



Principals' Utilization of Information and Communication Technology in Secondary School Management in Benue State

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Abstract

This study investigated extent of principals' utilization of information and communication technology in secondary school management in Benue State. Three research questions guided the study and three null hypotheses were tested at 0.05 alpha level. The study adopted descriptive research design with the population for the study at 749 principals, made up of 385 male and 364 female in public secondary schools in Benue State. The entire population was used as the sample for the study. Researcher structured instrument titled, "Principals' Utilization of Information and Communication Technology Questionnaire" (PUICTQ), was used for data collection. The instrument was validated by three experts, two from Educational Administration and Planning of Educational Foundations Department and one from Educational Measurement and Evaluation of Science Education Department, all in Ebonyi State University, Abakaliki. Cronbach's alpha was used to ascertain the reliability of the instrument which yielded an overall coefficient of 0.797. Copies of the instrument were administered and retrieved after completion by the researcher with the help of three research assistants. Data collected were analyzed using mean and standard deviation, while t-test statistics was used to test the null hypotheses at 0.05 level of significance. The result revealed that the utilization of ICT by school principals recorded low extent in the management of school facilities, school records and promotion of curriculum delivery in secondary schools in Benue State while hypotheses revealed that there is no significant difference in the mean ratings of male and female principals on the extent to which principals utilize ICT to enhance school facilities, school records and promotion of curriculum delivery in Benue State. Based on the findings, the study recommended among other things that principals should ensure that ICT applications are used record all facilities and delivery of curricula activities in their schools.

Keywords: Principal, Utilization, Information and Communication Technology (ICT), Secondary School Management.

Introduction

School as a social institution is an organization founded by the society to meet the educational need of the people in ever changing world. This informs the increasing interest in the introduction

of innovations such as Information and Communication Technology into the management of secondary schools by principals, and establishment of Nigerian Education and Research Development Council (NERDC) to diversify present day school curriculum. Information and communication technology (ICT) for Isu (2021), include different types of technologies which are utilized for processing, transmitting and communicating data and information. Tools such as computers, internet, interface boxes, e-mail, varieties of software and materials are basically ICT devices for message sharing. Information and communication technology relates principally to studying concepts, skills, processes and application of electronic devices. Molony (2020) described information communication technology as any technology that enables communication and transmission of information.

Information and communication technology as was conceived by Beebe (2023), as a shorthand form for computers, software, networks, satellite links and related systems that allow people to access, analyze, create, exchange, use data and information and knowledge. She opined that ICT can be used interchangeably with “internet”.

Information and Communication Technology is the manipulation, storage and distribution of information and the design and provision of equipment and software for these purposes (De Watteville & Gilbert 2018). In their own view, Iloanusi and Osuagwu (2019) posit that Information and Communication Technology (ICT) is the processing and maintenance of information, and the use of all forms of computers, communication networks and mobile technologies to mediate information. They went further to say that information and communication technologies include; all media employed in transmitting audio, video, data or multimedia such as cable, satellite, fiber optics, wireless (radio, intra-red, Bluetooth, Wifi). They further noted that network technologies include Personal Area Networks (PAN), campus area network (CAN), intranets, extranets and the internets. Computer technologies include all removable media such as optical discs, disks, flash memories, video books, multimedia projectors and interactive electronic boards. Mobile technologies include mobile phones, palmtops. These technologies have information as their material object.

In education, this technology covers the use of computers, radio, satellites, online self-learning packages, tele-presence system interactive CDs, video, internet optical fiber technologies and all types of Information Technology (IT) like hardware and software (Egbe, 2021). To Iloanusi and Osuagwu (2019), the Information and Communication Technology applied to education, enhances the delivery and access to knowledge, and improves the curriculum. It produces richer learning outcomes compared to education without ICT. It encourages critical thinking and offers unlimited means of achieving educational goals.

Furthermore, the world of today is characterized by revolutionary advances powered by Information and Communication Technology (ICT). The world is being reduced to a global village through the use of Information and Communication Technology. Thus, ICT promotes national development and better relationship with other nations. Adesina (2015), refers to ICT as the electronic and communication devices associated with human interactive materials that enable users to employ them for a whole range of teaching and learning process. Information and Communication Technology is the fusion of two technologies: They are Information Technology (IT) and Communication Technology (CT) (Iwu, 2018). ICT embraces all technologies for manipulative communication of information and also encompasses any medium used to record

information such as: Radio, Television, etc; and technology for communication through voice and sound or images using microphone, camera, loudspeaker, telephone/ mobile phones (Aruma, 2000).

Information and Communication Technologies (ICTs) are indispensable and have been accepted as part of the Contemporary World, especially in the Industrialized societies to the extent of giving a new phase to the education system in terms of pedagogical approach (Ololube, 2020). According to Fari (2020), Information and Communication Technology Facilities are described as all the facilities available for the identification, generation, processing, storage, packaging, preservation, conservation and transfer of Information, regardless of time and distance constraints. In other words, Information and Communication Technologies are information handling tools used for producing, storing, processing, distributing and exchanging of information. Today, it is an increasingly powerful tool for participating in global markets, promoting political accountability, improving the delivery of basic services and enhancing local development opportunities (Attansey, 2016). ICT Facilities influence and affect peoples' private and corporate work life in one way or the other. These ICT facilities are all encompassing in areas like Technology, Socialization, Politics, Economics and Education, for global transformation. Therefore, it becomes pertinent for teachers and school administrators who serve as key implementers of the Nation's Educational policy, to be well-informed and adequately equipped with ICT facilities in order to function productively in this age of Information explosion and Technological advancement. The Federal Ministry of Education (2014), summarized the role of ICT policy on education amongst others as to include that: Implementation of ICT policy would lead to a speedy transformation of the teaching, learning and administration of education. This in turn will foster the production of graduates in the education system that can survive in the contemporary society, sustain national development and compete globally, (p:19).

The realization of this Policy Statement lies basically on the capability of the key implementers of the nation's educational policy that is, teachers and school administrators, to integrate ICT-Driven Instructional Aids effectively through Computer Assisted mode of Instruction (CAI) in their day to day classroom activities for effective pedagogy. It is clear that ICT is a world of its own, it has various diversified aspects.

Education is an instrument for effecting National Development (FRN, 2014). It makes the incorporation of ICT into teaching-learning process a vital instructional tool in fostering the national educational goals and development. To buttress this, Galenouh, Gordlier and Murphy (2019), opine that the development and role of ICT in educational sector is believed to set the pace for any form of innovation and changes that can ever happen to any nation. It was asserted by Albirini (2016), that the winds of change in today's education sector have made Information and Communication Technology to be programmed towards meeting the set educational goals. With effective utilization of information and communication technology resources, school principals can gradually improve upon secondary education to meet the demand of the society. Information and communication technology (ICT) is a network which offers a steadily expanding range of new services that have major economic consequences for the standardization of information in secondary schools (Nwafor, 2022). Information and communication technology incorporates

computer-based tools used by organizational personnel in processing their information and communication needs.

Information technology system, available for senior secondary schools have been listed as e-mail, internet, teleconference, facsimile (fax) minicomputer, micro-computer, mainframe computer, word processing computer, and basic website (Nwafor, 2022). In the integration of ICT into education sector, this plays a vital role in the development of secondary education system. According to Federal Republic of Nigeria (2014), secondary education is the education children receive after primary education and before the tertiary stage. In the same vein, Ogbonnaya (2010) maintained that secondary education refers to full-time education provided in secondary schools usually for students between the ages of 11 or 12 and 18 plus. In addition, secondary education should be viewed as the foundation at which professional development of a person is based upon. From the above definitions secondary education can be said to be a type of education received in a formal setting after completing primary education.

The importance of secondary education to the nation can be seen in the broad goal of secondary education articulated by the FRN (2014: 18) as “preparing the individual for useful living within the society and higher education”. According to Nkwoh (2011) secondary education occupied a strategic position in the national education system and it bridged the gap between the primary and tertiary levels of education in Nigeria. Nkwoh further stated that it absorbs the primary level and prepares them for the tertiary which is the manpower base of the nation. From the above view, the secondary school is an agent of socialization, an institution or a human industry established for refining human beings in terms of skills, behavior and all-round excellence. To achieve the objective of secondary schools, an efficient and effective administrator must head such an institution. Most secondary schools are either owned by public or private individuals, whose managers are generally regarded as the principal and in Nigeria is regarded as the head of the institution who utilize both human resources and material resources for the actualization of educational goals.

School facilities as defined by Isaac and Ajayi (2010) is a consciously designed and controlled environment with the sole aim of promoting teaching and learning activities within the school. It is putting together of facilities to protect the physical well-being of individuals associated with a school. This implies that the term “school facilities” is more than the school building and the piece of land on which it is situated. The aspect of maintenance of these school plants are totally essential in the management of schools. School facilities in this contexts are basically school plants which aid for effective teaching and learning. These facilities are classroom, laboratories, sport facilities, libraries and ICT facilities mainly for the promotion of effective learning. The principal as the custodian of the school facilities must ensure the proper utilization and maintenance of school facilities in order to prevent loss of time, money and space. He has the responsibility of ensuring that school plants are well protected against fire outbreak, pest, as well as thieves and kept in functioning condition.

In the view of Olagboye (2017) school principals are to mobilize and motivate their staff and students to imbibe and internalize the maintenance culture. They added that school principals, through close supervision of the staff, student and members of the community, must ensure that; equipment and facilities to be serviced, repaired and overhauled are actually serviced, that school properties should neither be misused nor converted into private property and ensure that no

component of the school facilities must be illegally commercialized by individuals. Given that, school facilities is fundamental in students' academic performance as well as their records keeping management in secondary schools.

The use of ICT facilities for record keeping assist the school administrator to meet the tasks of school management in the areas of curriculum and instruction, school community relationship and school business operations. The manual filling system is obsolete in the 21st century, but most schools are still using it to store information, convening staff meetings and committee meetings are still carried out using verbal or written method. But with the use of the computer which could store up to thousands of files in its memory, it only requires the utilization of ICT resources to boost administrative effectiveness and curriculum delivery. School facilities according to Olagboye (2017) has an integrated relation with curriculum delivery.

Curriculum delivery is a strategy by which curriculum enables students to achieve their learning goals. The processes involved in curriculum delivery are teaching, learning support, advice, guidance, interaction, mentorship, participative and collaborative learning. ICT, according to Attansey (2016), play important roles in monitoring teachers' teaching activities in the school environment. Based on the need of ICT, students' to teachers' interaction in the classroom activities are supervised by the school administrators with aid of closed-circuit television. Curriculum delivery is designed to meet the needs of the range of students within each year level as well as those with disabilities and other particular needs.

With effective utilization of information and communication technology resources, school principals can gradually improve upon secondary education to meet the demand of the society. In this regard, many principals of secondary school still send hand written letters to parents. Most time, they are found going to Ministry of Education to get information regarding student admission instead of applying ICT facilities to get all these done (Njoku 2018). Enyi (2000) had earlier noted that in the field of Educational Management, technology, was for a long time, traditional and simple, making administrators to rely mainly on experience, pen, paper and typewriter. These situations actually impacted negatively on the achievement of administrators' effectiveness, including secondary school principals.

Principals' utilization of ICT account for effective administration, this differences is based on gender perspective. Gender as noted by Murphy (2019), remains an important factor to be considered in the determination of effective school management. Thus gender sensitivity is the state of being sensitive to the needs of both sexes. Nakpodia (2010) contended that every individual, male or female, is capable of achieving excellence in any administrative setting, giving required opportunity without jeopardizing their basic biological functions. But to Murphy (2019), also asserted that male performed excellently well on the aspect of utilizing Information and Communication Technology devices in the area of school management.

In Nigeria the issue of utilization of Information and Communication Technology has remained a great problem in the management of secondary schools especially in Benue State, it is observed by Usman, (2019) that most of the school principals seem not to utilize ICT in their day to day running of school activities; they also seem not to be abreast with the management of school resources such as human resources, school facilities, school records and promotion of curriculum delivery through Information and Communication Technology. Ejiogu (2020) observed that

training in ICT skills, adequate procurement of ICT facilities, are made to involve the entire school administrators in the promotion of schools through ICT. Furthermore, Ejiogu (2020) maintained that school principals might devise supervisory schedules to avoid neglecting facilities to function at the optimum capacity and create an atmosphere for conducive learning. In spite of advantages of ICT utilization in secondary school system, the problem of non-ICT compliance kept persisting based on gender perspective.

Studies have shown that there is inherent gender differences on principals' usage of ICT (Melvin & Vasalou, 2020). According to Ellison (2021), female principals use ICT devices more than their male counterparts, but on the frequent usage, female principals were found to visit the online space more frequently and spend a lot of time on the online interaction. Noble (2021) disclosed that male principals are more willing to interact through ICT devices, they are good at disclosing their personal information and they also post lots of articles and comments on variety of issues more than their female counterparts. It is possible that the male principals are more interactive when it comes to socializing with others. It is therefore necessary that this study considered the place of gender in the utilization of ICT as regards effective management of secondary schools in Benue State. Effective utilization of information and communication technology in the management of secondary schools are too crucial but aspect of competencies and availability of the devices remained a great issue that affect the usage. Some principals in Benue State have no ICT competencies in the administration of schools and this affect development and administrative process in secondary schools. This underscores effective secondary schools management in the state, leading to ineffectiveness of the teachers which might result to poor academic performance. It is against this backdrop that the researcher examined the extent of principals' utilization of Information and Communication Technology in Secondary School Management in Benue State.

Statement of the Problem

Observation and researchers experience have shown that most of the school principals in this 21st century are not competent in the application of ICT resources in schools which seem to affect their administrative effectiveness. It appears that administration of secondary education by some of the school principals is largely dominated by the use of manual operational methods, offices of secretaries and typists with obsolete typewriters in almost all the principals' offices today. For instance, most of the school statutory records that are to be kept digitally, are rather stored manually. The admission of students that should be processed electronically in secondary schools, are rather handled manually due to lack of innovative information technology utilization by the school principals. The challenges associated with the utilization of information and communication technology in the administration of secondary schools are basically issue associated with incompetence in the utilization of ICT devices, as well as inadequacies in the provision of the devices.

Personal observation of the researcher and interactions with secondary school teachers in Benue State suggested that most secondary school principals in the state are not fully aware and do not utilize ICT in the management of secondary school resources, which financial, human and infrastructural resources constitute the components. The principals appear to have problems related to assessing their e-mails, downloading and uploading of messages on the internet, and above all, they appear not to have adequate knowledge of the application of information and communication technology. In public secondary schools in Benue State, some principals have no ICT skills in the administration of schools and this seem to retard the development and administrative process in the schools. This underscores effective secondary school management in Benue State leading to

ineffectiveness of the teachers which could result to poor academic performance of the students. The situation is disturbing and therefore called for a thorough investigation; hence, the need to determine the extent of principals' utilization of Information and Communication Technology in Secondary School Management in Benue State.

Purpose of the Study

The main purpose of the study was to determine the extent of principals' utilization of Information and Communication Technology in Secondary School Management in Benue State. Specifically, the study sought to:

1. Ascertain the extent to which Principals utilize ICT in the management of school facilities in secondary schools in Benue State
2. Find out the extent to which Principals utilize ICT in the management of school records in secondary schools in Benue State
3. Determine the extent to which Principals utilize ICT in the promotion of curriculum delivery in secondary schools in Benue State

Research Questions

The following five research questions guided the study

1. To what extent do Principals utilize ICT in management of school facilities in secondary schools in Benue State?
2. To what extent do Principals utilize ICT in the management of school records in secondary schools in Benue State?
3. To what extent do Principals utilize ICT in the promotion of curriculum delivery in secondary schools in Benue State?

Research Hypotheses

The following null hypotheses were formulated for the study and tested at 0.05 level of significance.

H0₁: There is no significant difference between male and female principals in the mean rating of the extent Principals utilize ICT in management of school facilities in public secondary schools in Benue State

H0₂: There is no significant difference between male and female principals in the mean rating of the extent Principals utilize ICT in the management of school records in public secondary schools in Benue State

H0₃: There is no significant difference between male and female principals in the mean rating of the extent Principals utilize ICT in the promotion of curriculum delivery in public secondary schools in Benue State

Methodology

The study adopted a descriptive survey design. Descriptive survey research design according to Nworgu (2006) is a design approach which aims at collecting and describing data in a systematic manner, the characteristic feature or facts about a given population. Therefore, descriptive survey design was considered appropriate as it helped to find out the extent of principals' utilization of Information and Communication Technology in Secondary School Management in Benue State. The population of the study was 749 principals in public secondary schools in the State. There were 385 male principals and 364 female principals in the public secondary schools as at the time of this study in Benue State (Benue State Secondary Education Board, SEB, 2022/2023).

There was no sampling technique because all the 749 principals were used for the study. The entire population was used as the number of principals in the area was manageable.

The instrument for data collection was a researcher structured questionnaire titled "Utilization of Information and Communication Technology in Secondary School Management Questionnaire (PUICTQ)". The questionnaire has two sections. Section A and B. Section A was designed to elicit information about the personal data of the respondents. Section B was constructed to correspond with the following 5 clusters: Cluster A: sought to find out the extent to which Principals utilize Information and Communication Technology in school facilities management in secondary schools and this cluster consists of 6 items, Cluster B: dealt with extent to which Principals utilize ICT in school record management in secondary schools and consisted of 6 items. Cluster C: focused on the extent to which Principals utilize ICT to promote curriculum delivery in secondary schools. The questionnaire response options takes a modified in the form of 4 – point rating scale, ranging from 'Very High Extent (4), High Extent (3), Low Extent (2) and very Low Extent (1). Respondents were expected to make judgments by ticking (✓) the appropriate columns which expressed their opinions about the items.

The instrument was face validated by three (3) experts: two from the Department of Educational Foundations (Educational Administration and Planning) and one expert in Measurement and Evaluation all from the Ebonyi State University, Abakaliki. These experts were requested to review the items in terms of their clarity, the appropriateness of the language and expressions to ensure unambiguity and the relevance of the items to the problem under investigation. The validators made recommendations on areas of: language constructions, modification of hypotheses, and inclusion of public in the usage of secondary schools, most the items were replaced for other reconstructed items. To this end, the necessary corrections made were affected by the researcher.

The validated instrument was trial tested with twenty (20) Principals in Ebonyi State which was not part of the study area to ensure its reliability. To ascertain the internal consistency of the instrument, Cronbach's Alpha technique was used for its data analysis. Reliability coefficients for the clusters gave an overall reliability score of 0.797. The result indicated that the instrument was reliable and therefore considered appropriate for use. This decision was in line with Abonyi (2011) who stated that when a reliability index of a test is 0.50 and above, the instrument is reliable.

The instrument was administered and retrieved by the researcher with the help of three (3) research assistants. These research assistants were instructed on the modalities for administering and retrieving of the instrument. This went a long way in helping the researcher to recovered instrument.

Data collected were analyzed using mean and standard deviation with the aid of statistical package of SPSS version 26. In taking decision for mean, range values were adopted. That is 1.00-1.49 for Very Low Extent (VLE), 1.50 – 2.49 for Low Extent (LE), 2.50 – 3.49 for High Extent (HE) and

3.50-4.00 for Very High Extent (VHE). In testing the hypotheses, t-test was used at 0.05 level of significance. The null hypothesis is upheld when the p-value is greater than or equal to significant level of 0.05 (p-value ≥ 0.05).

Results

The researcher presents the results of data analysis based on the five research questions and five null hypotheses that guided the study. They are presented in tables below according to the various research questions and hypotheses.

Research Question 1: To what extent do Principals utilize ICT in management of school facilities in secondary schools in Benue State?

Table 1: Mean and Standard Deviation on the extent to which Principals utilize ICT in management of school facilities in secondary schools in Benue State

S/No	Items Statement	N	X	SD	Decision
13	Install solar light on classroom building facilities for easy teaching and learning	720	1.84	0.36	LE
14	Install camera television for easy supervision of school laboratory facilities	720	2.00	0.39	LE
15	always verify the adequacy of physical facilities through online communication	720	2.07	0.47	LE
16	Use electronic barbwire to ensure the safety of school facilities	720	2.23	0.70	LE
17	Power sport facilities with ICT devices for easy operations	720	3.00	0.39	HE
18	ensure effective security surveillance of the school through installation of closed-circuit television on the perimeter fence	720	2.84	0.53	HE
Grand mean (x)			2.15		LE

Source: Researcher's Fieldwork 2024

The results in Table 1 reveal that the respondents on items 13, 14, 15, 16, 17 and 18 with mean scores of 1.84, 2.00, 2.07, 2.23, 3.00 and 2.84 with standard deviations of 0.36, 0.39, 0.47, 0.70, 0.39 and 0.53 respectively, indicated to a low extent, that principals Install solar light on classroom building facilities for easy teaching and learning, Install camera television for easy supervision of school laboratory facilities, always verify the adequacy of physical facilities through online communication, use electronic barbwire to ensure the safety of school facilities and ensure effective security surveillance of the school through installation of closed-circuit television on the perimeter fence. Respondents, on the other hands, rated items 17 and 18 to a high extent, because these items had mean scores of 3.00 and 2.84 respectively, which were within the range value of 2.50-3.49 for high extent. However, given the grand mean of 2.50, the overall rating of all the items, could be said to be to a low extent.

Research Question 2:

To what extent do Principals utilize ICT in the management of school records in secondary schools in Benue State?

Table 2: Mean and Standard Deviation on the extent to which Principals utilize ICT in the management of school records in secondary schools in Benue State

S/N	Items Statement	N	X	SD	Decision
19	Ensure effective profiling of students' data through the use of ICT devices	720	2.92	0.47	HE
20	Use Information and Communication Technology device in storing vital information	720	2.07	0.47	LE
21	Save/retrieve documents easily for administrative tasks through the use of ICT devices	720	2.15	0.35	LE
22	make use of ICTs device in storing staff personal bio data	720	2. 23	0.42	LE
23	Enhance accuracy prompt delivery of services through ICT	720	2.15	0.36	LE
24	provide of ICT facilities to save time/reduce work load of teachers	720	2.15	0.36	LE
Grand mean (x)			2.00		LE

Source: Researcher's Fieldwork 2024

Table 2 data reveals that items 19-24 which are on: ensuring effective profiling of students' data through the use of ICT devices, use of Information and Communication Technology device in storing vital information, easily retrieving saved documents for administrative tasks through ICT devices, making use of ICTs device in storing staff personal bio data, enhance accuracy prompt delivery of services through ICT and provide of ICT facilities to save time/reduce work load of teachers, have mean scores of 2.92, 2.09, 2.15, 2.23, 2.15 and 2.15 with a standard deviations of 0.47, 0.47, 0.35, 0.42 and 0.36 respectively. only item 19, with a mean of 2.92 and standard deviation of 0.47 was rated of a high extent. The overall cluster mean of 2.00, virtually all the cluster items correspond to a Low Extent (LE) rating for.

Research Question 3:

To what extent do Principals utilize ICT in the promotion of curriculum delivery in secondary schools in Benue State?

Table 3: Mean and Standard Deviation on the extent to which Principals utilize ICT in the promotion of curriculum delivery in secondary schools

S/N	Items Statement	N	X	SD	Decision
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25	Prepare video conferencing for interactive instruction with staff	720	2.07	0.47	LE
26	Use of video conferencing in accessing teachers lesson plan	720	2.15	0.36	LE
27	Use of ICT in facilitating individualized learning activities	720	2.15	0.53	LE
28	Use video conferencing repeating instructional delivery by teachers	720	2.15	0.35	LE
29	Use video conferencing in collaborative instruction among students in different locations	720	2.22	0.42	LE
30	manage video conferencing communication in classroom activities	720	2.00	0.78	LE
			2.19		LE

Source: Researcher's Fieldwork 2024

Data in Table 3 revealed that items 25-30 which focus on: preparing video conferencing for interactive instruction with staff, using of video conferencing in accessing teachers lesson plan, using of ICT in facilitating individualized learning activities, using video in conferencing repeating instructional delivery by teachers, using video conferencing in collaborative instruction among students in different locations and manage video conferencing communication in classroom activities, have mean scores of 2.07, 2.15, 2.15, 2.15, 2.22 and 2.00 with standard deviations of 0.47, 0.36, 0.53, 0.42 and 0.78 respectively. Indications show that the mean value for the cluster is 2.19, which is between 1.50 and 2.49 and which corresponds to Low Extent rating.

Hypotheses

H0: There is no significant difference between the mean ratings of male and female principals on the extent to which Principals utilize Information and Communication Technology in human resource management in public secondary schools in Benue State.

Table 4: t-test of difference in the mean responses of male and female principals on the extent to which Principals utilize ICT in management of school facilities in public secondary schools

Items	Category of Respondents	N	Mean	SD	Df	t	P-Value	Decision
13	Male	376	1.83	0.48	718	0.62	0.970	Not Significant
	Female							

14	Male	376	2.03	0.68	718	2.48	0.002	Significant
	Female	344	1.96	0.71				
15	Male	376	2.10	0.39	718	1.60	0.780	Not Significant
	Female	344	2.04	0.39				
16	Male	376	2.24	0.51	718	0.44	0.884	Not Significant
	Female	344	2.22	0.55				
17	Male	376	3.02	0.50	718	1.90	0.414	Not Significant
	Female	344	2.97	0.44				
18	Male	376	2.84	0.43	718	0.28	0.091	Not Significant
	Female	344	2.85	0.51				

Source: Researcher's Fieldwork 2024Significant @ $P \geq 0.05$

The result of t-test analysis presented in Table 4 indicate that there is no significant difference between the mean ratings of male and female principals on the extent to which principals utilized ICT in management of school facilities in public secondary schools in Benue State as the p-values of all most the items are greater than significant value of 0.05 as obtained only item 14 recorded significant. Based on this, the null hypothesis that there is no significant difference between the mean ratings of male and female principals on the extent to which principals utilized ICT in management of school facilities in public secondary schools in Benue State, is upheld.

H0₂: There is no significant difference between the mean ratings of male and female principals on the extent to which Principals utilize ICT in the management of school records in public secondary schools in Benue State.

Table 5: t-test of difference in the mean responses of male and female principals on the extent to which Principals utilize ICT in the management of school records

Items	Category of respondents	N	Mean	SD	Df	t	P-Value	Decision
19	Male	376	2.93	0.49	718	0.82	0.411	Not Significant
	Female	344	2.90	0.43				
20	Male	376	2.06	0.43	718	0.42	0.673	Not Significant
	Female	344	2.08	0.51				

21	Male	376	2.14	0.35	718	0.40	0.090	Not Significant
	Female	344	2.15	0.36				
22	Male	376	2.22	0.41	718	0.29	0.765	Not Significant
	Female	344	2.23	0.42				
23	Male	376	2.17	0.38	718	1.43	0.152	Not Significant
	Female	344	2.13	0.34				
24	Male	376	2.15	0.36	718	0.21	0.831	Not Significant
	Female	344	2.15	0.35				

Source: Researcher's Fieldwork 2024

Significant @ $P \geq 0.05$

Data in Table 5 indicate that the mean ratings of male and female principals on the extent to which principals utilized ICT in the management of school records in public secondary schools in Benue State was not significant as p-values of all the items are greater than significant value of 0.05 as obtained. This means that the male and female principals were of the same opinion on the extent to which Principals utilized ICT in the management of school records in public secondary schools in Benue State.

H03: There is no significant difference in the mean ratings of male and female principals on the extent to which principals utilize ICT in the promotion of curriculum delivery in secondary schools in Benue State.

Table 6: t-test of difference in the mean responses of male and female principals on the extent to which principals utilize ICT in the promotion of curriculum delivery in secondary schools in Benue State.

Items	Category of respondents	N	Mean	SD	Df	T	P-Value	Decision
25	Male	376	2.04	0.47	718	0.47	0.046	Significant
	Female	344	2.11	0.47				
26	Male	376	2.15	0.36	718	0.01	0.747	Not Significant
	Female	344	2.14	0.35				
27	Male	376	2.18	0.52	718	0.58	0.144	Not Significant
	Female	344	2.12	0.54				

28	Male	376	2.15	0.36	718	1.20	0.823	Not Significant
	Female	344	2.14	0.35				
29	Male	376	2.21	0.40	718	0.13	0.204	Not Significant
	Female	344	2.25	0.43				
30	Male	376	1.99	0.81	718	0.28	0.847	Not Significant
	Female	344	2.00	0.75				

Source: Researcher's Fieldwork 2024

Significant @ $P \geq 0.05$

Result in Table 6 reveals that the mean ratings of male and female principals on the extent to which principals utilized ICT in the promotion of curriculum delivery in secondary schools in Benue State was not significant as the p-values of almost the items are greater than significant value of 0.05, only item 25 recorded significant. This means that the male and female principals were of the same opinion on the extent to which principals utilized ICT in the promotion of curriculum delivery in secondary schools in Benue State but has different opinion on item statement number 25.

Discussion of findings

Principals utilization of ICT in management of school facilities in secondary schools in Benue State

The result showed that the respondents, to a low extent, accepted that principals install solar light on classroom building facilities for easy teaching and learning, install camera television for easy supervision of school laboratory facilities, always verify the adequacy of physical facilities through online communication and use electronic barbwire to ensure the safety of school facilities. While the test of hypothesis indicated that there is no significant difference in the mean ratings of male and female principals on the extent to which Principals utilize ICT to enhance effective management of school facilities in Secondary Schools in Benue State.

The results are in line with Isaac and Ajayi (2010) who noted that ICT devices was consciously designed to control environment with the sole aim of promoting teaching and learning activities in the school. It is putting together of facilities to protect the physical well-being of individuals associated with a school. This implies that the term "school facilities" are more than the school building and the piece of land on which it is situated. The aspect of maintenance of these school plants are totally essential in the management of schools. School facilities, in this context, are basically school plants which aid for effective teaching and learning. These facilities are classrooms, laboratories, sports facilities, libraries and ICT facilities mainly for the promotion of effective learning. The principal, as the custodian of the school facilities, must ensure the proper utilization and maintenance of school facilities in order to prevent loss of time, money and space. To Ayeni and Ogunbameru (2013) who asserted that the major constraints identified in school facilities maintenance are: shortage of ICT facilities and low capacity of teachers and principals,

irregular power supply, inadequate technical support and poor funding. In support, Akuchiel (2018), noted that many secondary schools lack financial resources to carryout effective maintenance of school facilities, while to Asema and Edegoh (2013) major challenge encountered by administrators in maintaining school facilities is incompetence in utilization of modern technology gadgets.

Principals' utilization of ICT in the management of school records in secondary schools in Benue State

The result showed that the respondents, to a low extent, the school principals ensure: effective profiling of students' data through the use of ICT devices, use of Information and Communication Technology device in storing vital information, save/retrieve documents easily for administrative tasks through the use of ICT devices, make use of ICT device in storing staff personal bio data, enhance accuracy prompt delivery of services through ICT and provide ICT facilities to save time / reduce work load of teacher. Equally, the mean ratings of the respondents (male female principals) on the extent to which Principals' utilized ICT to promote record keeping in the management of Secondary Schools in Benue State was not significantly different.

This finding is in agreement with Chika and Ebeke (2017) who indicated that despite significant investment in training and resources, in reality, majority of schools are still far below the level of ICT use. On the relevance of data in the education system, Bere, (2019) argued that effective record keeping is vital to educational development. In addition, Banquil (2019) emphasized that it will be an impossible task to plan and administer any institution in which records are not kept or are carelessly and fraudulently kept. Consequently, the educational planners and administrators need to have adequate and accurate data of student enrolment and school personnel records for effective planning and management of schools but these are in place.

One cannot over-estimate the utilization of ICT in everyday activities of the school. ICT assist the school administrators to meet the task of school management in the areas of curriculum and instruction, school community relationship and school business operations. In support of this, Attansey, (2016) argued that the introduction of ICT in schools enhances the daily school routines, programmes, solving individuals or groups' problems, as well as staff development, but availability and competences of the users posed a challenges.

Principals' utilization of ICT in the promotion of curriculum delivery in secondary schools in Benue State

The results of data analysis presented, revealed that the respondents, to a low extent, accepted that video conferencing for interactive instruction with staff, use of video conferencing in accessing teachers lesson plan, use of ICT in facilitating individualized learning activities, used video conferencing repeating instructional delivery by teachers, used video conferencing in collaborative instruction among students in different location and manage video conferencing communication in classroom activities. In addition, there is no significant difference in the mean ratings of male and female principals on the extent to which Principals' utilized ICT in promotion of curriculum delivery in Secondary Schools in Benue State.

This finding is in consonance with that of Ashraf (2022) who asserted that Curriculum delivery remained a strategy by which a curriculum enables students to achieve their learning goals. The processes involved in curriculum delivery are teaching, learning support, advice, guidance,

interaction, mentorship, participative and collaborative learning. ICT, according to Attansey (2016), play important roles in monitoring teachers teaching activities in the school environment. Based on the need of ICT, students to teachers' interaction in the classroom activities are supervised by the school administrators with aid of closed-circuit television. Curriculum delivery is designed to meet the needs of the range of students within each year level as well as those with disabilities and other particular needs. In support of the findings, Ejeh and Okoro (2020) asserted that through communication, management can establish mutual understanding and exchange of ideas, information, experience and innovation for peaceful co-existence, conflict resolution, cumulative development, progress and well - being of the organizational structure.

Conclusion

In line with the findings of the study, the researcher concluded that principals are deficient in the utilization of ICT resources in the management of secondary schools in Benue State. This is because in all the items related to the management of human resources, financial resources, school facilities, school records and curriculum delivery, the principals had low extent ratings with mean values less than the acceptable mean value of 2.50.

Implications of the Study

This study has a lot of implications for secondary school staff and principals in particular. The study revealed that, the utilization of ICT by school principals rated low extent in the process of enhancing human resources in secondary schools in Benue State. This is an indication that school principals in this era of technology are not up and doing as the needed devices and skills for effective online monitoring are not in place. This may affect rapid development in the area of effective teaching and learning in the school system.

As regard the utilization of ICT by principals in the area of financial resource management, to a low extent, enhances effective financial management in Secondary Schools in Benue State. This shows that when school principals continue in the financial management, the schools will record progressive development but, in a situation, where there is gap in financial management of schools' development are totally affected.

Recommendations

Based on the findings, the following recommendations are made;

1. With regard to utilization of ICT in record keeping in the management of Secondary Schools, which was rated to a low extent, principals should engage staff in seminar training in relation to ICT applications in records keeping.
2. As regards the utilization of ICT in the maintenance of school facilities in Secondary Schools, which was rated to a high extent, principals should initiate effective staff training on ICT application in monitoring school facilities.
3. As regards the utilization of ICT in improving curriculum development in public Secondary Schools which was rated to a low extent, principals should undertake training and retraining of staff on the accessibility of ICT gadgets for effective lecture delivery.

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