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Application of Information and Communication Technology for Large Class Management in General Studies Programme in Universities in North Central Nigeria

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Abstract:

The study examined the use of ICT in large class management in general studies programmes in Universities in North Central of Nigeria. The study was a descriptive survey. The population of the study comprised 1,294 respondents made up of 1,211 personnel in the school of general studies in universities in North Central Nigeria. Out of the population, a sample of 204 personnel was selected through proportionate random sampling technique. The instrument used for data collection was 32-item questionnaire. Data collected were analyzed using mean, standard deviation and t-test statistic. The findings of the study showed that the use of information management system is a procedure for large class management. Inadequate infrastructural facilities and poor funding of ICT projects were found as major problems inhibiting the use of ICT. It was revealed that the use of power point and projector could improve large class management. It was recommended that university personnel should be trained in the use of ICT for academic and administrative processes. Regular supervision of general studies programme should be encourage by the university administration to identify areas for improvement.

Keywords: Information, communication, technology, management, university

1. Introduction

University is a citadels of learning, knowledge-producing institutions and repositories of fundamental knowledge. Different faculties, department institutes, Centres and School of general studies inclusive exist in most universities in Nigeria. School of general studies is a school within the university system that introduce first year and second year students to general courses such as humanities, English Language, Natural Science and Social Science courses. The major roles of a university include teaching, learning, research and community relations services. Ayeni (2005) reiterated this by saying that the mission of a university education is teaching, learning, research, publication and social services for the product of qualitative graduates, worthy in learning and character, and the creation of up-to date knowledge, and innovation for the total socio-economic and political development of a given nation. As the world changes, information, knowledge, teaching and learning processes change rapidly. Administrative functions and the teaching process in universities are becoming increasingly complex in terms of enrolments, population mobility and social problems. This complexity requires the use of information and communication technology (ICT) resulting in better communication, efficient operation, effective teaching and personal services in general studies programmes of universities.

Becta (2008) defined ICT as technology that is use to process, create or to exchange information. In the context of this paper ICT refers to technical systems that receive, manipulate, process and store data. ICT facilitate teaching, learning and data management. With the developments in information technology in the 21st century it is expected that ICT will be used for large class in general studies programme to meet the modern day university administration. The application of ICT in large class in general studies programme could enhance administrative work, improve teaching, reduce occupational stress and enhance student academic performance however, achieving these calls for effective management.

Emenike (2003) defined management as a process designed to ensure the cooperation, participation, intervention and involvement for effective achievement of goals. In the context of this paper, management is a social interaction process

involving a sequence of coordinated general studies programme of events such as planning, organizing, coordinating, supervision, controlling and evaluation in order to use available human and material resources to achieve a desired outcome in the fastest and most efficient way.

The fact that university in North Central is witnessing a tremendous growth, students enrolment in the school of general studies has made the management of large class complex thereby creating challenges ranging from the management of student, data, community relations, supervision of instruction to the management of academic programmes. Adeyemi (2007) argued that there was no time in the history of the university education in Nigeria when academic and administrative staff of university has been faced with such multitudes of challenges. The evolution of ICT and its capability to handle diverse kinds of problems has made easy the mounting challenges created by increasing population of students in general studies programmes. This however requires training of academic and administrative staff in the rudiment of management such as planning, supervision, organization, coordinating and directing with the use of ICT in managing large classes in general studies programme.

Personnel in universities in North central needs to be well informed in ICT application for effective large class management in general studies programmes. This is necessary in the areas of collection of student data, recording of results, keeping of students records, effective teaching and learning. In the view of Adeyemi Olaleye (2010) the introduction of ICT in the management of large class could become an antidote in providing effective solutions to general studies large class problems that would have been difficult, if not impossible to solve through human natural efforts.

One cannot over-estimate the use of ICT in large class management. Adeosun (2002) noted that ICT assists University personnel to meet the task of management in area of curriculum, instruction, interaction with the learner, presentation of lecturer, and computation of students result, student staff relationship, effective communication, and supervision of class examination, co-ordination of large class activities and in the evaluation of student performance. In support of this Mohammed (2006) argued that introduction of ICT in large class management could enhance the daily general studies programme routine programme, updating the evaluation of the school programme, solving individual student or group problems as well as staff development.

There is no doubt therefore, that large class management in general studies programme in universities in North Central Nigeria has become more complex. Its management demand more from university administration and personnel, hence, the use of ICT in the management process is imperative for sustainable development of general studies programme in universities.

It has however been observed that in many Federal and State Universities in North Central Nigeria, ICT tools like computer, internet and other telecommunication technologies that can aid teaching, and learning, supervision of examination and administrative processes are hardly use. It is against this background that this study sought to find out the utilization of ICT in large class management in general studies programmes in Universities in North Central Nigeria.

1.1. Statement of Problem

Increasing enrolment of students in universities in Nigeria has been noted by educationist. This increase called for the use of sophisticated equipment and facilities such as ICT for large class management in areas of teaching, administration of examination and processing of students data.

It has been observed that ICT facilities have not been used in the management of large classes in general studies programme in universities in North Central. This might be as a result of inadequate provision of ICT facilities, power failure, computer illiteracy among university personnel and lack of training in the use of ICT. The problem of this study therefore was to find out how ICT can be applied in large class management in general studies in universities in North Central Nigeria.

1.2. Purpose of the Study

The main purpose of the study is to find out application of ICT in large class management in general studies programme in universities in North Central Nigeria. Specifically, the study sought to:

- Identify procedures for the use of ICT in large class management in general studies programmes in universities in North Central Nigeria.
- Ascertain the role of personnel in the use of ICT in achieving effective large class management in general studies programmes in universities.
- Investigate problems associated with the use of ICT in large class management in general studies programmes in universities.
- Determine ways for improving the use of ICT in general studies programmes in universities.

2. Research Question

The following research questions guided the study.

- What are the procedures for the use of ICT in large class management in general studies programmes in universities in North Central Nigeria?
- What are the roles of personnel in the use of ICT in achieving effective large class management in general studies programmes in universities?

- What are the problems associated with the use of ICT in large class management in general studies programmes in universities?
- In what ways can the use of ICT in large class management in general studies be improved.

2.1. Hypotheses

The following null hypotheses formulated at 0.05 level of significant guided the study.

- Ho₁: There is no significant difference in the mean ratings of personnel in Federal and personnel in state universities on procedures for large class management in general studies programmes in universities in North Central Nigeria.
- Ho₂: There is no significant difference in the mean score of personnel in federal and personnel in state universities on problems associated with large class management in general studies in universities in North Central Nigeria.

3. Method

This research was a descriptive survey aimed at investigating the use of ICT in large class management in general studies programme in universities in North Central Nigeria. The zone is made up of 5 federal, 6 state and 3 private universities approved by National Universities Commission.

The population of the study comprised 1,294 personnel in school of general studies made up of (1,211 in federal and 83 in state universities (academic planning unit 2009/2010). The sample of the study consists of 204 personnel (121 in federal and 83 in state universities). Applying proportionate random sampling technique 2 Federal and 2 State Universities were selected from Universities in North Central Zone. Ten percent of the population of personnel in federal universities was selected while the entire population of personnel in state universities was used.

A thirty-two (32) item survey instrument was structured on 4 point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) rated 4-1 points respectively. The items were developed through information obtained from literature based on the four research questions. The items were intended to elicit information from respondents on large class management in general studies programmes in universities.

The instrument was face validated by three experts, two from Educational Administration and planning and one from Measurement and Evaluation, Faculty of Education, University of Nigeria, Nsukka. The comments and criticisms made by these experts shaped the focused of the study. The validated instrument was trial-tested to ascertain the reliability of the instrument using Cronbach alpha method. The reliability co-efficient was 0.69. This indicated that the instrument was reliable.

Three research assistants were trained and employed in the distribution and collection of all the data. Data collected were analyzed using mean and standard deviation for the four research questions. The t-test statistic was used in answering the two null hypotheses formulated for the study. The level of significance was set at 0.05 with 202 as degree of freedom. The null hypothesis is rejected if the t-calculated is equal or higher than the table value. Items of the research questions with mean score of 2.50 and above were regarded as accepted while any item with a mean score below 2.50 were rejected.

4. Results

The results are presented in table 1-6 according to research questions and hypotheses that guided the study.

4.1. Research Question One

What are the procedures for large class management in general studies programmes in universities in North Central Nigeria.

		Personnel in Federal University (N = 121)			Personnel in State University (N = 83)		
		\bar{X}	SD	Dec	\bar{X}	SD	Dec
1.	Build on the successful strategies others have used for large classes	3.16	0.92	A	3.24	1.04	A
2.	Plan to use information management system that support teaching and learning	3.35	0.87	A	3.28	0.88	A
3.	Plan to work cooperatively with others teaching the same course	2.75	0.93	A	2.59	1.18	A
4.	Plan to administer assessment to allow ill-prepare students to drop out.	1.81	0.93	D	2.09	1.13	D
5.	Plan for help session and flexible office hours.	2.96	0.99	A	2.99	1.11	A
6.	Plan for out of class learning	3.01	0.92	A	3.21	0.97	A
7.	Plan for on-line self-spaced learning	3.33	0.80	A	3.25	1.88	A
8.	Note public holidays and campus events that might influence class activities.	1.78	0.92	D	2.02	1.08	D

		Personnel in Federal University (N = 121)			Personnel in State University (N = 83)		
		\bar{X}	SD	Dec	\bar{X}	SD	Dec
9.	Use space that can accommodate the size of the class	1.85	0.94	D	2.20	1.00	D
	Grand Mean	2.66	0.91	A	2.76	1.03	A

Table 1: Mean Ratings of Respondents on Procedures for Large Class Management in General Studies Programmes

(\bar{X} = Mean, SD, Standard Deviation, Dec = Decision Level)

Table 1 presents the opinion of the respondents on procedures for large class management in general studies programmes. Means 1 – 3 and 5 – 7 were rated with mean score of 3.16, 3.35, 2.75, 2.96, 3.01 and 3.33 by personnel in Federal Universities. Personnel in state universities rated the same items with mean scores of 3.24, 3.28, 2.59, 2.99, 3.21 and 3.25 respectively. Items 4, 8 and 9 have low mean score of 1.81, 1.78, 1.85 for personnel in federal, 2.09, 2.02 and 2.20 for personnel in state universities. The respondents disagree with plan to administer assessment, note public holidays and the use of classroom that could accommodate the size as procedures for large class management.

4.2. Research Question Two

What are the roles of personnel in achieving effective large class management in general studies programmes?

		Personnel in Federal University (N = 121)			Personnel in State University (N = 83)		
		\bar{X}	SD	Dec	\bar{X}	SD	Dec
10.	Sound teacher preparation	3.14	0.90	A	3.19	1.04	A
11.	Teacher personality	3.02	1.04	A	3.10	1.08	A
12.	Good organization	3.29	0.90	A	3.17	0.96	A
13.	Teacher cooperation	3.25	0.01	A	3.00	1.09	A
14.	Effective planning	3.04	0.92	A	2.70	1.17	A
15.	Class discipline	2.80	0.81	A	3.38	0.92	A
16.	Employ the agree upon punishment	2.84	1.05	A	2.93	1.03	A
17.	Minimizing disruption with designated seat for late arrivals and early departures.	3.01	0.88	A	3.07	1.02	A
	Grand Mean	3.04	0.91	A	3.06	1.03	A

Table 2: Mean Ratings of Respondents on the Role of Personnel in Achieving Effective Large Class Management in General Studies Programmes

Table 2 reveals the responses of the respondents on the role of personnel in achieving effective large class management. A look at the table shows that all the items have mean score above the criterion mean score of 2.50. The respondents agreed with all the items presented as the role of university personnel in large class management in general studies programmes.

4.3. Research Question Three

What are the problems associated with large class management in general studies programmes?

S/N	Problems Associated	Personnel in Federal University (N = 121)			Personnel in State University (N = 83)		
		\bar{X}	SD	Dec	\bar{X}	SD	Dec
18.	Disruptions of class by late arrivals of students	3.10	0.96	A	3.01	1.04	A
19.	Disruptions of class by early departures	3.21	0.97	A	3.21	1.03	A
20.	Cell phone and computer use during classes by students	3.19	0.95	A	3.17	1.12	A
21.	Talking or inattention inhibit learning for other students	3.05	0.92	A	3.16	1.13	A
22.	Inadequate infrastructural facilities	3.30	0.84	A	3.09	1.14	A
23.	Poor funding of ICT project in university education in Nigeria.	3.29	0.93	A	3.12	1.10	A

		Personnel in Federal University (N = 121)			Personnel in State University (N = 83)		
		\bar{X}	SD	Dec	\bar{X}	SD	Dec
24.	Political interference in school management	2.26	1.12	D	1.76	1.22	D
25.	Problem of university autonomy	3.22	0.91	A	3.08	1.15	A
	Grand Mean	3.07	0.95	A	2.95	1.11	A

Table 3: Mean Ratings of Respondents on Problem Associated with Large Class Management

Table 3 indicates the views of the respondents on problems associated with large class management in general studies programme. Items 18 – 23 and 25 have mean ratings of 3.10, 3.21, 3.19, 3.05, 3.30, 3.29 and 3.22 by personnel in federal universities. Personnel in state universities rated the same items with mean score of 3.01, 3.21, 3.17, 3.16, 3.09, 3.12 and 3.08 respectively. Item 24 have low mean score of 2.26 for personnel in federal and 1.76 for personnel in state universities. This implies that the respondents disagreed with political interference in school management as problem associated with large class management.

4.4. Research Question Four

In what ways can the use of ICT in large class management in general studies be improved?

	Ways for Improvement	Personnel in Federal University (N = 121)			Personnel in State University (N = 83)		
		\bar{X}	SD	Dec	\bar{X}	SD	Dec
26.	Group students according to course of study or department	3.17	0.89	A	3.21	1.08	A
27.	Use micro phone and projector system if necessary	3.29	0.82	A	3.18	1.11	A
28.	Lectures which encourage student responses	3.18	0.94	A	3.14	1.13	A
29.	Vary methods of teaching to maintain student interest	3.17	0.84	A	2.99	1.17	A
30.	Have five to seven student monitor class needs and progress	3.01	0.97	A	2.98	1.18	A
31.	Create a mechanism for all students to communicate with the advisory group regularly.	3.11	0.90		3.09	1.09	
32.	Teachers should meet with the advisory group regularly.	3.09	0.83	A	2.97	1.08	A
	Grand Mean	3.14	0.88	A	3.08	1.12	A

Table 4: Mean Ratings of Respondents on Ways for Improving Large Class Management in General Studies Programmes

Table 4 shows the responses of the respondents on ways for improving large class management in general studies programmes. A look at the table shows that all the items were rated high above the criterion mean score of 2.50. The respondents agreed with all the items provided as ways for improving effective large class management in general studies programmes.

4.5. Hypothesis One

There is no significant difference between the mean ratings of personnel in federal and personnel in state universities on procedures for large class management in general studies programmes.

S/N	Source	No	\bar{X}	SD	Df	Level of Sign	t-cal	t-crit	Decision
1	Personnel in Federal Universities	121	2.66	0.91	202	0.05	0.56	1.96	Not sign
2.	Personnel in State Universities	83	2.76	1.03					

Table5: Summary of T-Test Analysis of the Responses on Procedures for Large Class Management

Table 5 reveals that the calculated value is 0.56 at 202 degrees of freedom and at 0.05 level of significance is less than the table value of 1.96. Since the calculated value is less than the table value, the null hypothesis is accepted. Therefore, there is no significant difference in the mean ratings of personnel in federal and personnel in state universities on procedure for large class management in general studies programmes.

4.6. Hypothesis Two

There is no significant difference in the mean ratings of personnel in federal and personnel in state universities on problems associated with large class management in general studies programmes.

S/N	Source	No	\bar{X}	SD	Df	Level of Sign	t-cal	t-crit	Decision
1	Personnel in Federal Universities	121	3.07	0.95	202	0.05	0.41	0.96	Not sign
2.	Personnel in state universities	83	2.75	1.11					

Table6: Summary of T-Test Analysis of the Responses on Problems Associated with Large Class Management

Table 6 indicates that the calculated value of 0.41 is less than the table value of 1.96 at 202 degrees of freedom and at 0.05 level of significance. Since the table value is higher than the calculated value, the state null hypothesis is accepted. This implies that there is no significant difference in the mean ratings of personnel in federal and personnel in state universities with regards to problems associated with large class management.

5. Discussion

From the results of the data analysis made, it is obvious that there are similarities between the responses of personnel in federal and personnel in state universities in North Central Nigeria. The result of research question one showed that procedures for effective class management include plan to use information management system, plan for on-line self-spaced learning and building on successful strategies others have used. The findings confirm the observation by Adeyemi (2007) that the evolution of ICT and its capability to handle diverse kinds of problems created by increasing population of students in general studies programme.

The position of the respondents could be in order. This is because with the use of PowerPoint, projectors and information management system, lecture can be delivered to a large number of students within a given period of time. The internet service has also made it easy for university teachers to plan for on-line self-spaced learning thereby improving large class management. The results from the respondents agreed with the hypothesis made that there is no significant difference in the mean ratings of personnel in federal and personnel in state universities on procedures for the application of ICT in large class management in general studies programme.

Another finding of this study is the role of personnel in achieving effective large class management. Both personnel in federal and state universities see good organization, teacher cooperation and sound teacher preparation as the major role of personnel. This is evident in the large number of students that enroll for general studies, required good organization, planning, supervision and coordination. Emenike (2003) made it clear that the role of teacher involves a sequence of co-coordinated school events such as planning, supervision, controlling and evaluation to achieve a desired out come. These management components are necessary in large class management. It will be an impossible task to managed large class without planning, supervision, organization and evaluation.

The major findings on problems associated with large class management reveals poor funding of ICT projects, inadequate infrastructural facilities, the use of cell phone and computer during classes. These findings was in agreement with the findings made by Onifade (2003) which indicates that the use of ICT was been handicapped by not supply of ICT facilities to many schools and study centers. The problem of poor funding of ICT projects and inadequate facilities found in this study agreed with the findings made by Alebiosu (2000) who reported that financial allocation to the university education was at low level. This implies that university administration could not purchase ICT equipment and maintenance of available ICT facilities for the management of their schools. From the study it was found that university personnel in both federal and state do not differ significantly in their perception concerning problems associated with large class management in general studies programmes.

The findings on procedures for improving large class management indicate the use of micro phone, projectors, communication with advisory group and grouping of students. The findings was in agreement with Adeyemi (2007) who argued that there was no time in the history of the university education in Nigeria when academic and administrative staff in Nigerian universities are faced with such mounting challenges of large class management. This requires training of university personnel in the use of ICT for teaching and for administrative work in general studies programmes in universities.

6. Conclusion

Considering the findings of the study, it was concluded that there are procedures for effective large class management through the application of ICT. This is evident in the findings of the study which indicated planning to use information management system that support teaching and learning, planning for on-line self spaced learning and building on successful strategies others have used for effective large class management. The finding have led the researchers to conclude that good organization of human and material resources as a role of university personnel is significantly related to ways of improving large class management. It was therefore concluded that inadequate ICT facilities, poor funding of university education and general infrastructural facilities are major problems inhibiting the use of ICT equipment for effective large class management in general studies programmes in universities in North Central Nigeria.

7. Recommendations

Based on the findings of the study the following recommendations were made bearing in mind the need for large class management in general studies programmes.

- Regular supervision of general studies programme should be encouraged to address the apparent needs of general studies programmes in universities.
- University administration in North Central should establish more general studies centres and support services to facilitate effective teaching.
- ICT facilities should be provided by university administration to the school of general studies for application in large classes.
- University personnel should be trained in the use of ICT in academic and in administrative processes in general studies programmes.
- University personnel should make efforts to upgrade their competencies in modern ICT skills through participating in professional conferences and seminar that will help them in large class management.

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