

## **INFLUENCE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FACILITIES ON THE MANAGEMENT OF PUBLIC SECONDARY SCHOOLS IN BENUE STATE, NIGERIA**

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### **Abstract**

*This study investigated the influenced of information Communication Technology (ICT) Facilities on the management of public secondary schools in Benue State of Nigeria. Three (3) research questions and three (3) hypotheses guided the study. The review of related literature was done under the conceptual framework which identified the influence of e-mail, computer facilities and overhead projector in teaching and learning in public secondary schools in Benue State, Nigeria. Descriptive survey research design was adopted for the study. The population of the study comprised four thousand five hundred and twenty-six (4,526) teachers from two hundred twenty (220) grant-aided secondary schools in Benue State, Nigeria. A sample of two hundred and ninety-two (292) teachers from twenty-three (23) selected public secondary schools was used for the study. A 15- items structured questionnaire constructed by the researchers tilted, "Information and Communication Technology (ICT) Facilities and Public Secondary Schools Management Questionnaire (IICTPSSMQ)" was used*

*for data collection. Descriptive statistics of Mean and Standard Deviation were used to answer the research questions while the Chi-square ( $\chi^2$ ) statistical tool was used to test the hypotheses at 0.05 level of significance. The findings revealed that e-mail have significant influence on communication and computer facilities have significant influence on keeping of records while overhead projector have significant influence on teaching and learning in public secondary schools management. The findings also revealed the overhead projectors have significant on teaching and learning in schools. Based on the findings of the study, it was recommended amongst others, that the government and educational administrators should ensure that e-mail services are provided in schools so as to enhance effective communication between teachers, students and parents. Also, the school administrators should make adequate provision of computers and encourage its usage in records keeping and administrative duties as well as in teaching and learning purposes. Finally, the educational managers should endeavor to provide sufficient overhead projectors in schools since effective learning may take place through the use pictorial presentation in classrooms. Conclusion were made and implication of the findings drawn.*

**Keywords: Influence, Concept, ICT, Management, Secondary Schools, E-mail Services, Computer Facilities, Overhead Projector, Benue State, Nigeria**

## **Introduction**

Education can be seen as investment that brings about returns for the individual and society at large. In fact, the economic benefits of education derive not just from increased in cognitive skills, but to far greater extent from the increase in non-cognitive abilities as reflected by changes in a person's ideas, perceptions and attitudes. It is regarded as an instrument for the wholesome development of individuals in the modern world, especially, in this highly evolving technological environment (Kadzo, 2011). The dynamics of social change and demands on education had always been the reason for the various editions of the Federal Republic of Nigeria, on the National Policy on Nigeria education (FRN, 2004) asserts that the fourth edition was necessity ate by some policy innovations and changes, one of which was the introduction of Information and Communication Technology (ICT) into the school system. Anekwe (2008) simply refers information and communication technology as all that is involved in gathering and processing information using modern communication technologies such as computers and other related equipment so that the service (output) generated can reach all that desire them at reasonable cost and in good time to overall benefit of mankind.

The field of education has certainly been affected by the penetrating influence of ICT worldwide and in particular, developed countries. ICT has made a very profound and remarkable impact on the quality and of teaching/learning and research in educational organizations. It has the potentials to accelerate, enrich deepen skills to motivate and engage students in learning to help relate school experience to work practice. Information and communication Technology (ICT) facilities include computers. ICT in education encompasses a great range of rapidly evolving technologies such as desktops, digital cameras, local area networking, the internet and the world wide web; simulations; electronic mails; digital libraries; computer mediated conferencing; video conferencing; and virtual reality (Ugwu and Oboegbulem, 2010). Information and Communication Technologies also includes projectors,

computers, e-mail, satellite radio, television, telephone and other equipment with their accessories and applications that help to pass message from a sender to the intended receiver without undue distortion.

Teaching and learning is all about communication between the teacher and the learner. Teaching can be seen as a process of giving information while learning is a process of receiving and synthesizing information that is why a learned person is said to be informed (Ogbu and Onele, 2016). Since the evolution of information and communication technology (ICT), the giving and receiving of information have not remained technology in today's world refers to those tools that determine the efficiency and effectiveness with which we communicate and the devices that allow us to handle information. Communication has witness rapid changes in structures and functions in recent times due to the advent of information and communication technology (ICT). With the new information technologies, the world is said to be a global village, since one can access information in any part of the world whenever he is the technology has come to irreversibly change the work environment. This is because, it has brought with it a great measure of speed, efficiency organization and in many instance cost-effectiveness. The general belief of the influence of modern technologies has been that it enhances productivity and job performance. The information and communication technology have created a new widow for the management of education. We utilize ICT in teaching and learning when they are brought to bear in passing information to learners by the teachers. By introducing ICT to teaching and learning, students are exposed to and interact with other expert learners and other novice learners to develop understanding and further their knowledge. They do not have to rely on the limitations of one teacher; they can interact with peers and other experts to gain new information and to intensify their knowledge base. It helps the students study independently and experience discovery learning. The students' learning is made more robust and their knowledge and understanding increases where ICT is used in ways that promotes learners to work together and where the teacher is less high minded (Selinger, 2005). ICT have the capacity to solve the problem of illiteracy and perk up the quality of education in secondary schools through multimedia tools such as simulations and models and other projectors. Effective use of ICT in schools guarantees more access to information and experience in this era of globalization (Ugwu and Oboegbulem, 2011). In order words, there is a link between education and ICT in a knowledge seeking society like ours in order to meet the challenges of the 21<sup>st</sup> century. The general belief of the influence of modern technologies has been that it enhances productivity and job performance. It brought about personalized just-in-time up-to-date and user-centered educational activities into global teaching and learning process (Haddad and Draxler, 2013). In a similar perspective, Njoku (2009) identifies common ICT facilities used in secondary schools management to include: e-mail, computers, and overhead projectors among others.

E-mail is the process of sending, storing and receiving messages electronically through the computer system. Onuma (2007) states that e-mail enables the user to send electronic message or document through computer system to specific e-mail address. The use of e-mail was developed in 1960s. It is a faster, cheaper and safe form of sending mails across the globe. E-mail provides a relative anonymity (privacy) due to a lack of visual content (Manuduku, Kosgey and Sang, 2012) E-mail can be useful supplement to almost all components of a course. Onasanya, Daramole & Asuquo (2006) describes his personal experience in using e-

mail in communication with students in secondary school and also, that the advantages strongly outweigh the disadvantages of using e-mail and urges teachers to use it as an effective classroom communication supplement. This suggests that the use of e-mail as a supplement helps increase the overall of students' performance in schools. The teacher send outline reminder of what will be covered in weeks lesson and he also include a reminder of any assignment that are due and when appropriate, highlight where the stand in the course. For instance when the teacher forgot to mention a particular point in a note, he quickly goes back to his office and immediately sends the note in an e-mail message. The teacher usually use e-mail to provide hints on assignment problems (especially if he receives recurring questions on same topic) After marking a midterm, the teacher keep a note of the major common mistakes found and send them as a feedback to the whole class using e-mail for announcement and answering students questions would thus increase teaching time by reserving class time for course learning activities (Osadebe and Ojukonsin, 2018). The e-mail also provides an opportunity to share answers to course related questions with other students. Through the use the e-mail, it is now possible to send message containing text, pictures and sound to anywhere in the world. It is also possible for students to video conference with their peers in other schools in Nigeria and among other countries. Principals can use e-mail to send results of students to their parents and guidance

Computer service is also another ICT facility which may have influence in keeping o records on the management of secondary schools in the study area. According to Stokes (2007) computer is a general purpose device that can be programmed to carry out a set of arithmetic or logical operations automatically, computer hardware and software introduced into Nigeria school system are used for adequate storage, manipulation, utilization and retrieval of records. The use of computer technology hence reduces the manual task of managing records. Record keeping which is an integral part of school administration involves the process of collecting information on various affairs of the school. A record is therefore a document or information or an account on somebody, sometime an event preserved and handed from one generation to the other. Similarly, Onuma (2007) Adediji (2013) opines that records are set of information put down in books, files and other documents on every event that goes on in an organization. Nakpodia (2006) states that computer is used for adequate storage, manipulation, utilization, and retrieval of records. The use of computer technology thus reduces the manual task of managing records. In the same vein, Morley (2006) posits that computers are great resources for school administrators, teacher and students. They can find suggestions, practical support and materials on the internet that can boost or enhance their performance. Therefore, computers are great resources for educational administrators', teachers and students. Aduwa-Ogiegbaen and Iyam (2005) posits that computers could help in facilitating management functions by replacing laborious paper work in the filing of school records accumulated over a long period of time. It can further facilitate budgeting and accounting on expenditure and correspondences by reducing so much paper work in schools.

Overhead projector is another ICT facility may have a great influence on teaching and learning in secondary schools in the study area. The use of the overhead project (OP) as a teaching aid has spread very rapidly and widely and is recommended by educators and favorable attitudes towards the use of overhead projectors were expressed by students and teachers in secondary schools .According to According to Idowu and Esere (2013) overhead projector has become a

popular audio visual aid in secondary schools. Some have found it to be a suitable teaching and learning device while other teachers do not care to make use of this machine. It has become quite popular with those who present the same material term after term. This is probably due to two primary reasons. First of all it saves time in the preparation of classroom material and secondly a better quality of material can be presented. The overhead projector is simple and easy to use. Morley (2006) states that overhead projector is an effective teaching device the teacher controls the projector and easily integrates his visual and verbal presentation. Morley further found that the overhead projector was as effective as chalkboard in large-group instruction.

Management is the process of planning, coordinating, controlling, leading and organizing the efforts of organizational staff and using the organizational resources to achieve the set goals. According to Akpakwu (2012) educational management is the ability of educational managers to judiciously use human, material, time and financial resources towards achieving the goals of education. The educational goals of any nation can be attained through congenial school management which includes proper planning, organizing, coordinating, staffing, budgeting, controlling, maintenance of sound school discipline among staff and students in the secondary schools, administrators are charged with the management of finance, time human and material resources in order to achieve the aims and objectives of their institutions. Therefore, Principals' of secondary schools should be adequately equipped with modern administrative techniques and information and communication technology (ICT) facilities that will enable them face and cope with the challenges of efficient and effective utilization of limited resources for the purpose of achieving secondary school education goals. Information and Communication Technology (ICT) in education provides educational policy makers, school administrators and practitioners with systematic process to formulate, plan and evaluate education development programmes. According to Elujekwute, Shir and Elujekwute (2021) principal is the manager, leader and chief executive in secondary schools, this position involves the control of human and materials resources of the school as an organization. The principal is also involved in planning, supervising various aspects of the school. Hence, these were manually done with a lot of file and paper work. Therefore, it becomes imperative that secondary school principals and teachers need skills not only in computer literacy but also in the use of ICT facilities such as internet, e-mail services, computer applications and overhead projector in teaching and learning in schools. This study therefore investigates the possible extent of influence of Information and Communication Technology (ICT) facilities on the management of secondary schools in Benue States, Nigeria.

### **Statement of the Problem**

The use of ICT in secondary schools seems to be on the low side as public observation reveals that in the midst of this technological age most principals and teachers of secondary schools in Benue State, Nigeria are still illiterate in ICT usage especially on the use of computers, internet, E-mail and photocopying machines scanners, printers and among others. Researcher in recent times have noticed that in the midst of office computerization and technologies, principals and staff of most secondary schools in Benue State, are still illiterate in computer usage and as such type writers, paper files and correspondence are still in use. A very close observation has revealed that school administrators and teachers seem to be irregular and ineffective in teaching and learning, inadequate keeping of records and lack of

communication in the management of their institutions. Stakeholders of education are worried over this plight as it has not only resulted to teachers' low performance but with its likely consequences on the effective management of secondary schools in Benue State, Nigeria. The researcher also observed that this issue of low or poor usage of ICT facilities by teachers has not been well investigated by previous researchers particularly in the study area covering many ICT indices. It is against this background that the researchers felt the need to investigate further into the utilization of ICT facilities in the management of secondary schools in the study area. The problem of this study therefore is in what ways does ICT facilities utilization influences the management of secondary schools in Benue State, Nigeria.

### **Purpose of the Study**

The purpose of this study is to investigate the influence of information and communication technology (ICT) facilities on the management of secondary schools in Benue States, Nigeria. Specifically, the student seeks to study

1. Find out the influence of E-mail on communication in public secondary schools Management in Benue States, Nigeria
2. Determine the influence of computer facilities on keeping of records in public secondary schools Management
3. Ascertain the influence of overhead projector on teaching and learning in public secondary schools Management

### **Research Questions**

The following research questions guided the study

1. To what extent does E-mail influence communication in public secondary schools Management in Benue State, Nigeria?
2. To what extent does computer facilities influence keeping of records in public secondary schools Management?
3. To what extent does overhead projector influence teaching and learning in public secondary schools Management?

### **Research Hypothesis**

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

- 1 E-mail has no significant influence on communication in public secondary schools Management in Benue State, Nigeria
2. Computer facilities has no significant influence on keeping of records in public secondary schools Management
3. Overhead projector has no significant influence on teaching and learning in public secondary schools Management

### **Significance of the Study**

The finding of this study will be of great benefit to education stakeholders such as students, teachers, parents, school administrators, policy makers and government. They may get some useful information on the influence of Information and Communication Technology (ICT) facilities on the management of secondary schools in Benue State. The finding of this study would expose the students on the importance of the utilization of e-mail services, computer facilities and overhead projectors in enhancing their academic development in school.

Teachers shall communicate and update their knowledge from interactions with outside world on educational matters through the use of e-mail service. The finding would be useful to parents by creating awareness that they can receive their children examination results through e-mail services as well get feedback on their academic achievements. The result of this study, the school administrators shall discover the extent to which computer facilities facilitates the managerial functions of keeping records in schools. The use of overhead projector services in enhancing teaching and learning in their institutions. It would further expose the educational administrators the need to have e-mail services so as to make easy flow of communication between the school, teachers, students and parents. The finding would be of benefit to the government as it would create awareness for the need to provide adequate e-mail, services, computer facilities and overhead projector in schools thereby enhancing the students' academic performance in secondary schools. Lastly, the finding of this study will be of paramount importance to school heads, teachers, students and those who may like to use some information to the study and carryout a study on a related topic and make proper recommendations to educational policy makers and help revive our educational system for better national development.

### **Scope of the Study**

This study is delimited to the perceived influence of information and communication technology (ICT) facilities on the management of public secondary schools in Benue States, Nigeria. The variables of ICT under investigation in this study are E-mail, Computer facilities and Overhead projector.

### **Concept of Information and Communication Technology (ICT) Facilities**

The term Information and Communication Technology (ICT) Facilities encompasses a range of new technologies and their application including all aspects of the use of computers, internet, e-mail, overhead projectors, micro-electronic devices and satellite and communication technology. Modern day technological devices are used in ICT to store and retrieve information needed by various facets of the society. According to UNESCO (2011) Information and Communication Technology (ICT) is the range of technologies that are applied in the process of collecting, storing, editing, retrieving and transfer of information in various forms. Ajayi (2008) defines ICT as a broad term that has to do with the harnessing process, the methods and the product of electronic and communication related technologies (and other related sources in today's knowledge driven society), for enhancing the productivity, the spread and efficiency of a set of programmed activities geared towards the achievement of clearly determined goals. The various definitions considered imply that ICT involves the use of a wide range of technologies such as computers, mobile telephones, satellite, World Wide Web, among others in collection, storage, retrieval and transfer of information for human use. In the context of education, ICT involves the use of combination of technologies in generating information required for effective teaching and learning process (Aribisala, 2006).

According to Elujekwute (2019), ICT as the handling and processing of information (texts, images, graphs and instruction) for use, by means of electronic and communication devices such as computers, e-mail, internet, overhead projectors, cameras, telephone and among others. Ofodu (2007) defines ICT as electronic or computerized devices, assisted by human

and interactive materials that can be used for a wide range of teaching and learning as well as for personal use. From these definitions, ICT could therefore be defined as processing and sharing of information using all kinds of electronic device, an umbrella that includes all technologies for the manipulation and communication of information. In the classroom situation, communication process influences learner's behaviors through interaction. It is an integral component of school curriculum activities since some of the curricular activities, tasks, teachers and students undertake involve the use of communication skills both oral and written formation. For instance, in all science subjects, students record their practical experiments, observations, demonstrations in both formal and informal text or present their findings and discoveries in either oral or written reports. Therefore, to prepare students for the information age and competitiveness and communicate effectively in the 21<sup>st</sup> century, complete internet services, e-mail services, computer facilities and overhead projectors should be made available in all secondary schools in Benue States, Nigeria. ICT in education can be understood as the application of digital equipment to all aspects of teaching and learning. According to Njoku (2006) ICT in the context of education is seen as the combination of technologies for collecting, storing, processing, communicating and delivery of information related to teaching and learning processes.

### **Management of Secondary Schools**

Management is the act of getting people together to accomplish desired goals and objective using the resources efficiently and effectively. Management comprises planning, organizing, staffing, directing and controlling an organization (a group of three or more people) effort for the purpose of accomplishing a goal. According to Akpakwu (2008:58) the term management comes from the verb to 'manage' which can mean to handle, to control, to make and keep submissive, to organize, to alter by manipulation and to carryout for a purpose. The school principal and teachers have the administrative responsibilities of directing, planning, organizing, controlling available resources towards actualization of the educational institutions goals. The school principal and teachers plan classroom and out of classroom activities for students and also coordinate the school activities in order to ensure that many programmes go on at the same time without one conflicting with others. Fasasi (2005) outlines the following administrative duties that are performed by the educational administrators in schools to include; resources, programme planning and policy making, provision and maintenance of funds and facilities, obtaining and development of personnel; improvement of instructional programmes, students' personnel services and maintenance of effective interrelationship with community and external agencies. On the other hand Dike (2008) defines school management as the process of administering the curriculum and teaching, pastoral care, discipline, assessment, evaluation and examination, resources allocation, costing and forward planning, staff appraisal relationship with the community, use of the practical skills necessary for surviving the policies of the educational organization such as decision making, negotiation, bargaining, communication, conflict handling, running meetings and among others.

This entire task can be reduced to the following; planning, organizing, directing, supervising and evaluating the school system (Ekundayo, 2010). These activities are those of the educational administrator who must ensure they are all directed towards efficient and effective teaching and learning in the school through the use of internet services, e-mail,



computers facilities and overhead projectors services, so as to be able to produce quality outputs. In view of the above ascertains, the school principal of secondary school is a planner, director, controller, coordinator, organizer, adviser and a problem solver (Mgbodile, 2005). The principal identifies and set goals and objectives of the secondary education which of course must be in line with the national objectives, analyses, tasks and share responsibilities of the staff according to specialization of expertise. Therefore, management means the method by which the leader utilizes material and human resources to achieve predetermined organizational goals.

### **Influence of E-mail on Communication in Public Secondary Schools Management in Benue States of Nigeria**

Electronic mail (email or e-mail) is a method of exchanging message (mail) between people using electronic devices and e-mail entered limited use in 1960s but users could only send to users of the same computer. Some system also supported a form of instant message, where sender and receiver needed to be online simultaneously. According to Elujekwute, Habib and Ogundipe (2021) with the introduction of technology at every point of our lives the use of e-mail has become widespread and today, it is preferred to communicate by e-mail, rather than by telephone and posting mails. The most important reason for this is that it is a fast and safe communication tool. E-mails are delivered much faster than traditional mail. It can be sent 24 hours a day, 7 days a week there is no time limit. The e-mail can be sent and received from anywhere in the world with internet connection, that's why it's a global practice. The use of e-mail message is cheap broadband and each mail sent is sent free of charge and can be sent to one or more people at the same time. Ray Tomlinson is created as the inventor of network e-mail in 1971. Ray Tomlinson developed the first system able to send mail between users on different host across the ARPANET, using the @ sign to link the user name with a destination server. By mid-1970s this was the form recognized as e-mail. Elujekwute (2019) defines e-mail as a process of sending and receiving message electronically through the computer system. E-mail is very helpful for teachers to improve their own learning. Teachers can share teaching ideas, methodology, materials by communicating with other teachers from other secondary schools both at home and at abroad via e-mail to break the limits and to improve their lessons. Harrell (2008) notes that the creation of e-mail as a social network means that knowledge is now collective and readily available online for teachers and students to access and use the materials for the benefit of teaching and learning in schools. Harrell further maintains that promoting e-mail communication between teachers and students creates opportunities for teachers to receive feedback and assistance from teachers and peers outside the regular classroom and school days. Ode and Tyokyaa (2014) maintains that through e-mail teachers, students and peers can build relationship with other users and establish a sense of both connectedness and belonging. According to Osadebe and Ojukousin (2018) e-mail can be useful supplement to almost all components of a lesson. The teacher send outline reminder, what will be covered in the week's lesson and the teacher may also include a reminder of any assignment that are due and when appropriate highlight where the stand in the lesson. For example, when the teacher forgets to mention a particular point in a note, he quickly go back to his office and immediately send the missing point in the note in an e-mail message. Idowu and Esere (2013) affirms that teachers use e-mail to provide hints on assignment problems (especially, if he receives recurring questions on the same topic). Again, the teacher after marking a mid-term examination, the teacher keep a note of the major common mistakes

found and send them as a feedback to the whole class using e-mail and also uses e-mail for announcement and answering students questions (Anekwe, 2008).

The e-mail also provides an opportunity to share answers to course related questions with other students. This can be further enhanced by providing a list of the frequently asked questions on the course web page, careful examination of the students' message can help in guiding the flow of the lesson. For example, if the teacher notice that there were an unusually high number of questions on the last lesson, then teacher would want to spend more time reviewing and clarifying the concept studied in that lesson/lecture. The teacher can also look at the message exchanged by the end of term and do some context analysis to use its results for future improvements to the lesson. Singhal (2013) affirms that an effective use of e-mail in teaching and learning can be useful in morally supporting a student when in need as well being a non-confrontational medium and also e-mail can be useful in students counseling. According to Onasanya, Daramola and Asuquo (2006) after a low examination mark a student may feel quite depressed to talk face to face with his/her teacher and would find e-mail a suitable alternative for communicating his/her teacher. Cole (2014) reports that, probably the most serious obstacle to the use of e-mail as a supplement to teaching and learning in secondary schools is that the teacher should be ready to allocate a considerable amount of time to the management of the e-mail messages received as well as a commitment to promptly reply to students' message. Cole further maintains that, it is important that students receive timely responses to their messages; this requires that the teacher would check his e-mail message several times a day and sometimes on weekends. This view is in consonance with the view of Williams (2008) suggests that e-mail writer should be careful and clear in his message so as to avoid ambiguity and unwanted consequences.

Rajeves and Jonassen (2006) recommends that educational institutions are serious organizations and they must use e-mail services with reliable infrastructure because in-house information, documents and students and teachers' personal information should be kept in a good way. In addition, in-house communication and communication with students is made faster and more reliable through e-mail services. According to Hennessy and Wamakote (2010) using e-mail service in education institutions is very important in terms of efficiency of teachers, prevention of time loss and continuity of work. Hennessy and Wamakote further maintains that, the use of e-mail in the classroom instructions provides teachers and students to work together with more education and instruction. This application enables students to communicate more easily with each other in the classroom and can also keep track of the progress of the lesson. It also makes it much easier for teachers to prepare lessons, distribute home work and send feedback. Moreover, in this way, there is no waste of paper on the other hand; students have the opportunity to access all information and documents about class and course through a single centre. This is one of the cases that significantly increase participation in the lessons. Students can ask question to their teachers instantly through this application as well as opening a discussion that enables other students to participate. It is also possible to share homework through e-mail services. Dike (2008) defines e-mail as electronic mail, is an application that allows the sending of message prepared by computers via telecommunications technology to each other by people.

Today a large percentage of total internet traffic belongs to the use of e-mail. It allows individuals and institutions to communicate with each other through electronic media. Elujekwute (2019) explains that, the advantage of using e-mail as a communication tool in teaching and learning are due both to the nature of the e-mail technology and how the teacher plans to use it in the lesson. Elujekwute further maintains that e-mail provides an asynchronous communication that is; the medium is time independent this helps the teacher to think about a useful response. It also gives a chance to shy students and those who are reluctant to participate in class to think about the wording of their message before sending it out. At the same it also permits synchronous and fast transmission of information to groups of students. It is not uncommon to have students perform assignments in groups and once the group members are known teacher sends each member the e-mail contact information for the group members. The group would then use e-mail to manage their work (assigns tasks, discuss issues, arrange meeting). Most e-mail software would allow the users to send electronic files as attachments. This can prove very helpful when the course involves the use of some computer software, students would usually attach their computer work for the teacher to help them figure out what is wrong with their codes or models. E-mail provides a relative anonymity (Privacy) due to a lack of visual contact (Madjoub, 2013). However, Nnaobi (2013) observes that there is still the risk that not all students will seek to read the teachers messages. In ensuring that students check their e-mail regularly, these students may still choose to not make benefit of the communication channel opened via e-mail. Ogbu and Onele (2016) notes that probably the most serious obstacle to the use of e-mail as a supplement to teaching and learning in secondary schools is that the teacher should be ready to allocate a considerable amount of time to the management of the list of messages sent by the students as well as commitment to promptly reply to students messages. It is important that students receive timely response to their messages. This requires that the teacher would check his e-mail messages several times a day and sometimes on weekends. It is also worthwhile mentioning that the use of e-mail will not necessarily abolish the 'brick and mortar' office hours. Some students would still want to have the option of standard office hours, for instance, e-mail is not suitable to convey their concern because it is difficult or long to describe in a single e-mail message, would prefer to talk face to face and among others with the teacher.

### **Influence of Computer Facilities on Keeping of Records in Public Secondary Schools Management**

The use of computers to gather, analyzes, modify, store and retrieve and exchange information have become increasing significant as tools to accelerate, social economic and educational development in secondary schools (Robinson, 2005). A school is an important public or social institution for providing formal education to people through teaching and learning process. As an educational organization, so much is required of it by the learners, parents/ guidance and the general public in the area of information gathering and dissemination. For the school to be able to obtain information and furnish all the concerned or interested parties or relevant agencies, it became apparent that a systematic records keeping should be maintained in secondary schools. According to Elujekwute, Uwalaka and Agbo (2021) record keeping which is an integral part of school administration involves the process of collecting information on various affairs of the school. Elujekwute, Uwalaka and Agbo further states that for the school to be able to obtain information and furnish all the concerned or interested parties or relevant agencies, it becomes apparent that a systematic record

keeping should be adequately maintained. School records are indispensable instrument for effective and efficient school management. It is obvious that good memory is an asset for a successful administrator. In this regard, Fasasi (2009) affirms that many people tend to forget things easily and find it difficult to remember events in their life and therefore, the keeping of records helps to solve some of the challenges associated with forgetting things. Record management is one of the most important administrative elements of any school organization in which school administrator/principals must adhere to. It is important to plan and administer any formal organization effectively in which records are not kept or mismanaged. To successfully achieve this, record must be safely kept and managed. It should be borne in mind that management is an essential function within all organization, a tool that is needed within every human association for the attainment of common goals (Akpakwu, 2012). The emphasis placed on record keeping in schools was aptly elucidated by Nakpodia (2006) who observes that, two decades ago there were few schools then which did not have the desired records at the secondary schools. In the school, there are various day to day activities that take place demanding for record keeping, retrieval, decision making and re-assessment of results and re-planning. In view of the foregoing, Principals can use computers in school management to prepare budget, to check inventory, students' records, communications, library circulation and library access catalogue. Through the use of computer, the principal can inspect various areas of the school such as teachers' job performance and students' academic progress in the school. For instance, computer with the internet service can be used in checking results, sending and receiving mails (inbox and draft). Adam (2006) states that a principal at his desk can easily access information on both students and school personnel that have been collected and stored in the computer. The principal from his desk can check which books are available and which are not in the library. In the area of finance, the principal can browse through to know the state of school finance right from his desk as well as information on school balance in the statement of account in the bank.

Adeyemi (2011) notes that record keeping connotes all activities concerned with the creation, storage, retrieval, retention and deposition of all information relating to what goes on in the school, who is in the school, the school plant as well as other information pertinent to the growth and development of the school. It is always necessary to store records for further use not only for safe keeping but so that they can be easily accessed when needed. When records are not kept, it would be very difficult to carry out meaningful development also very difficult to determine the progress made. Moreover, Nwafor (2005) identifies common ICT facilities used in secondary school management to include; desktop, computer, e-mail, overhead projector, computer networking, scanning machine, printing machine, photocopy machine, internet, satellite dish for global information, internet phone and others are cybercafé, school world-wide-web (www). School virtual library digital satellite television (DSTV), fax-mail machine, public address system, audio tape player, digital camera, electronic classroom, examining scoring machine and counting machine. According to Odeh and Tyokyaa (2014) the use of these ICT facilities in administration of secondary school instructional functions will likely enhance efficiency and effectiveness in the achievement of set objectives of secondary education. A computer according to Stokes (2007) is a general purpose device that can be programmed to carry out a set of arithmetic or logical operations automatically. Since a sequence of operation can be readily changed, the computer can solve more than one kind of problem. Nakpodia (2006) states that computer hardware and software introduced into

Nigeria school system are used for adequate storage, manipulation, utilization and retrieval of records. The use of computer facilities reduces the manual task of managing records. In the same vein Kadzera (2006) posits that, computers are great resources for school administrators and teachers. They can find suggestions, practical support and materials on the internet that can boost or enhance their job performance in schools. Osakwe (2010) defines records management as the application of systematic and scientific control of recorded information that is required for the operation of the school. Such control is exercised over the distribution, utilization, retention storage, retrieved, protection, preservation and final disposition of all type of record to achieve the efficiency of records making and keeping processes. Records therefore, are information in whatever form which is very necessary for existences and smooth running of educational institutions, the implication is that all activities, actors, programmed and functions that are connected to teaching and learning as means of attaining school goals must be documented. These records according to Yusuf and Afolabi (2010) could be kept in books, files, computers or flash drives and are always made available or accessible for future reference. This is exigent because records as documental statement of facts about person, facilities, proposals and activities in and about the school are the life wire for school management. To this effect, school administrators should not only maintain accurate records but must ensure that all staff keeps accurate records of their activities in school.

Therefore, the importance of these records could not be overemphasized as they were tools for the attainment of school goals and were essential for diagnostic and remedial purpose. Those records enable teachers and parents to know a clear and complete picture of the students' progress with regards to attendance and achievement from test. Records help school administrators and parents keep a concise and accurate timeline of events in the life of the student. The use of computer in records keeping facilitates the supply of information to parents and guardians for the effective monitoring of the progress of their children/wards in schooling performance. According to Osakwu (2011) record keeping enhances management effectiveness in secondary school. This is because the administrative task of keeping staff, students, financial and academic records cannot be effectively carried out without proper electronic record keeping facilities. The use of computer guarantee effective management practices in record keeping, information management, personnel administration and resources allocation. In view of the above Elujekwute (2019) states that the use of computer facilities plays a vital role in supporting powerful efficient management and administration in the education sector. When school records are properly and effectively kept and maintained, it provides information for teachers, counselors, curriculum planners and instructional supervisors for planning and implementing instructional and administrative activities. The use of computer facilities has greatly influenced the methods used by most educational institutions in creating, transmitting, disseminating, storing, retrieving and keeping of information. Effective and efficient records keeping system is vital to a well functioning educational organization. Records can be stored in two forms namely manual and electronic method. Manual storage system involves keeping records in form of printed materials on the files, the shelves or in the drawers, while electronic method involves storing of vital information in electronic devices such as computers, flash drives, card readers and disk. Electronic record keeping system is information that are created and stored in digitized form through the use of electronic facilities and gadgets, such as computers, hard disk, compact disk and flash drives (Bande, 2006). In these contemporary times, secondary

educational institutions are duty bound to create records electronically and are encouraged to store, retrieve and use them in computerized form for long periods. The deficiencies and difficulties encountered by secondary educational systems while keeping records manually necessitated the need for electronic record keeping system.

Davis (2011) and Fassi (2005) points out that record keeping in some institutions is poorly done. It should be also borne in mind that electronic record keeping system are confronted with a lots of challenges which may be inimical to the administrative effectiveness of an organization. The importance of records in an educational organization cannot be overemphasized. According Onweh, Etim and Eniang (2012) records keeping is important for administrative effectiveness of an institution. Amanchukwu and Nwachukwu (2015) states that administrative effectiveness is a measure of the success in school administration and it is extent to which the set goals and objectives of a school programme is accomplished through administrative practices, one of which is effective record keeping system. The extent to which educational administrators keep records goes a long way in determining the administrative effectiveness of their institutions. Records are not kept for fun but serves as an important factor that can aid effective school management. Records occupy a central position in an organization.

### **Influence of Overhead Projector on Teaching and Learning in Public Secondary School Management**

The overhead projector has become a popular audio visual aid in the recent years and some teachers have found it to be a very suitable teaching device while other instructors do not care to make use of this machine (Elujekwute, 2019). It has become quite popular with those who present the same material term after term. This is probably due to two reasons. First of all it saves time in the preparation of classroom materials and secondly a better quality of material can be presented. According to Kadzera (2006) the projector was not developed as a teacher labor saving device but more importantly it was designed to help the students better understand the subject material presented. The student, by all means, should be given first consideration. If it is not the intention of the teacher to assist the students in gaining a better knowledge of the subject when using the overhead projector then it is best the teacher return to the use of the chalk board, wall charts, and map and among others. Scott (2007) states that the use of overhead projectors make the whole nature of teaching and learning effective, enrich students, experience, and helping students in opening up a new world of challenging assignments and problem solving opportunity. Nnaobi (2013) maintains that, the overhead projector is interesting, compelling springboard which launches students into a wide variety of learning activities. Nnaobi further observes that creative use of overhead projector increases the probability that students learn more, retain better what they learn and improve their performance of the skill. There many advantage for the use the overhead projector in secondary schools. According to Ginsburg (2010) the teacher faces the class in presenting the material which in itself is a distinct advantage over the chalk board method. The material presented can be seen by the entire class and revealed item by item without the use of large cover screens or other cover sheets. The projector may also be used in a lighted room enabling the students to take notes from the information presented and material can be prepared in advance of class meetings, used during the class and then filed for future use. Ginsburg further maintains that the use of overhead projectors enables the teacher to store and reuse

lessons prepared on transparencies, sparing the hassle of erasing and rewriting notes on the chalk board from year to year or even more inefficient, one class period to next. Students take more and better notes, ask more questions and comprehend more material when teachers use a projector than when they rely on the chalk board. However, there's no overstating, the power of the overhead projectors to maximize classroom management and teaching effectiveness.

Porter (2013) posits that the judicious use of overhead projectors in presentations is essential to captivate the audience and improve the students perceptions of what the teacher is saying, just like the flip chart, the overhead projector is placed in front of the students, giving the teacher eye contact with students and enabling the teacher to check students reaction and change the presentation pattern. The teacher can write or draw on the transparency, thus enabling development of ideas as the lesson is in progress. The overhead projector does not require special skills and since it is easy to use, the teacher is able to control it and students can also be involved by filling in blank spaces on the transparencies or to present their work in class. The use of overhead projector saves time, in that they can be prepared well in advance; they can be used as a quick reference, and also easily stored for future use (Olu and Abiodun, 2009). Many teachers use the projector for outlining the lesson they are presenting. If cello phone rolls are provided for the projector it is possible to roll back the lesson notes to specific item presented earlier in the period or even in previous periods. It is also possible for students who miss a class to turn the roll back and find out what has been presented in lesson on the day they were absent. Hayes (2019) states that advantage of most projectors is that they can be altered and changed to keep up with new information and also they can be constructed in such a way that subject matter can be presented item by item until the final result is presented. Elujekwute (2019) affirms that the use of audio-visual aids likes other teaching aids; the overhead projectors assist the teacher in his task and facilitate the learning process for the student. The use of overhead projector results in improving understanding, assimilation and retention of the subject matter, as well as in a higher degree of uniformity in the rate at which different students grasp the material. Furthermore, several specific advantages of overhead projectors make its use preferable to that of other teaching aids, similarly based on slide or transparency projections. Overhead projectors can be very effective to display pictures, diagrams and other visuals; the teacher has them ready and does not need to spend time to draw them on the chalk board, it allows teachers to create interactive presentations that engage student in the classroom.

Elujekwute further laments that dispatch the usefulness of overhead projectors, it is merely an aid to the teaching and learning process and that it cannot be used effectively as replacement for the teacher or the text, however, there are some disadvantages in using any teaching aid; it will be found by anyone using the overhead projector that, its advantages far outweigh its disadvantages, especially when it is compared with other projector devices. Tyough and Nevker (2006) states that one visual aid which becoming increasingly popular with teachers is the overhead projector and it is useful and versatile teaching aid. However, Hennessy, Harrision and Wamakote (2010) observes that some scholars still use traditional methods of teaching while others have seen the need to respond to the changing world. This means that not all teachers are competent and willing to infuse overhead projector in their classroom teaching because of anxiety. Overhead projector as a tool makes teaching and

learning easier and less abstract as historical events, pictures, videos and sites are also captured and played on laptops as visual aids. This does not only make the lesson more interactive but it makes them more practical and experiential (Suleiman, 2011), for example, teaching circle geometry on projector is far much better than having to illustrate theorem by theorem on the Chalkboard where some diagrams are not properly drawn and sometimes you can use videos where these are clearly explained than what the teacher could have been teaching. Videos played on laptops make the lesson real and more captivating.

However, teachers perceive the use of television during the teaching and learning process threatens their classroom authority and creates discipline problems. Anigbogu (2005) affirms that without the teacher who is knowledgeable, overhead projector cannot create change and progress as they demand adaptability, flexibility and effective use and communication skill, so as to meet the instructional objectives. Grianger (2006) points out that teacher who have negative perception, it is because of lack of exposure to lessons fully-designed with educational technology tools and lack of opportunities to try it in class. Kadzerna (2006) reports that, students learn more quickly and with greater retention when learning with the overhead projector, instead of fostering inappropriate learning experience such as over reliance on memorization. The problem is that teachers lack pedagogical skills in handling issues related to use of overhead projectors in the classroom, due to poor classroom management. Manduku, Kosgey and Sang (2012) observes that teachers require additional time to learn on the use of overhead projector in teaching and learning process. The use of overhead projector as tools in class requires a lot of time and teachers do not have extra time to spare to facilitate the use of overhead projector. Kadzera further identifies shortage of planning time among teachers as one of the major restraining factors to the use of overhead projector in schools. Adams (2009) observes that teachers spend excessive amounts of time to find, assess, revise and adjust learning materials, activities and tools to fit to the need of students. Students rely heavily on communication technology to access information and they have a low tolerance to teaching or instruction by the teachers (Chaube and Chaube 2012). Overhead projector brings about changes to the classroom roles and organization as it allows the students to become more self-reliant and teachers functioning more as facilitators than teachers. The use of overhead projector in the teaching and learning enables students to have a strong desire to explore environment and to seek out stimulation thereby building their self-esteem and self-confidence (Suleiman, 2013).

In supporting above views Anigbogu (2005) affirms that students feel a sense of mastery and feeling good understanding of the subject being taught and concludes that without strong teacher knowledge of using overhead project can be a waste of time and determinant to learning. The use of the overhead projector has several implications to both the teachers and students in teaching and learning in secondary schools. It motivates students, captures their attention and helps teachers in explaining complex concepts. Kadzera (2006) notes that the use of the overhead projector enables the teacher maintain complete classroom control and interest in a lesson. This control is also effective when the teacher wants to direct the students' attention either to the overhead project being used or the information being displayed by the projector. By switching on the overhead projector, the students' attention is directed to the information being displayed and to the teacher when the overhead projector is switched off. This ability to direct students' attention helps to maintain in their concentration either on the



information being displayed or to the explanation being given by the teacher when the overhead projector is switched off. Using overhead projectors, the teacher can explain concepts that would be difficult to elaborate orally when student see the material, its mechanism and its functions, teachers are saved the hard explanation and student easily understand what the teacher is talking about (Enobun, 2010). Furthermore, overhead projectors helps student acquire listening and observational skills that assist in their understanding of complex concepts and the student attitudes towards learning get improved

### **Methodology**

The study area was Benue State, Nigeria. Benue State was created on the 3<sup>rd</sup> of February 1976 with the capital city at Makurdi. It is one of the 36 states of the federation and it is situated in the North-Central, Niger. Descriptive survey design was adopted the study. The population of the study comprised four thousand five hundred and thirty (4,530) teachers from two hundred and twenty (220) grant-aided secondary schools in Benue State, Nigeria. A sample of six hundred and thirty (292) teachers from twenty three (23) selected public secondary schools was used for the study. Stratified random sampling techniques were used to select the sample size because the population was heterogeneous. A 15-items structured questionnaire developed by the researchers titled "Influence of Information and Communication Technology (ICT) Facilities and Public Secondary School Management Questionnaire (IICTPSSMQ)" was used for data collection. The questionnaire was validated by experts in the Department of Educational Management and Tests & Measurement from the Faculty of Education, Benue State University, Makurdi. The questionnaire was trail tested using 30 teachers from here secondary schools that were not part of the sample population. The data collected was analyzed using Cronbach Alpha correlation co-efficient which yielded 0.86. The co-efficient indicated high internal consistency which proved that the instrument was reliable to be used for field work. The data collected was analyzed using simple descriptive statistics of Mean and Standard Deviation to answer research questions. A mean cut-off point of 2.50 was used for decision making. Any mean score of 2.50 and above was accepted as been significant while any mean score below 2.50 was rejected as not been significant. The research hypotheses were tested, using Chi-square ( $X^2$ ) of goodness of fit at 0.05 level of significance.

### **Result and Findings**

#### **Research Question One:**

To what extent does E-mail influence communication in public secondary schools Management in Benue State, Nigeria?

**Table 1:** Mean Rating and Standard Deviation of Teachers on the Influence of E-mail on Communication in public Secondary Schools Management in Benue State, Nigeria

Item No	Item Description	SA	A	D	SD	X	ST.D	Decision
1	Due to creation of e-mail, knowledge is now collective and readily available online for teachers and students to access and use in my school.	89	97	44	62	2.73	1.11	Accepted
2	E-mail provides an opportunity for teachers and students to share answers to course related questions.	160	74	29	29	3.25	0.99	Accepted
3.	E-mail application enables students to communicate more easily and keep track of their progress in their lessons in my school	132	141	7	12	3.35	0.72	Accepted
4.	E-mail services make it easier for teachers to prepare to lessons, distribute home work and send feedback to students.	127	86	48	31	3.06	1.01	Accepted
5	The use of e-mail helps students have the opportunity to access all information and documents about class courses through a single centre.	98	180	1	10	3.25	0.65	Accepted
<b>Cluster Mean and Standard Deviation</b>						3.13	0.90	Accepted

Data presented on table 1 showed that the mean ratings of items 1-5 are 2.73, 3.25, 3.35, 3.06 and 3.25 respectively with their corresponding standard deviation of 1.11, 0.99, 0.72, 1.01 and 0.65. Based on the results of the analysis, it means that all the means ratings were above the cut-off point of 2.50. This implies that e-mail services influence on communication in secondary schools management in Benue, Nigeria. The respondents agreed that due to creation of e-mail services, knowledge is now readily available online for teachers and students to access and use. Also, that e-mail provides an opportunity for teachers and students to share answers to course related questions. The respondents agreed that e-mail application enables students to communicate more easily and keep track of the progress in their lessons. More so, that e-mail services make it easier for teachers to prepare to lessons, distribute home work and send feedback to students. They have agreed that the use of e-mail helps students have the opportunity to access all information and documents about class courses through a single center. The cluster Mean of 3.13 with the Standard Deviation of 0.90 was also found to be above the cut-off point of 2.50. This indicates that the e-mail service influences communication in secondary schools management in Benue State, Nigeria to high extent.

### **Research Question Two:**

To what extent does computer facilities influence keeping of records in public secondary school Management?

**Table 2:** Mean Rating and Standard Deviation of Teachers on the Influence of Computers facilities on Keeping of records in public Secondary Schools management

Item No	Item Description	SA	A	D	SD	X	ST.D	Decision
6	Computer facilitates the management of students' records and tracking students' progress.	118	142	21	11	3.26	0.75	Accepted
7	Records' Keeping helps to solve some of the challenges associated with forgetting things/information in my schools.	162	103	16	11	3.42	0.76	Accepted
8	School administrators use computer in school management to prepare budget, check inventory and students academic records in my school.	93	114	34	51	2.86	1.06	Accepted
9	The use of computer helps to store records so that they can be easily accessed when needed.	131	117	23	21	3.23	0.88	Accepted
10	When records are not adequately kept, it would be very difficult to carryout meaningful management functions in school and to determine the progress made in my school.	153	109	11	19	3.36	0.84	Accepted
<b>Cluster Mean and Standard Deviation</b>						3.23	0.86	Accepted

Data presented on table 2 showed that the mean ratings of items 6-10 are 3.26, 3.42, 2.86, 3.23 and 3.26 respectively with their corresponding standard deviations of 0.75, 0.76, 1.06, 0.85 and 0.84. Based on the results of the analysis it means that respondents agreed on all the means that are above the cut-off point of 2.50. This implies that computer facilities influence records keeping in public secondary management in Benue State, Nigeria. The respondents agreed that computer facilitates the management of students' records and tracking students' progress in schools and also records keeping helps to solve some of the challenges associated with forgetting things/information. They have also agreed that school administrators use computer facilities to prepare budget, check inventories and students academic records. More so, that the use computer helps to store records so that they can be easily accessed when needed. The respondents agreed that when records are not adequately kept, it would be very difficult to carry out meaningful management functions and to determine the progress made in the school. The cluster Mean of 3.23 with the Standard Deviation of 0.86 was also found to be above the cut-off point of 2.50. This means that computers facilities influence on keeping of records in public secondary schools management in Benue State, Nigeria to high extent.

### Research Question Three

To what extent does overhead projector influence teaching and learning in public secondary schools Management?

**Table 3:** Mean Rating and Standard Deviation of Teachers on the Influence of Overhead Projector on teaching and learning in public Secondary Schools management

Item No	Item Description	SA	A	D	SD	X	ST.D	Decision
11.	Overhead projector enables teachers to store and reuse lessons and sparing the hassle of erasing and rewriting notes on the chalkboard in my school.	181	75	21	15	3.45	0.84	Accepted
12	The use of overhead projectors enhances student's understanding, assimilation and retention of the subject matter.	119	125	40	8	3.22	0.78	Accepted
13	The creative use of overhead projector helps students to learn more, retain better what they have learn and improve their performance and skills.	132	120	17	23	3.24	0.88	Accepted
14	Overhead projectors help effective teaching and learning to take place through the use of pictorial presentation in classroom in my school.	113	130	31	18	3.16	0.85	Accepted
15	Dispatch the usefulness of overhead projector; it cannot be used as replacement for the teacher or the text in my school	115	136	27	14	3.21	0.80	Accepted
<b>Cluster Mean and standard Deviation</b>						3.26	0.83	Accepted

Data presented on table 3 showed that the mean ratings of items 11-15 are 3.45, 3.22, 3.24, 3.16 and 3.21 respectively with their corresponding standard deviations of 0.84, 0.78, 0.88, 0.85 and 0.80. Based on the result of the analysis as shown on table 3, it means that all the mean are above the cut-off point of 2.50.; an indication that overhead projector has positively influenced the teaching and learning in public secondary schools management in Benue State, Nigeria. The respondents agreed that overhead projector enables teachers to store and reuse lessons and sparing the hassle of erasing and rewriting notes on the chalkboard from year to year. More so, the use of overhead projector enhances students understanding, assimilation and retention of the subject matter. They have also agreed that the creative use of overhead projectors help students to learn more, retain better what they have learn and improve their performance and the skills. More so, the respondents agreed that the overhead projector helps in effective teaching and learning to take place through the use of pictorial presentation in classrooms in schools. Also, that dispatch the usefulness of overhead projector; it cannot be used as replacement for the teacher or text. The cluster Mean of 3.26 with the Standard Deviation of 0.83 was also found to be above the cut-off point of 2.50. This implies that the overhead projectors influence teaching and learning in public secondary schools management in Benue State, Nigeria to high extent.

### Testing Research Hypothesis

In testing the three hypotheses of the study, the Chi-square ( $\chi^2$ ) statistical tool was used to test the hypotheses at 0.05 probability level of significance and the results were presented on table 4 to 6

#### Research Hypothesis One

E-mail services have no significant influence on communication in public secondary schools management in Benue State, Nigeria.

**Table 4:** Chi-square( $\chi^2$ ) test of Teachers on the Influence of E-mail on Communication in Public Secondary Schools Management in Benue State, Nigeria

Opinions	Observed frequency	Expected frequency	df	Level of sig	$\chi^2_{cal}$	$\chi^2_{tab}$	Decision
No influence	58(20%)	146(50%)	1	0.05	108.93	3.84	Ho
Influence	234(80%)	146(50%)					Not accepted

Values in parentheses are percentages ( $\chi^2 = 108.93$ ,  $df = 1$ ,  $p = 0.0 > 0.00$ )

Table 4 showed that the descriptive and inferential statistics of percentages and chi-square ( $\chi^2$ ) were used to test the influence of e-mail services on communication in public secondary schools management in Benue State, Nigeria. The result showed that 80% of the respondents agreed that e-mail services have significant influence on communication in public secondary schools as against 20% respondents who disagreed.

Table 4 also showed that Chi-square ( $\chi^2$ ) calculated value of 108.93 was greater than the Chi-square ( $\chi^2$ ) table value of 3.84 checked at 0.05 level of significance and at 1 degree of freedom. The null hypothesis was therefore not accepted. This implies that e-mail services have significant influence on communication in public secondary schools management in Benue State, Nigeria.

#### Research Hypothesis Two

Computer facilities has no significant influence on keeping of records in public secondary schools Management

**Table 5:** Chi-square ( $\chi^2$ ) test of the Teachers on the Influence of Computer Facilities on keeping of Records in Public Secondary Schools Management

Opinions	Observed frequency	Expected frequency	df	Level of sig	$\chi^2_{cal}$	$\chi^2_{tab}$	Decision
No influence	32(11%)	146(50%)	1	0.05	178.30	3.84	Ho
Influence	260((89%)	146(50%)					Not accepted

Values in parentheses are percentages ( $\chi^2 = 178.30$ ,  $df = 1$ ,  $p = 0.0 > 0.00$ )

Table 5 showed that the descriptive and inferential statistics of percentages and chi-square ( $\chi^2$ ) were used to test the influence of computer facilities on keeping of records in public secondary schools management in Benue State, Nigeria. The result showed that 89% of the respondents agreed that computers services have significant influence on keeping of records in public secondary schools management as against 11% respondents who disagreed.

Table 5 also showed that Chi-square ( $\chi^2$ ) calculated value of 178.30 was greater than the chi-square ( $\chi^2$ ) table value of 3.84 checked at 0.05 level of significance and at 1 degree of freedom. The null hypothesis was therefore not accepted. This implies that computer facilities have significant influence on keeping of records in public secondary schools management in Benue State, Nigeria.

### **Research Hypothesis Three:**

Overhead projector has no significant influence on teaching and learning in public secondary schools management

**Table 6:** Chi-square ( $\chi^2$ ) test of Teachers on the Influence of Overhead Projectors on Teaching and Learning in Public Secondary Schools management

Opinions	Observed frequency	Expected frequency	df	Level of sig	$\chi^2_{cal}$	$\chi^2_{tab}$	Decision
No influence	41(14%)	146(50%)	1	0.05	153.0	3.84	Ho
Influence	251(86%)	146(50%)			1		Not accepted

Values in parentheses are percentages ( $\chi^2 = 153.01$ ,  $df = 1$ ,  $p = 0.0 > 0.00$ )

Table 6 showed that the descriptive and inferential statistics of percentages and Chi-square ( $\chi^2$ ) were used to test the influence of overhead projectors on teaching and learning in public secondary schools management in Benue State, Nigeria. The result showed that 86% of the respondents agreed that overhead projectors have significant influence on teaching and learning in public secondary schools management as against 14% respondents who disagreed.

Table 6 also showed that Chi-square ( $\chi^2$ ) calculated value of 153.01 was greater than the Chi-square ( $\chi^2$ ) table value of 3.84 checked at 0.05 level of significance and at 1 degree of freedom. The null hypothesis was therefore not accepted. This implies that overhead projectors have significant influence on teaching and learning in public secondary schools management in Benue State, Nigeria.

### **Discussion of Findings**

Based on the analysis of research questions and testing the hypotheses, the following findings were organized and discussed here for easy of understanding.

The first finding of this study revealed that e-mail services significantly influence on communication in public secondary schools management in Benue State, Nigeria. The finding agrees with the views of Elujekwute, Habibi and Ogundipe (2021) who states that with the introduction of technology at every point of our lives, the use of e-mail has become widespread and today, it is preferred to communicate by e-mail rather than by telephone and posting mails. The most important reason for this is that it is a fast and safe communication tool. In supporting the finding, Odeh and Tyokaa (2014) maintains that through e-mail, teachers, students and peers can build relationship with other users and establish a sense of both connectedness and belonging. Singhal (2013) affirms that an effective use of e-mail in teaching and learning can be useful in morally supporting a student when in need as well

being a non-confrontational medium; also e-mail can be useful in students counseling. Hennessy and Wamakote (2010) pointed out that using e-mail services in education institutions is very important in terms of efficiency of teachers, prevention of time loss and continuity of work. Hennessy and Wamakote further maintained that, the use of e-mail in the classroom instructions provides teachers and students to work together with more education and instruction. The e-mail application enables students to communicate more easily with each other in the classroom and can also keep track of the progress of the lesson. However, Ogbu and Onele (2016) noted that probably the most serious obstacle to the use of e-mail as a supplement to teaching and learning in secondary schools is that teachers should be ready to allocate a considerable amount of time to the management of the list of messages sent by the students as well as commitment to promptly reply to students messages. It is important that students receive timely responses to their messages.

The second finding of this study revealed that computer facilities have significant influence on keeping of records in public secondary schools management in Benue State, Nigeria. This findings is in consonance with the opinion of Adeyemi (2011) who noted that keeping of records connotes all activities concerned with creation, storage, retrieval, retention and deposition of all information relating to what goes on in and out of the school, who is in the school, the school plant as well as other information pertinent to the growth and development of the school. It is always necessary to store records for further use not only for safe keeping but so that they can be easily accessed when needed. When records are not kept, it would be very difficult to carry out meaningful development also very difficult to determine the progress made in schools. Therefore school records are indispensable instrument for effective and efficient school management. Fassi (2010) pointed out that records keeping in some institutions is poorly done, it should be also be borne in mind that electronic record keeping system are confronted with a lots of challenges which may be inimical to the administrative effectiveness of an organization. The importance of record keeping in an educational organization cannot be overemphasized. In supporting the above view, Onweh, Etim and Eniang (2012) stated that records' keeping is important for administrative effectiveness of an institution. This finding is in consonance with, Amanchukwu and Nwachukwu (2015) who stated that, the administrative effectiveness is a measure of the success in school administration and it is extent to which the set goals and objectives of a school programme is accomplished through administrative practices, one of which is effective record keeping system. The extent to which educational administrators keep records goes a long way in determining the administrative effectiveness of their institutions. Records are not kept for fun but serve as an important factor that can aid effective school management. Adam (2006) states that a principal at his desk can easily access information on both students and school personnel that have been collected and stored in the computers.

The third finding of this study revealed that overhead projectors have significant influence on the teaching and learning in public secondary schools management in Benue State, Nigeria. This finding agrees with the views of Elujekwute (2019) who stated that the use of overhead projector make the whole nature of teaching and learning effective, enrich students experience and helping students in opening up a new world of challenging assignments and problem solving opportunity. Burmark (2007) maintained that overhead projectors are interesting, compelling spring board which launch students into a wide variety of learning activities.

Burmark further stated that creative use of overhead projector increase the probability that students learn more, the overhead projector has become a popular audio visual aid in the recent years and some teachers have found it to be a very suitable teaching device while other instructors do not care to make use of this machine Kadzere (2006) noted that the use of the overhead ``projector enables the teacher maintain complete classroom control and interest in a lesson. This control is also effective when the teacher wants to direct the students' attentions either to the overhead project being used or the information being displayed by the projector. Using overhead projectors, the teacher can explain concepts that would be difficult to elaborate orally. When students see the material, its mechanism and its functions, teachers are saved the hard explanation and students easily understand what the teacher is (teaching) talking about.

### **Conclusion**

Based on the findings of this study; it was concluded that E-mail have significant influence on teachers, students and parent on communication in public secondary schools. Computer facilities have significant influence on keeping of records and overhead projectors have significant influence on teaching and learning in public secondary schools management in Benue State, Nigeria.

### **Recommendations**

Based on the result or findings of the study, the following recommendations were made:

1. Government and educational administrators should ensure that e-mail services are provided in schools so as to enhance effective teaching and learning, hence students' academic performance will be improved as well as secondary schools management.
2. Educational administrators should make adequate provision of computers in their respective institutions and encourage its usage on keeping of records and in administrative duties as well as in teaching and learning purposes, for this will assist in enhancing effective school management..
3. School administrators/managers should endeavor and ensure that their institutions are provided with sufficient overhead projectors in order to promote effective teaching and learning activities in schools, hence the use of overhead projectors will promote effective and efficient teaching and learning that may take place through the use of pictorial presentations in the classrooms.

### **References**

- Adam, J. (2006).The next world war: Computer are the weapons and the front line in everywhere. Boston Simon and Schutter,1(6), *In Nigeria Principal Journal of Ancopss* pp.74-79.
- Adedeji, A. (2013). Institutional dimensions in the policy process. In Mutahaba, G., and Balogun, M.J. (eds) *Enhancing policy management capacity in Africa*. West Harford: Kumarian Press.
- Adeyemi, T. O. (2011). Impact of information and communication technology (ICT) on the effective management of universities in South-West Nigeria. *American Journal of Social and Management Sciences, (AJSMS)* 2(3) 248 – 257.



- Aduwa-Ogiegbaen, S.E. & Iyamu, E.O.S. (2005). Using information and communication technology in Nigeria: Problems and prospects. *Educational Technology and Society*, 8(1), 104-112.
- Ajayi, I. A. (2005). Towards effective use of use of information and communication technology for teaching in Nigeria colleges of education. *Asian Journal of International Technology*. 7(5), 210-214.
- Ajayi, A.S. & Oluchukwu, P.C. (2008). *Administrative skills for the principals in Nigerian secondary schools*. Owerri: Noah Publishing Co.
- Akpakwu, S. O (2008). *Essential of educational management*, Makurdi: Jalim Press Nigeria Ltd.
- Akpakwu, S.O. (2012). *Educational management: Theory and practice*. Makurdi: Destiny ventures.
- Amanchukwu, R. N. & Olulube, N. P. (2015). Excellent school records behaviour for effective management of education systems, *Human Resource Management Research* 5(1): 12 – 17.
- Aribisala, J. O. (2006). Role of information and communication technology in Agagu A. A. (ed) *information and communication technology and computer applications*. Abuja: Press pp. 68 – 76.
- Anekwe, J. U. (2008). Information and communication technology in M. O. Ofoefuna (ed). *Functional approach to education tech*. Onitsha Ofena Publishers.
- Anigbogu, S. O. (2005). *Introduction to computer science and programming languages* 2<sup>nd</sup> edition.
- Bande, G. O. (2006). Development of Modern ICT and internet system. In Agagu, A. A. (ed) *information and communication technology and computer application*, Abuja: Panof Press pp. 1 – 8
- Chaube, S. P. & Chaube, A. (2012). *Foundation of education*. New Delhi Viras Publishing House.
- Cole, G.A. (2000). *Management theory and practice*. New Delhi: Vikas Publishing House PVT Limited.
- Davis, B. G. (2011). *Tools for teaching*. San Francisco: Jossey-Bass.
- Dike, H. I. (2008). *Educational technology*, Port-Harcourt. University of Port-Harcourt Press.
- Ekundayo, H. T. (2010). Administering secondary schools in Nigeria for quality output in the 21<sup>st</sup> century; the principals challenge. *The European Journal of Educational Studies*, 2(3), 187 0- 194.
- Elujekwute, E. C. (2019). *Educational management: concepts and theories*. Makurdi: Destiny Ventures
- Elujekwute, E. C., Uwalaka, M. C. & Agbo, I. O. (2021). Influence of school records keeping on the management of secondary schools in Zone ‘A’ Senatorial District of Benue State, Nigeria. *Journal of Education, Science and Gender Studies (SFJESGS)* 3(1) 59-76.
- Elujekwute, E. C., Habib, S. & Ogundipe, O. R. (2021). Assessment of information and communication technology (ICT) facilities in the management of secondary schools in North-Central States of Nigeria. *International Journal of Management, Sciences, Peace and Conflict Studies (IJMSSPC)* 4(1) 153-167.
- Elujekwute, E.C., Shir, J. N. & Elujekwute, L. A.(2021). Principals supervisory technique as correlate of teachers job performance in public secondary schools in Zone C Senatorial District of Benue State, Nigeria. *Journal of Education, Science and Gender Studies (SFJESGS)* 3(1) 201-223.
- Enonbun, O. (2010). Constructivism and web 2.0 in the emerging learning era: A global perspective. Available at <http://www.ngbusinesspress.com/JSIS/Enobunwebpdf>.
- Fasasi, Y.A. (2005). School records keeping: A strategy for management of Nigerian secondary education institutions. Ilorin: *Journal of Education*, 6(2), 45-49.

- Federal Republic of Nigeria (FRN, 2004). *Nation policy on education*. Lagos: NERDC Press.
- Ginsburg, D. (2010). *The overhead projector: don't overlook it (part 1)*. Image by Ankevanwyk.
- Grianger, H. (2006). How technology leads to improve students achievement. Available at <http://www.ncs.org/portals/document/educ/item013161pdf>.
- Haddad, B. Draxler, T. (2013). Advantage of information and communication technologies retrieved 17<sup>th</sup> April, 2012 from <http://www>
- Hayes, V. (2019). Utilizing information and communication technology for education and development: Issues and challenges for developing countries. *IFLA Journal*, 27(3), 143-151.
- Hennessy, S. Harrison, D. & Wamakote, T. (2010). Teacher factor influencing classroom use of ICT in sub-saharan Africa. *Itupale Online Journal of African Studies* (2) 39 – 54.
- Idowu, A. I. & Esere, M. (2013). ICT and higher education system in Nigeria. *Journal of department of Counselling Education, University of Ho llorin, Nigeria*, 8(21), 201 – 225.
- Kadzera, E. M. (2006). Ue of instructional technologies in teacher training colleges in Malawi. Available at <http://scholar.lit.0512006174707/unrestricted/Dessertation-kadzerapdf>.
- Kadzo, L. (2011). Kenya launch national ICT innovation and integration centre. Retrieved 13 September, 2012, from <http://www.ciocoke/news/main-stories/kenya-launchesnationalICTInnovation-andintegrationpcentre>.
- Madjoub, M. B. (2013). Computer assisted instruction on the achievement of basic school students in pre-technical skills. Retrieved <https://www.academia.edu/6589553>
- Manduku, J., Kosgey, A & Sang, H. (2012). *Adoption and use of ICT in enhancing management of public secondary schools*. A survey of Kesses Zone Secondary Schools in Wareng District of Wasin Gishu County.
- Morley, D. (2006). *Computers and technology in a changing society*, Boston; Thomson course technology.
- Nakpodia, E.D. (2006). *Educational administration: A new approach*. Warri-Nigeria: Jonakase Publishing ltd.
- Njoku, S. (2006). *ICT and Nigerian teachers*. Paper delivered at teachers registration council of Nigeria (TREC�) national workshop. Abuja TRCN 17<sup>th</sup> 21<sup>st</sup> October 2006.
- Nnaobi, B. C. (2013). Enhancing students performance using computer aided instruction in tertiary institutions in Rivers State. <http://www.concentric.net/walwpr/thesis/ref.list.html#kearsle>.
- Nwafor, S. O. (2005). Information technology. A modern tool for the administration of universities in River State. *Nigeria Journal of Educational Administration and Planning*, 5(2), 184 – 188.
- Odeh, R. C. and Tyokyaa, C. I. (2014). Assessment of information and communication technology (ICT) facilities in the management of colleges of education in North-central zone, Nigeria. *Indian Journal of Applied Research*. 6(7) 9 – 14.
- Ofodu, G. O. (2007). Nigeria literary education and their technological needs in a digital age, *Educ. Focus* 1(1), 73 – 79.
- Ogbu, J. E. & Onele, N. O. (2016). Assessment of knowledge and utilization of information and communication technology for teaching and learning of electrical and electronic subjects in the Technical College of Ebonyi State. *International Journal of Scientific Research Engineering and Technology*, 5(1) 6 – 14.
- Olu, P.J. & Abiodun, J.O. (2009). Computer education in Nigeria Secondary schools. <http://www.ncsu.edu/meridian/sum2009/nigeria/index.html>

- Onasanya, S. A., Daramole & Asuquo, E. N. (2006). Effect of computer assisted instructional package on secondary schools students performance in introductory technology in Ilorin Nigeria. *The Nigerian Journal of Educational Media and Technology*. <http://www.unilorin.edu.ng/publications/onasanya/%282006%20NAEMT/%20JOURNAL.pdf>.
- Onuma, N. (2007). utilization of information and communication technology in schools problem and suggestions. In J.B. Babalola, G.O. Akpa, A.O. Ayeni and S.O. Adedeji (eds). *Access, Equity and Quality Higher Education*, 487-496.
- Onweh, V. E., Etim, V. E. & Eniang, O. U. (2012). Record keeping and administrative effectiveness in secondary schools in Akwa Ibom State. *An International Journal, Academic Discourse*. Vol. 1(1) pp. 237 – 148.
- Osadebe, P. U. & Ojukonsin, B. T. (2018). Assessment of computer studies teachers constraints in the use of information and communication technology. *International Journal of Advanced Research*, 6(7). 246 – 277.
- Osakwe, N. R. (2010). The influence of information and communication technology (ICT) on teacher education and professional development in Delta State Nigeria. *Asian Journal of Information Technology*, 9(5), 2080 – 285.
- Osakwe, N. R. (2011). Management of school records by secondary school principals in Delta State, *Nigeria the social Sciences*, 6(1) 40 – 44.
- Porter, M.V. (2013). Where have all the overhead projectors gone? Out with the old, in with the new: how technologies are forever changing the shape of association meetings. *Association Management*, 49(4), 32-37.
- Rajeevs K. & Jonassen, N. (2006). Internet use by teachers and students in engineering colleges of Punjab, Haryana and Himachal Pradesh States of India: An Analysis. *Electronic Journal of Academic and Special Librarianship*, 7(1), 45-48.
- Robinson, E. H. (2005). Effect of computer assisted instruction on academic achievement in counsellor. *Education Journal of Technology in Counselling*, 4(1) 23 – 30.
- Scott, T. Y. (2007). *The computer: A tool for the teacher*. Belmont, CA. Wadsworth.
- Selinger, M. (2005). The impact and role of ICT in the delivery of education and training in Africa. <http://educaionstate-university.com/pages/1069-html>
- Singhal, M. (2013). The internet and foreign language education: Benefits and Challenges *The Internet TESL Journal*, 3(1997) 15 Sep 2010.
- Stokes, J. (2007). *Inside the machine: an illustrated introduction to microprocessors and computer architecture*. San Francisco: Starch Press.
- Suleiman, N. (2011). The use of mobile phones in hearing English Language by Sultan Qatoos University students: practices, attitude and challenges, *Canadian Journal on Scientific and Industrial Research*, 2(3), 143 – 153.
- Tyough, D. M. & Nevkar, D. A. (2006). Information technology and challenges of the teachers. *Benue State University Journal of Education*, 6(7), 9 – 14.
- Ugwu, R. N. & Oboegbulem, A. I. (2011). Information and communication technology (ICT) capacity building for staff personnel in post primary schools for effective school administration, *International Journal of Educational Research*. 1(1) 190 – 201.
- Ugwu, R.N. & Oboegbulem, A.I. (2010). The place of information and communication technology (ICT) in the administration of secondary schools in south eastern states of Nigeria. In Oku, O.O., Asiabaka, I.P., Emenalo, F.C. Odionya, E.A. Okeke, F.N. Anugom, F.N. & Onuoha, K.K. (eds). *Issues on Contemporary Nigerian Education Books of Readings*. Owerri: Department of Educational Foundation and Administration.

UNESCO, (2011). Pedagogical motivation and the use of computer by students. *Education Technology*, 40(5), 5-17.

Yusuf, M. O. & Afolabi, A. O. (2010). Effects of Computer assisted instruction on secondary school students' performance in biology. <http://www.toject.net/articles/v9i1/918.pdf>.