysis. Table 1 shows the correlation matrix for ICT utilization (independent variable) and the CRK achievement test (dependent variables or predictors). It can be seen from the table that the correlation coefficient of .832 is significant at .05 level. It is also noticed that the correlations between ICT utilization and academic achievement are positive (which implies significant positive relationship). The positive correlations imply that as ICT utilization increases, academic achievement increases and vice versa.

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Table 1: Correlation Matrix

	ICT utilization	Achievement test
ICT Utilization	1.00	.832
Achievement test	.832	1.00

Significant at 0.05 significant level.

Table 2 shows the results of analysis of variance and regression analysis of the prediction of production position. It also shows an F-value of 896.98 which is significant at .05 level. This implies that ICT utilization do significantly predict academic achievement. It further shows R value of .832 which is a strong positive relationship and R^2 of .692 which means that the independent variable (ICT utilization) can explain 69.2% of the variance in the dependent variable (academic achievement)

Table 2
Regression Analysis: Prediction of CRK achievement test using ICT utilization

Source of variation	**Sum of squares**	**DF**	**Ms**	**F**	**Sig**	**R**	**R^2**
Regression	5197.55	1	5197.55	896.98	.000*	.832	.692
Residual	2306.19	398	5.97				
Total	7503.75	399					

Variables	**Unstandardized coefficient**		**Beta**	**t-value**	**Sig(p)**
	B	Std. Error			
Constant	2.81	.301		9.33	.000*
ICT utilization	.736	.025	.832	29.99	.000*

P<.05 level. Significant

a. Predictors: (Constant), ICT utilization

b. Dependent Variable: Achievement test

The lower part of the table 5 shows the predictive capability of ICT utilization. The table shows that the t-value that represents the predictive capability is 29.99 at significant level of .05, this implies that ICT utilization is a significant predictor of academic achievement in CRK.

It was hypothesized that ICT utilization in teaching CRS does not significantly predicts students' performance in Calabar Municipality.

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The data analysis however, revealed that ICT utilization is a significant predictor of students' academic performance in CRS. This finding is supported by Dalsgaard, (2013) who carried out a study on ensuring effective and efficient teaching and learning religious studies in Nigerian schools using photographic series, the study found out the extent to which the use of photographic series with sound in teaching religious studies could enhance the performance of students in selected junior secondary school in Remo Educational zone. The result revealed that the pre-test showed that there was no significant difference in the performance of the students before exposing them to the talking photographic series. The mean score for the experimental group was 36.75 while that of the control group was 35.90. When this was subjected to a t-test analysis, it gave a result of t= 0.53, df = 198 P> 0.005. After exposure to treatments, the post-test mean score for the experimental was 61.90 and control mean store 54.3. When the mean scores were subjected to t-test analysis, the obtained t-value of 4.02 was found to be significant (t= 4.02; df= 198, P< 0.05). It implied that students in the experimental group performed significantly better than those in the control group at the end of the treatment.

Furthermore, the findings of this study corroborates with that of Yusuf (2004) who asserted that effective use of ICT facilities promote high academic achievement as indicators of quality learning outcome. Office for Standard in Education- OFTED (2004) also supports this findings by stating that when pupils used ICT well, there was a clear improvement in the presentation of their work, in the range of information they had to draw on, in their capacity to enter imaginatively into others' situations (such as through virtual tours or reading accounts of people's personal dilemmas), and in their understanding and analysis of key concepts in religious education.

More so, the findings of this study is in line with Kosoko-Oyedeko, & Tella, (2009) and Dalsgaard, (2013) who found out respectively that even teachers from 15 schools in Epe Local Government, Lagos State, Nigeria perceive that ICT utilization enhances pupils performance in Christian Religious Knowledge. Majority of the teachers (78.5%) indicate that pupil's performed better when ICT is used in CRS than when it is not

ICT utilization in teaching CRS is a significant predictor of academic performance in CRS among senior secondary school students in Calabar Municipality.

Recommendations

The following recommendations are made based on the findings of the study

1. Government and private school proprietors should provide ICT facilities in secondary schools so as to boost academic performance in CRS.
2. Teachers should be encouraged to constantly use instructional materials of ICT in the teaching of CRK in order to boost performance and attract interest, as the use of ICT sustains learning interesting, thereby leading to increased academic performance.

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