An Assessment of Gender and Area of Specialization as Correlates of Principals' Application of ICT in Secondary School Administration in Akwa Ibom State

By

Usen Godwin IKPE, *PhD*
Department of Curriculum Studies, Educational Management and Planning
Faculty of Education, University of Uyo, Uyo

&

Idoreyin Iniabasi EKANEM, *PhD*
Family Empowerment and Youth Reorientation Path Initiative (FEYReP)
Plot 22, F-Line Ewet Housing Estate, Uyo
Akwa Ibom State

ABSTRACT

The study sought to assess the Gender and Area of Specialization as Correlates of Principals' Application of ICT in Secondary School Administration in Akwa Ibom State. The research design used for this study was ex-post facto. The research area for this study was in Akwa Ibom State. The population of this study comprised 213 Principals and 629 Vice-Principals in Akwa Ibom State. Simple random sampling technique was used to select 535 respondents as the sample size. The main instrument used for this study was a Questionnaire titled "Principals' Application of ICT in Secondary School Administration (PAISSAQ) Questionnaire". Cronbach Alpha technique was used to determine the level of reliability of the instrument. The reliability coefficient obtained was 0.84 and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical techniques such as independent t-test analysis and one-ways analysis of variance. The test for significance was done at 0.05 alpha levels. The study reveals that the result of the study revealed that there are inadequate ICT facilities in the college which institutional administrators can be used to perform different administrative purposes effectively. Also, the findings showed that the level of ICT usage of the institutional administrators for administrative purposes is very low. It was concluded that there is significant difference in principals' application of ICT in Secondary School administration based on gender, also that there is significant difference in principals' application of ICT in Secondary School administration based on area of specialization. One of the recommendation was that Needs for assessment should be carried out to facilitate development and deployment of ICT in secondary schools.

KEYWORDS: Gender, Area of Specialization, Principals' Application of ICT, Secondary School Administration

Introduction

School administration is a key determinant for the realization of desired outcomes and success in schools seen as critical by all stakeholders. It has been observed that the twenty-first

century principal as an administrator faces numerous challenges emanating from the use of technologies (Gray and Smith, 2007). Information and Communication Technologies (ICT) are increasingly used and viewed as Important in all spheres of operation including education. The effective school and dynamism of school administration requires change in module operando of school administrator. It is the school administrator that direction to education policy implementation and change management. The school administrator has the tedious task of leading efficiently and effectively in the development and management of the school resources. The provision of satisfactory standards in the maintenance of the school environment depends on the administrator as he plays the leading role in improving the quality of teaching and learning; keeping in view the educational goals of the school and to ensure that the entire school activities are geared towards the achievement of educational goals. The school is an open system that is in constant interaction with the environment. It receives inputs from the external environment in the form of human and material resources. Processes them and empties same into the environment. These make the administrative functions of the principal really complex and tasking. The functions of the principal's administrative effectiveness include decision making, planning, communication, influencing, coordinating and evaluation (Mbipom, 2000). According to Selwood (2005), these functions (decision making, planning, communication, influencing, coordinating and evaluation) are applied in the areas of curriculum development, instructional supervision, staff and student personal administration, guidance, finance, community relation construction and maintenance of facilities and special services. There is no doubt, therefore, that secondary education in Nigeria has become more complex over the years with concomitant management demands being exerted on the principal especially in today's information and communication Technology (ICT) era (Okon, Ekaette and Ameh, 2015). With ICT, the secondary school head can discharge his/her duties by using computers and internet in solving school general problems and in carrying out his/her day-to-day assignment especially as it relates to having a reliable information system in a laptop computer irrespective of the principal gender, qualification and age. ICT can play a major part in diminishing the work of the administrator and his/her staff especially in keeping daily records of student. In analyzing students' attendance records, and in marking students' script and recording result. Through this much time is saved and utilized in other directions for effective school administration. In Nigeria, factors such as age, qualification, sex and experience have been considered in appointing teachers for principalship positions with the belief that some individuals would be effective than others.

Statement of the Problem

Today, the society in the state of continual change, with one change leading to another. The rapid pace of change has affected all institutions without expectation. As the secondary school system is expanding at an unprecedented rate in terms of resources and students' enrolment, so also the problems of its planning, organizing, coordinating, controlling and directing which are to be performed by the school principals. Information and Communication Technology has been seen as a way of addressing these challenges in education. The initial aim to introduce ICTs in education was a primarily at developing ICT skills; the focus has over time shifted to leverage ICTs to address issues of qualify and to improve teaching and learning especially at secondary and post-secondary levels. The study therefore sought to assess the extent that principal and school variables influence the application of ICT in Secondary School administration in Akwa Ibom State.

Objectives of the Study

1. Determine the difference in principals' application of ICT in Secondary School administration based on gender
2. Examine the difference in principals' application of ICT in Secondary School administration based on area of specialization.

Research Questions

1. What is the difference in principals' application of ICT in Secondary School administration based on gender?
2. What is the difference in principals' application of ICT in Secondary School administration based on area of specialization?

Hypotheses

1. There is no significant difference in principals' application of ICT in Secondary School administration based on gender.
2. There is no significant difference in principals' application of ICT in Secondary School administration based on area of specialization.

Literature Review

Gender Principals' Application of ICT in Secondary School Administration.

Gender refers to socially constructed roles and socially behavior and expectation associated with males and females (Okaley, 1996). Separating gender influence on administrative role is a complex task, thus, many studies on this issues appear to be contradictory. There are difference views in sex disparity and intellectual abilities, just as there are different authors.

According to Agulana and Nwachukwu (2004), gender is a term used to identity Homosapien in modern man into feminine or masculine. Jeremiah (2009) noted that sex has with it biological attribute with which a child is born. But as the child grows, he or she develops a gender role identity which portrays the image that individual has of himself of herself as masculine or feminine in character. Kelly (1996) opined that there are considerable problems when attempting to relate specific intellectual abilities or achievement is a specific subject area, and that sex differences and intellectual abilities is a function of sex as a strong dominant role stereotyped. Black (1996) stated that sex is a strong predicator of human conduct and that there are differences between males and females in attitude, behavior and achievement. Black further stressed that academic performance differs between boys and girls in basic subjects in primary, secondary and tertiary levels; and that it is difficult to disentangle the influence of sex on administration. Gender differences and use of ICT have been reported in several studies. However, studies concerning teachers' gender and ICT use have cited female teachers' low levels of computer use due to their limited technology access, skill, and interest (Volman and Van Eck, 2001). Research revealed that male teachers used more ICT in their teaching and learning processes than their female counterparts (Kay, 2006; Wozney, Venkatesh and Abrami 2006).

Area of Specialization and Principals' Application of ICT in Secondary School Administration

An area of specialization is a strong technological opportunity for Principals' administrative role. Area of specialization in any profession is very relevant as it's enhances professional competency and efficiency. Some major programs consist of a core program of study within the academic unit as well as required additional study one or more areas of specialization selected from options within or related to the discipline. Utilization of ICCT in administration could be influenced by the area of specialization. In a study on the performance of primary school headmasters, results showed that teachers who completed degrees in education offer more professional outputs than those who do not. It is believed that specialized training empowers and motivates such teachers for better experience significantly contribute to difference in teachers and head teachers' performance (Ibukun, Oyewole and Abe, 2011).

In the same vein, ICT related programme or courses such as in sciences, engineering among others could enhance principals' application of ICT in administration. Several studies report a positive relationship between teachers' preparation in the subject matter they later teach and students' achievement; while others have less unequivocal results. Some studies suggest positive effects of advanced degrees. Some argue that the requirement of a second degree (M.Sc, MBA) raises the cost in terms of teacher education and the time involved and may prevent quality candidates from choosing the teaching profession. This characteristic is subject-matter-knowledge teachers acquire during their formal studies and pre-service teacher education courses. The evidence gained from different studies is contradictory (Kosgei, et. al, 2013).

A related study by Ibukun, et al, (2011), showed that principals who completed in-service trainings were more effective than those who did not. An important implication is that professionally trained principals perform their roles better than non-professionals. Teachers' professional development is a key factor to successful integration of computers into classroom teaching. ICT related training programs develop teachers' competences in computer use, influence teachers' attitude towards computers as well as assisting teachers recognize the task of technology and how new technology tools are significant in students learning.

Ali, Haolader and Muhammad (2013) conducted a study on the use of ICT in teaching-learning process is a relatively new phenomenon and it has been the educational researchers' focus. The effective integration of this technology into classroom practices poses a challenge to teachers and administrators. This empirical study aimed at finding out the factor influencing use of ICT to make teaching-learning effective in higher institutions of learning in Uganda and identifying the innovations that ICT has brought into teaching-learning process, particularly in higher institutions of learning in Uganda. A survey was employed and in order to empirically investigate the study. The findings of this study revealed that teaching staff and administrators had a strong desire to integrate ICT into teaching-learning processes, but hindered by competence due to their area of specialization. The innovations that ICT has brought in teaching-learning process include: e-learning, e-communication, quick access to information, online student registration, online advertisement, reduced burden of keeping hardcopy, networking with resourceful persons, etc. However, the presence of all these factors increased the chances of excellent integration of ICT in teaching-learning process. Therefore, the training of teaching staff in the pedagogical issues and administrators in administration should be increased if teachers and

administrators are to be convinced of the value of using ICT in their teaching-learning process and administration.

Method

Research Design

An Expost-Facto design was used for this study

Area of the Study

The research area for this study was conducted in Akwa Ibom State.

Population of the Study

The population of this study comprised of 213 Principals and 629 Vice- Principals in Public Secondary Schools in Akwa Ibom State during 2017/2018 academic session.

Sample and Sampling Techniques

A stratified random sampling technique was used to draw the sample of 535 secondary school administrators comprising 123 principals and 412 vice principal for the 2017/2018 school session was chosen to participate in the study.

Instrumentation

The Main Instrument used in this study was questionnaire titled "Principals' Application of ICT in Secondary School Administration (PAISSAQ) Questionnaire"

Validation of the Instrument

The face validation of the instrument was carried out using expert in test and measurement.

Reliability of the Instrument:

In order to establish the reliability of the instrument, internal consistency reliability coefficient was used. Crombach Alpha technique was used to determine the level of reliability of the instrument used in the study with a reliability coefficient of 0.81.

Method of Data Analysis

Independent t-test and analysis of variance (ANOVA) was used in testing the hypotheses formulated for the study at .05 level of significance.

Result and Discussion

Hypothesis One

The null hypothesis states that there is no significant difference in principals' application of ICT in Secondary School administration based on gender. In order to test the hypothesis, independent t-test analysis was used to analyze the data. (see table 1).

TABLE 1:   **Independent t-test analysis of the difference in principals' application of ICT in Secondary School administration based on gender**

Variable	N	$\overline{X}$	SD	t
Male	357	14.49	1.90	
				24.89*
Female	178	10.84	0.69	

*Significant at 0.05 level; df = 532; N= 535; critical t-value 1.960

Table 1 presents the obtained t-test-value as 24.89. This value was tested for significance by comparing it with the critical t-value (1.960) at 0.05 level with 532 degree of freedom. The obtained t-value (24.89) was greater than the critical t-value (1.960). Hence, the result was

significant. The result means that there is significant difference in principals' application of ICT in Secondary School administration based on gender.

Hypothesis Two

The null hypothesis states that there is no significant difference in principals' application of ICT in Secondary School administration based on area of specialization. In order to test this hypothesis, One-ways Analysis of variance was used on the data. (see TABLE 2)

TABLE 2: One-way analysis of variance of the difference in principals' application of ICT in Secondary School administration based on area of specialization

AREA OF SPECIALIZATION	N	$\overline{X}$	SD
Science Education	11.5112	178	1.26330
Vocational Education	12.7987	149	1.17393
Edu. and mgt. planning	15.1394	208	2.37230
Total	13.2804	535	2.35515

Source of variance	SS	DF	MS	F
Between groups	1310.550	2	655.275	
				211.098*
Within groups	1651.394	532	3.104	
TOTAL	2961.944	534		

*Significant at 0.05 level; df = 2 & 532; N= 535; critical f-value 2.99

The above Table 2 shows a calculated f-value (211.098). After tested for significance at 0.05 alpha level with (2 & 532) degrees of freedom. The calculated F-value (211.098) was greater than the critical F value of (2.99). Hence, the result was significant. The result therefore means that there is difference in principals' application of ICT in Secondary School administration based on area of specialization.

Discussion of the Findings

The result of the data analysis in table 1 was significant due to the fact that the obtained t-value (24.89) was greater than the critical t-value (1.960) at 0.05 level with 532 degree of freedom. The result implies that there is significant difference in principals' application of ICT in Secondary School administration based on gender. The result was in agreement with the research finding of Kelly (1996), who opined that there are considerable problems when attempting to relate specific intellectual abilities or achievement is a specific subject area, and that sex differences and intellectual abilities is a function of sex as a strong dominant role stereotyped. Also, the study is in agreement with the opinion of Black (1996), who stated that sex is a strong predicator of human conduct and that there are differences between males and females in attitude, behavior and achievement. Black further stressed that academic performance differs between boys and girls in basic subjects in primary, secondary and tertiary levels; and that it is difficult to

disentangle the influence of sex on administration. The significance of the result caused the null hypotheses to be rejected while the alternative one was accepted.

From the data analysis in Table 2, the result was found to be significant due to the fact that the obtain f-value (211.098) was greater than the critical f-value (2.99) at 0.05 level with 2 and 532 degree of freedom. The result implies that there is significant difference in principals' application of ICT in Secondary School administration based on area of specialization. This is in support with the opinion of Ibukun, Oyewole and Abe, (2011), who avowed that area of specialization is a strong technological opportunity for Principals' administrative role. Area of specialization in any profession is very relevant as it's enhances professional competency and efficiency. Utilization of ICT in administration could be influenced by the area of specialization. It is also believed that specialized training empowers and motivates teachers for better experience significantly contribute to difference in teachers and head teachers' performance. The significance of the result caused the null hypotheses to be rejected while the alternative one was accepted.

Conclusion

Many school principals are ill equipped to effectively integrate ICT in school administration due to lack of or substandard training and acquisition of technological skills, unfit or nearly obsolete equipment for use are some critical indicators of technology leg and the process pace which is very slow and may likely lead to all benefits of ICT integration in schools inequitably realized or not being realized in the near future. Teachers and administrators viewed the use of ICT in student administration as equally important. Administrators rated the importance of using ICT in supervision of instruction and student administration more highly. There was a significant difference between the perceptions of teachers and administrators on the importance of ICT use in the following areas of secondary school administration: student administration, general administration and supervision of instruction. Therefore, it was revealed that is significant difference in principals' application of ICT in Secondary School administration based on gender. Also, there is significant difference in principals' application of ICT in Secondary School administration based on area of specialization.

Recommendation

1. Needs for assessment should be carried out to facilitate development and deployment of ICT in secondary schools.
2. Government should look into the issues of funding of education in general and ICT in particular.
3. Government should set up others professional development programmes with emphasis on e-learning pedagogies and as well the establishment and promotion of e-learning support structures.
4. Training programs for teachers that embrace educational practices and strategies to address beliefs, skills and knowledge to improve teachers' awareness and insights in advance, in relation to transformations in classroom activities.

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