Chapter One

Introduction

1.1 Background to the Study

Performance is defined as the organization's accomplishment of the set objectives. It includes results that have been accomplished or realized as a consequence of individual or group efforts to advance the strategic objectives of the company. Performance includes both financial and behavioral results[1]. It is seen in light of the choices made and the expected results. It is the work put forth by the doer to achieve desired results. To perform successfully at work is everyone's ultimate goal[1]. It's the genuine attainable goal of any firm. It has to do with a worker's conduct at work and how well their job tasks are completed. Teachers' problem-solving abilities, inventiveness in the classrooms, attitude toward teaching, and attitude toward work are all factors that affect how well they do at work[1].

Because of their creativity, teachers can bring new perspectives to the classroom, develop their teaching pedagogy, and modify instructional aids and resources to enhance the teaching-learning process. On the contrary hand, teachers' perspectives on their work as educators reflect their capacity to finish any given task[2]. The effectiveness of a secondary school educator determines the strengths, weaknesses, and potential management gaps in the educational environment[2]. Tasks are correctly completed by efficient staff the first moment (first-time right). For instance, a customer service agent who consistently leaves work unfinished or who fails to finish a client's report might not be able to meet the company's goals[1]. A teacher who implements curriculum in the educational field makes every effort to achieve the desired outcomes[3]. A teacher is someone who devotes their time and energy to instructing others. To be regarded as a professional teacher, a teacher must have mastered the fundamental teaching techniques and be certified to implement the curriculum in a classroom setting. The following skills are therefore necessary for a professional teacher to have: professional

knowledge, teaching pedagogical expertise, etc. A global problem in the twenty-first millennium is teacher performance. Academic achievement of a pupil is no longer the standard by which to judge a teacher's performance. The degree of performance by the teachers in the classroom will be good to great if the teacher is technologically aware and knowledgeable, as this can also have an impact on the teacher's work performance[4]. A teacher's performance at work falls short of expectations despite possessing the essential aptitude and tenacity as well as the required knowledge, tools, and administrative support. The degree to which a teacher engages in and performs at work is strongly influenced by his or her level of self-effectiveness[5]. How successfully a person performs in their position, role, duty, or responsibility is referred to as their work performance. Performance is assessed using stated duties, objectives, goals, and fair expectations related to a profession, and industry. Several factors, such as risk management, job quality, judgment, speed, competence, and teacher attitude to work, to mention a few, can be used to evaluate a teacher's performance at work[6].

Teachers should do their duties with precision, neatness, attention to detail, consistency, thoroughness, high standards, and adherence to procedures[7]. Reduction in errors and consistency in quality. On the forefront of technology of their profession are education teachers. In this digital age, school administrators are required to use technology to influence the conduct of their staff members in order to accomplish the specified objectives. Every teacher is distinctive in their own particular way. The COVID-19 pandemic caused Nigeria to go into total lockdown, which interfered with the academic schedule of schoolchildren. During this period, a lot of teachers were exposed to and pressured to engage their students online. Some teachers are currently required to learn how to employ technology within the classroom because they have little to no prior experience with online instruction. Using technology to teach pupils is easier in some institutions (mainly private secondary schools), while it is more challenging in others (primarily public secondary schools) (public secondary schools). Because they could study new topics utilizing Information and Communication Technology (ICT), like online

presentations and e-learning, many teachers were able to expand their previous expertise during the COVID-19 era. Work performance refers to the act of completing a job[8]. Work performance is a tool for accomplishing a goal or set of objectives inside a position, function, or organization, but it doesn't represent the real results of the actions conducted there[9]. Work performance was defined as a "complex activity" as opposed to a single action[5]. Work performance is solely a behavior that really is different from the results of the job that are related to productivity and success. For objectives to be defined and efforts to be coordinated, work performance is necessary[7]. The majority of secondary schools would struggle to accomplish their goals without excellent teachers, according to virtually all organizations, especially those in the education sector[9]. The most influential individual in a school is the teacher because they give pupils direction, mentor them, and make sure their objectives are reached.

The term digital teacher refers to someone who strategically uses devices like computers, phones, and the internet to further educational goals[10]. Both organizationally and personally, this can be handled. On a more intimate level, those in charge of managing digital assets typically carry out this task. A competent digital educator is knowledgeable of the institution's goals and knows how the tasks they perform help to achieve them[11]. A company that has effectively used its digital resources to establish and maintain a competitive edge could serve as an institutional level digital instructor in this regard. The most recent revolution in education has been the use of digital technology, especially in light of the COVID-19 pandemic. Initiatives to improve teachers' and student' digital technology competencies and skills have been spearheaded by Nigeria's Ministry of Education. A number of factors, such as the teachers' degree of technology, their professional growth in the real world, and their learning culture, have an impact on digital instructors[1].

Digital teaching is the method of using technology, such as computers and phones, to strategically further educational objectives. Institutional and individual responses are both possible to this. When put into a more personal perspective, this is typically carried out by staff members in charge of monitoring digital assets. These teachers of digital thought will examine how technology might make their institution more receptive to student demands and dynamic industry demands. An effective digital educator appreciates the worth of incoming information and the business procedures that support it[12]. They value their ability to communicate, their creativity, and their eagerness to experiment with new developing technology in order to help commercial projects. Today's world makes it clear that balancing the needs of teachers, businesses, and the entire workforce involves using digital technology. According to statistics, 42% of the nation's top academic institutions now think that training teachers is crucial to success in the digital age[13].

The twenty-first century is the era of the information economy. The knowledge-based economy enters production and competitiveness as a way to navigate any organization's new success[12]. What you can accomplish with what you currently have is what matters. Data, which can be utilized to transform information into a product, is the foundation of everything. It serves as a more concrete element that can inspire new ideas for features in the future. Any organization's performance was forced to shift away from a profit-focused strategy and toward a more socialized objective as a result of these new circumstances. Including in educational institutions, notably secondary schools, and higher education, where the place to foster innovation as a means of assisting the organization's performance in the face of its existential issue[14].

There is a strong offering to be an organization that innovates for educational institutions; this can be observed in the goals of survival, human resource growth capability, and sustainability. As a result, educational teacher is critical in assisting students in locating and potentially emerging as outstanding

secondary school output that meets the expectation or goal of secondary education[15]. Digital teachers are primarily concerned with the use of technology in schools for the purpose of teaching and learning, particularly their role in overseeing ICT instruction, learning, and other ICT-related issues[16].

Additionally, it has been found that digital teacher is particularly vital for teachers to implement and foster innovations attached to ICT [16]. A school teacher is both a teacher of change in enhancing school technology and an expert in technology teacher[2]. School teachers, who are the principals and teachers, are now transforming themselves on what the industrial revolution is pushing with to elevate the current education system in which their technological teacher is pointed out on how it will further enhance the technical proficiency of their teachers. The development of teachers' digital competency and awareness may be aided by teacher awareness. It entails cultivating teacher in schools and higher education institutions to assist teachers in learning and developing their digital capability for use in the classroom to create a digitally friendly learning environment[17]. Digital teacher is defined as the use of instructional technology, such as digital devices, services, and resources, to inspire and lead school-wide digital transformation, establish, and sustain a digital learning culture, and support and enhance technologically based professional development[4]. Provide and maintain digital organizational management. Digital teacher encourages and improves effective digital teaching and learning. The principal's attitude towards technology affects teaching effectiveness and teacher's ability to integrate technology in teaching. Teacher is the most important thing in education. School teachers should take teacher seriously[19]. Furthermore, it has been discovered that digital teacher is very important for teachers to implement and nurture ICT-related innovations[2]. A school teacher is both a change agent for improving school technology and a technology teacher expert[2]. School teachers, such as administrators and instructors, are now reforming themselves in response to the industrial revolution's desire to elevate the current educational system, with their technology teacher emphasized on how it will further boost their teachers' technical competency. The development of teachers' digital

competency and awareness may be aided by teacher awareness. It entails cultivating teacher in schools and higher education institutions to assist teachers in learning and improving their digital capabilities for use in the classroom in order to create a digitally friendly learning environment[8]. Digital teacher is defined as the use of instructional technology, such as digital devices, services, and resources, to inspire and lead school digital transformation, create and sustain a digital learning culture, and support and enhance technologically oriented professional development[12]. Effective digital teaching and learning are encouraged and improved through digital teacher.

In general, literature studies show that evolution in teacher is included in the teacher of education because of rapid development in the field of Advanced Information Technology such as internet email, video conferencing, groupware systems (GSS) in the late 1990s[4]. This evolution also influences the teacher practices of school teachers[20]. This evolution requires school teachers to take proactive steps in applying technology while preparing for technology-related knowledge and information[4]. However, in the context of Malaysian education teachers, literature studies show that many school teachers have low and medium levels of knowledge and skills in technology teacher. Therefore, school teachers need to explore and master new knowledge and skills as well as be aware of the latest technology changes. As technology teachers in schools, principals must first master and be competent with technology[6]. Not only that, but principals also need to master the Knowledge and skills of other digital technologies such as interactive whiteboards (IWBs), documents cameras, chrome books, cloud computing, and 3D content. The landscape of education and learning is rapidly shifting as a result of new technology advancements. Students should be able to use new technologies mostly in ideal learning and teaching environment with the same ease with which they would traditional educational materials, such like pencils or books[6].

The amount spent on instructional technology in K–12 classrooms in the US was projected to reach $4.7 billion in 20156[3]. Schools want educators who can support change management and a culture of digital learning for technology integration as the emphasis and budget placed on technology expand. To help the following generation of learners, there needs to be a bridge built between the culture and teaching methods currently used in schools as well as the digital environment and teaching methods. As they learn how to steer the digital innovations and disperse these techniques into classroom settings, school teachers today are confronted with this knowledge and application gap[6]. A study on principals as digital teachers in school culture was carried out in the United States of America in 2015. The study's results showed that 93% of the principals claimed to be aware of teaching, which suggests that they are aware of the shift toward digital teachers in the modern era. Due to a lack of technological infrastructure and training, almost all participants acknowledged that they have little possibilities to adopt digital instructors, which limits their ability to use technology to enhance student learning and school growth[6]. Teachers play a significant role in the use of educational technology in the classroom.

Therefore, Secondary school teachers must be aware of the potential of new technology, be able to use it proficiently themselves, and be able to foster a school climate that promotes experimentation with novel teaching and learning methods[7]. A study conducted in Taiwanese elementary schools found that technological teachers actively motivate teachers to incorporate technology into their lesson plans and enhance teachers' technological literacy[7]. Additionally, it has been discovered that teachers are more productive in conducting out their everyday tasks thanks to technology[7]. Teachers need to recognize that the impact of technology on students' lives outside of the classroom has changed the way that today's learners are wired. Students are urged to take chances and be creative problem solvers in the real world. The traditional teaching methods used in our schools do not correspond to the active, digital learners' preferred learning methods. While digital learners prefer

instant access to knowledge from various media sources, traditional educators prefer a controlled and gradual flow of information. While digital learners like parallel processing and multitasking, traditional educators favor specific task and linear processing.

Digital learners want to continuously network with others throughout the learning process, in contrast to educators who may encourage students to work separately until they have learned the content[9]. Digital leachers are individuals who define the present and future for others so that people who follow them can see the future through their eyes. Changes in followership, or people's propensity to follow, are causing teacher to grow. Between teachers and followers, technology has leveled the playing field. Teachers used to be the ones who had all of the responses for their fans. However, thanks to the Internet and people's ability to access knowledge, followers can now discover solutions. The self-directed learner is becoming increasingly important as a result of technological advancements. As a result, to be effective in the information age, teachers must work hard to acquire the respect of their followers[5].

As a result, digital teachers can be characterized as setting direction, influencing others, and starting long-term change through information access and building relationships to predict future changes that are critical to school success. Recent advancements such as ubiquitous connectivity, open-source technology, mobile devices, and personalisation are taken into account by digital teachers. It is a significant shift from how schools have been run and structured for more than a century, as what began as personal use of technology has evolved into a systemic approach to all aspects of teacher. It necessitates a dynamic mix of mindsets, actions, and abilities in order to modify and/or improve school culture with the use of technology. The educational sector, as well as the ways in which it is integrated into the teaching and learning process, has undergone a transformation. Constructivism should play a bigger role in technology-assisted learning[3]. Learning is driven by a student's mastery of

a task and his or her effort in accomplishing that task or activity. The level of learning required is determined by the nature of the task[6].

The task should include active, constructive, intentional, authentic, and cooperative activities to engage pupils in meaningful learning. Support learning as an active process of construction rather than acquisition of knowledge, and define instruction as a process of assisting that creation via cooperative genuine activities rather than communication of knowledge[7]. Students are engaged in a deeper level of thinking and reasoning when they use technology to investigate (active and manipulative); explore (articulate or reflective); write and build models (intentional and authentic); build communities and communicate with others (collaborative); design and visualize. While technology might be a poor teacher, it can also be a wonderful tool for thinking[4]. Nigeria's information and communication technology (ICT) projects in the education sector began in 2004. Massive amounts of foreign aid have been invested in this area in order to improve educational standards through the use of information and communication technology. Incorporating ICT into the teaching and learning process is a novel approach that improves personalised education and increases students' enthusiasm for learning. Existing teaching and learning materials can be supplemented with ICT resources. Today, there are numerous websites where instructors and students can receive important knowledge and engage with computers. Electronic libraries and online catalogs are being built with the help of ICT to improve academic research. ICT is a transformative instrument for teaching and learning, and its complete integration into the educational system is essential for students to be prepared for the digital age.

For the past decade, private school systems in Nigeria have been successfully integrating information and communications technologies into their lessons. Few, however, are doing so effectively, as school teacher is a vital aspect in the integration of information communications technologies in the teaching

and learning process. The school teacher must cultivate and communicate their information communication technology vision with their personnel at all levels, since when the teacher is enthusiastic and visionary about ICT, the team follows suit. Unlike government-run schools, private schools are known for providing kids with a challenging, creative, and well-rounded learning environment in which to develop higher-order thinking skills[10]. The quantity of assistance teachers receive from their school administration is a critical determinant in whether or not they successfully integrate technology into their classrooms[11]. Furthermore, the true challenge for teachers is to incorporate information technology into their pedagogy, since they can easily integrate it into the learning process[12]. Some teachers, according to some teachers, use information communication technology extensively to change their classroom procedures, while others just use it to expand their existing educational techniques[9, 11]. If technology is used in the traditional method to deliver instructional lessons and students are the recipients of that information, effective student learning through technology will not occur [10]. It shows that if schools embrace technology as a learning tool for kids to learn with rather than from, the nature of their learning will be more meaningful[10]. Computers, the Internet, and electronic delivery systems such as radios, televisions, and projectors, among others, are all examples of information and communication technology, which is widely used in today's educational area.

The home serves as a complementing venue for regular involvement in a narrower set of computer activities, while school is an important environment in which kids participate in a wide range of computer activities[13]. Information and communication technology (ICT) is increasingly being used successfully in instruction, learning, and evaluation. Information and communication technology (ICT) is often regarded as a potent tool for educational reform and development. Previous research has shown that effective use of information and communication technology can improve educational quality and help students connect their learning to real-world circumstances[10]. Individuals have stated

that learning is a lifetime activity in which learners alter their expectations by pursuing knowledge, which differs from previous methods. They will have to expect and be eager to seek out new sources of knowledge as time passes. For these students, knowledge of how to use information and communication technologies will be a must. Information and communication technology has a tendency to increase educational access.

Learning may take place at any time and in any place, thanks to information and communication technologies. For example, online course materials can be accessed 24 hours a day, seven days a week. Teleconferencing classrooms make it simple and convenient for both students and teachers to interact at the same time. Teaching and learning are no longer solely dependent on printed materials thanks to information communication technology. On the Internet, there are numerous resources available, and knowledge may be gained through video clips, audio noises, and visual presentations, among other things. Based on current research, information communication technology can help transform a teaching environment into a learner-centered environment[1]. Because they are actively engaged in the learning processes, learners in information communication technology classrooms are authorized by the teacher to make decisions, plans, and so on[1]. As a result, information communication technology gives both students and teachers more educational options and opportunities. The advantages of using ICT in education are as follows: create a creative learning environment, promote collaborative learning in a distance-learning environment, support student-centered and self-directed learning, provide more opportunities to develop critical (higher-order) thinking skills, improve teaching and learning quality, to name a few[8]. To keep up with the worldwide community, the Ministry of Education, Science, and Technology implemented education reforms with a focus on ICT[6]. ICT has now been included into the school curriculum from primary school to senior high school. Technology has enabled teachers and students to communicate via the internet for successful teaching and

learning, stimulating intellectual curiosity and providing a sense of delight that will transition them from the passive role of information recipients to the active role of knowledge producers.

Traditional teaching techniques should be done with technology[8]. Teachers should learn not only how to use technology to enhance traditional teaching or increase productivity, but also how to incorporate information communication technology into classroom activities to promote student learning from a student-centered perspective. This means that teachers must be more innovative and productive in their use of information communication technology in order to provide more engaging and rewarding activities and more effective lessons[6]. As a result, it is recommended that teachers keep an open mind when it comes to integrating information communication technology into the classroom.

When teaching using technology, teachers must master new teaching practices in order to adapt to the new instruments. Teachers, on the other hand, are more likely to utilize information communication technology to prepare handouts and assessments than to stimulate critical thinking[9]. Similarly, discovered that teachers mostly employ technology to complement their present teaching methods, rather than to promote student-centered learning[10]. One probable cause, according to some researchers, is a lack of models for how to use technology to aid learning, as well as constraints due to contextual factors such as class size and student ability. Additionally, it was discovered that current teacher preparation does not provide sufficient information communication technology understanding to support technology-based instruction, nor does it effectively illustrate acceptable techniques for incorporating technology into a curriculum[7]. More training for pre-service teachers should be included in their curricula, and ICT skills should be used in the classroom to integrate successful technology tactics[6]. Rather than just giving education theories to help teachers cope with these challenges, it was advised that researchers chronicle examples of how teachers achieve meaningful and effective technology integration to suit their pedagogical aims and needs[6].

A teacher is someone who accepts responsibility for the actions of others. A teacher in an academic institution is someone who directs, guides, and manages the efforts made by students to achieve the organization's stated goals. Teachers are with vision and passion for enhancing quality and learning outcomes are needed in educational institutions. In secondary schools, the sort of teacher management may affect the institution's success or failure. Unfortunately, some school teachers are unaware of how effective digital technological aspects are in achieving educational goals, particularly in this era of pandemic, which exposes the length to which some teachers can operate the internet and how knowledgeable they are in the aspect of using technology to teach. And this is one of the reasons why education appears to have been severely harmed in our country, Nigeria, during the COVID-19 pandemic, in contrast to other industrialized countries such as the United States of America, Germany, and others, where teaching and learning activities have continued unabated. Digitalization is the process of accessing information and transforming business activities in an organization via the use of computer technology and the internet. This discussion of digitization goes beyond the usage of computers in the workplace to the employment of Microsoft applications to increase the product's worth. Especially during the COVID-19 epidemic phase, digital exposure will increase teacher effectiveness and efficiency. Teachers are supposed to create smart goals for their subordinates and provide them with sufficient authority to attain organizational objectives.

Teachers in the industrialized countries such as the United States of America, Germany, China, South Korea, and North Korea, among others, are investing heavily in digitization, which is propelling the countries forward. As a result, there is even more motivation for Nigerian teachers, particularly those in the education sector, to push forward, work hard, and adjust themselves to the digital world. If school teachers could focus on doing the right thing first and right in a timely manner, using the qualities of a good teacher in the digital world such as smart, courageous, think fast, technology wise, humility, and others, educational success in the digital world would be of greater value and success in

Nigeria, especially in Oyo State. Surprisingly, some research has found that leading subordinates through the digital environment necessitates more skills and effort. In current era of digitalization, teacher entails a number of vital attributes, including innovation, creativity, and entrepreneurship, as well as digital abilities for creating a competitive advantage through technology. In this digital era, teachers as comparable traits, such as being innovative, constantly looking to make a difference, and collaborating in a global vision to drive change. Society is changing as a result of easy and immediate access to a wealth of information that is available anywhere at any time[12]. To meet the stated educational objectives, the teachers must have a thorough understanding of the digital world, which will aid them in their teaching and learning activities.

Many teachers find it difficult to continue with their customary routines in Nigeria during the pandemic lockdown (teaching). This is due to the fact that many of them are under-equipped when it comes to utilizing technology in their daily routines. To prevent the rapid spread of the COVID-19 virus in Oyo State, educational institutions were closed for several months. This act has caused some academic institutions to close, lowering student academic performance and instructor morale in the classroom.

A secondary school teacher is someone who has fulfilled the Nigerian Federal Ministry of Education's basic teaching requirement, which is the NCE (National certificate of Examination). According to research, some secondary school teachers still have difficulty carrying out the assignment given to them, such as not teaching effectively, not using teaching aids and instructional material, not using proper teaching methodology that best suits the subject and topic they are teaching, and having little or no knowledge of how to use technology. Students in junior and senior high schools are taught by secondary school teachers. They teach academic courses like English and mathematics, as well as skills like mechanical drawing and woodworking. Any educational institution's greatest asset is its

teachers. It is impossible to overestimate their contribution to educational success. As a result, in order to maximize work performance, these unique assets must be equipped through proper training. They'll also be more prepared to meet the challenges of today's competitive corporate environment. They begin with the basics and gradually increase in complexity in order to stimulate student's imaginations and intellects while also preparing them for advanced school and adult careers. Teachers also assist their colleagues in developing new methods and resources for their classes, as well as organizing extracurricular activities such as sports and social clubs. They collaborate in groups that include school administrators, counselors, and psychologists. Parents, parent groups, community and governmental entities are all involved in their work, which extends beyond the classroom. Junior high school instructors teach students in grades seven through nine, whereas high school teachers teach students in grades ten through twelve. Junior high schools have been replaced in some school systems with middle or intermediate schools, which begin with the fifth grade[13].

A secondary school teacher is supposed to possess the following characteristics: clear objectives, passion, knowledge of what to teach, effective discipline, connection with pupils, consistency, and flexibility, to name a few. In this digital age, incorporating information and communication technology into the classroom is critical for students to learn and apply the necessary 21st century skills. As a result, researching the concerns and challenges surrounding the use of information and communication technology in teaching and learning can help teachers overcome barriers and become successful technology users. In today's world, information and communication technology (ICT) is a critical component of most businesses. In the early 1980s, computers were first employed in classrooms, and numerous researchers believe that information and communication technology will play a major role in education for the next generation[2]. Technology has progressed to the point that it now provides a wide range of options for improving classroom teaching and learning[4]. New technologies, it was argued, offer the potential to maintain instruction across the curriculum and

provide chances for efficient student teacher contact in ways that were before unavailable. In education, information and communication technology has the ability to transform instruction.

However, as he observed, "issues occur when teachers are expected to implement changes in what may well be hostile circumstances," this potential may not be easily achieved"[1]. Identifying the probable difficulties to integrating these technologies in schools would be a significant step in improving the quality of teaching and learning, given the importance of information communication technology in society and in the future of education. Although teachers appear to recognize the importance of information communication technology in the classroom, they continue to face challenges in integrating these tools into their teaching and learning[5]. The second level of education in the educational system is secondary education. Secondary education, it was stated, is the type of education that pupils acquire following primary school and before entering the tertiary stage/level[3]. Secondary education's overall goal is to educate students for higher education as well as for meaningful life in the society in which they live. Senior secondary schools and junior secondary schools are the two levels of secondary education.

Prevocational and academic programs will be offered in the junior secondary schools. It will cover all of the fundamental areas, allowing students to expand their knowledge and skills[12]. This research looks at how digital teacher and secondary school teachers' use of information and communication technology affect work performance in the Covid-19 era in Ibadan. Through information and communication technologies, the globe is advancing toward globalization. The term "information and communication technology" refers to any modern electronic gadget that is employed in a variety of industries. It affects education, industry, medicine, and financial institutions, among other areas of human endeavor. Information and communication technology, according to him, is an umbrella

phrase that encompasses any communication device or application, including radio, television, cellular phones, computer networks, hardware and software, satellite, and so on[10].

In education, information and communication are used to improve teaching and learning. Information and communication technology (ICT) can be interpreted in a variety of ways. Information communication technology is defined as a set of activities that enable the processing, transmission, and display of data using electronic methods. Technology used in information and communication (ICT)is described as the methods people use to share, disseminate, and gather data as well as communicate using computers and computer networks[7]. Information communication technology (ICT) can also be defined as a diverse a collection of products, programs, and services utilized in manufacturing, distributing, and processing, and converting data, such as telecommunications, television and radio broadcasting, hardware and software, computer services, and electronic media. Information and communication technology (ICT) was also viewed as a collection of related technologies defined by their functional use in information access and communication, with the internet serving as one example, Computer-based tools are known as information and communication technologies (ICT). that employees utilize to work with an organization's information and communication processing demands.

Its scope includes computer hardware, software, the network, and other digital devices such as video, audio, and cameras that transfer information (text, sound, and motion, for example) into digital form. Within the school environment, information and communication technology is used for managing and running the school, teaching, and learning, information and communication technology-related skills for enhancing the presentation of classroom work, teaching/learning respective tasks, teaching/learning intellectual, thinking, and problem-solving skills, stimulating creativity and imagination, for teacher and student research, and as a communication tool. The field of education has

been affected by information communication technology, which has undoubtedly affected teaching and research. A great deal of research has proven the benefits of information communication technology in improving quality of education[6]. As a result, developed countries have begun to incorporate information and communication technology into their educational systems. There have been certain advancements In Nigerian secondary schools, there is evidence of some application of information and communication technology in the educational system. They determined that the Nigerian government's adoption of a strategy on computer education in 1988 was the catalyst for the development of the computer instruction in secondary schools. Information and communication technology (ICT) has been included into Nigerian education by the government of Nigeria in accordance with the country's 2004 National Policy on Education[4].

The document specifies that the government will provide basic infrastructure and training at the primary school level in order to achieve this goal. Computer education is a pre-vocational elective in junior secondary school and a vocational choice in senior secondary school. The Federal Ministry of Education created School Net, an information and communication technology-driven programme that aimed to provide computers and communication techniques to all Nigerian schools. 24 high schools in Kaduna, Lagos, Enugu, Kwara, Rivers, and the Federal Capital Territory Abuja received hands-on instruction from MTN in fully functional computer labs with 21 personal computers, VSAT connectivity, and Kaduna, as part of the School Net program. In total, 49,524 students and 2,412 teachers were taught how to use information and communication technology.[4]. The Nigerian Federal Government established a Mobile Internet Unit (MIU), which is run by the Nigerian National Information Technology Development Agency, to provide suitable ICT facilities to secondary schools (NITDA). The MIU is a bus that has been turned into a mobile training and cyber center. It was built locally. It contains 10 workstations inside, all of which are networked and connected to the internet. Printers, photocopiers, and a variety of multimedia equipment are also available at the MIU. Internet

access is offered via VSAT, which is given via a 1.2m dish put on the bus's roof. It also has a small electric generator to maintain a consistent power source[4]. The MIU brings the internet to numerous locations, communities, and secondary schools. They went on to say that because the number of these vehicles is so tiny, most rural schools have yet to benefit from the scheme. The availability, skill, and attitude of instructors regarding the use of new technologies in teaching and learning are all important factors in the successful integration of information communication technology into the school system. Most secondary schools have insufficient or no information communication technology tools to meet the ever-increasing population of students in the schools, according to research, and if they are present, they are essentially out-of-bounds to the pupils. In a study conducted in Ibadan during the researcher teaching practice exercise, it was also discovered that the majority of the schools studied did not have computers and so were not linked to the internet. Those with computers, he added, do not use them for teaching but rather for administrative purposes.

The revolution in information and communication technology has dramatically improved the process of learning and knowledge acquisition while also reshaping the world in unanticipated ways[10]. This has aided the paradigm shift from traditional instructional materials or pedagogical methods to more current, digitally driven teaching and learning methods. Information and communication technology has totally transformed how people access, process, retrieve, and transmit information inside businesses and around the world, and it has had a positive impact on teaching and learning[3]. The application of information and communication technology facilities in teaching entails using them to gather, process, analyze, manage, store, and retrieve information or data that could be used to improve, stimulate, or encourage teaching and learning. As a result, incorporating ICT into the teaching of social studies themes allows for greater flexibility in meeting the diverse learning requirements and skills of students. The use of information and communication technology in the classroom has the potential to pay off in the following ways: Learners have direct access to a larger library of materials.

Provide information in innovative and relevant ways to help students better grasp, integrate, and apply it. The use of information and communication technologies in the classroom motivates and stimulates learning. It improves learning for students with specific needs. Encourage students to experiment with new ideas and take risks. Teachers are encouraged to rethink how they teach and how pupils learn as a result of information and communication technologies. To name a few, the use of information and communication technology sharpens learners' attention and provides opportunities for effective group and individual work[3].

Information and communication technology (ICT) facilities do not enrich or stimulate the teaching process on their own; they must be controlled, and this is dependent on the instructors' competence to use the available and accessible ICT facilities. It was mentioned that in the developing world, understanding of the use of information and communication technology in the classroom is growing to the point where just speaking words in the classroom to impart ideas, skills, and attitudes to educate learners is quickly going away[1]. Many countries throughout the world have used various methods to incorporate Information and Communication Technologies (ICTs) into schools. In order to achieve many objectives and improve the quality of lessons in all subject areas, as well as social studies, teacher training in various subject areas as a discipline involves various methods of approach and operations, and information communication technology integration in schools is required. Information and communication technology is more pervasive in our daily lives, including work, business, education, learning, recreation, and health[10]. Despite the enormous usefulness of Information and communication technology utilization in the teaching process; it is obvious that most teachers in our secondary schools today lack the adequate knowledge on the use of the facilities. Aside from teachers having the necessary skills, most secondary schools' information and communication technology facilities are inadequate, inaccessible, and lacking in support materials and personnel. Though there are numerous advantages to employing information and communication technology in the classroom,

its successful implementation is primarily contingent on the instructors' ability to use the existing information and communication technology facilities in the classroom. The ability of teachers to properly employ information communication technology to enhance their teaching pedagogy determines the effectiveness of instructional delivery. Depending on the situation, various information communication technology capabilities can be employed for teaching. Non-interactive information communication technology, interactive information communication technology, and multimedia information communication technology facilities are all commonly used/employed for teaching in the field under investigation. The use of information and communication technology in education has become one of the most important aspects of the twenty-first century's academic change. The internet has completely transformed how information is shared. The presence of information communication technology has risen enormously in the world's most industrialized nations, touching practically every aspect of the higher education sector. The teacher can swiftly and easily create and edit resources using information communication technology. It provides access to a large range of data in a variety of formats.

1.2 Statement of the Problem

The outbreak of corona virus in the year 2020 which led to lockdown in Nigeria obviously disrupted a lot of governmental, social, religious and educational activities including teaching-learning activities, Oyo State inclusive. From observations and research reports in literature, it was observed by researchers that teacher's work performance plays a critical role in the functioning of education system and that when school teachers are not digitally inclined, it has effect on how the secondary school teachers will carry out their duties in ensuring a smooth run of the educational system thereby having a meaningful result in the teachers' work performance[13,15]. The central roles teacher's play in determining academic outcomes of student's, interpreting the curriculum, carrying out school

principals' directives to achieve stated goals and objectives is indeed crucial. There seems to be issues with teachers' work performance especially teaching tasks performance and the academic job description interpretation. Instructional strategies including use of Information and Communication Technology tools and proficiently with Digital skills and knowledge effective greatly in the present-day work performance of teachers, taking cognizance of the post covid-19 era and its demands. However, about three months after the total lockdown, private secondary schools' teachers started online teaching-learning activities while public secondary schools' teachers only engaged in radio teaching in Oyo State. This implies that public secondary schools in Ibadan metropolis could not integrate technology or virtual learning to rescue the situation. This inability to make use of technology for teaching-learning activities could be due to so many factors such as secondary school teachers not digitally inclined, cost, network issues, lack or insufficient infrastructural facilities, inadequate power supply and so on. Teachers work performance, with some other variables has been documented by researchers[13]. However, only few works have been done in respect of digital teacher, teachers ICT use vis a vis teacher work performance. Considering aforementioned, hence, the need to investigate the influence of digital teacher, ICT use on work performance in the Covid-19 era in Ibadan metropolis.

1.3 Aim and Objectives of the Study

The purpose of this study is to look into the impact of digital teacher, Information communication technology utilization on work performance during in the COVID-19 era in Ibadan metropolis. The objectives are to.

i. identify the level of secondary school teachers' work performance in the COVID-19 era in Ibadan metropolis.

ii. identify the most used platform to teach secondary school students during COVID-19 era (during lockdown and after lockdown) in Ibadan metropolis?

iii. identify the most used device to teach secondary school students during COVID-19 era (during lockdown and after lockdown) in Ibadan metropolis?

iv. ascertain combined influence of digital teacher and ICT use on work performance of secondary school teachers during COVID-19 in Ibadan Metropolis

v. examine relative influence of digital teacher and ICT use on work performance during COVID-19 era in Ibadan Metropolis

1.4 Research Questions

The study aims to investigate how digital teacher, secondary school teachers' ICT utilization and work performance in the COVID-19 era in Ibadan metropolis. In light of the above, the following questions were formulated:

1. What is the level of secondary school teachers' work performance (Creativity, attitude to teaching, and problem-solving ability) in the COVID-19 era in Ibadan metropolis?
2. What is the most used platform to teach during COVID-19 era (during lockdown, after lockdown) in Ibadan metropolis?
3. What is the most used devices to teach during COVID-19 era (during lockdown, after lockdown) in Ibadan metropolis?
4. To what extent is public secondary school teachers digitalized?

1.5 Hypotheses

The following hypotheses are formulated

$H_0$1: There will be no significant combined influence of digital teacher and information communication technology (ICT) use on work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis

$H_0$2: There will be no significant relative influence of digital teacher and information communication technology (ICT) utilization on work performance of secondary school teachers during COVID-19 in Ibadan Metropolis

1.6 Significance of the Study

The goal of this study is to look at digital teacher, secondary school teachers' ICT use, and work performance in the COVID-19 era in the Ibadan metropolis. The data gathered from this project is useful and would help to reveal how digital teacher and secondary school teachers' ICT use affects their work performance in the COVID-19 era in Ibadan. The purpose of this study is to determine whether digital teacher has any impact on secondary school teachers' ICT usage and work performance during the COVID-19 era in the Ibadan metropolis, as well as to achieve a balance in the educational system in accordance with Nigeria's national education policy. Information gathered from this work is pertinent and will go along a way in unveiling the influence of digital teacher on the work performance of secondary school teachers. This research would also look into the impact of digital teacher on secondary school teachers' work performance and use of technology. Therefore, this research work would be published and made available for people to gain access to and also the digital transformation of educational sector will bring about change in the curriculum by the curriculum planners and bring about development which includes the use of advanced technology and computer application programms in the nation’s educational curriculum.

Finally, it would include the use of sophisticated technology by secondary school instructors, which would serve to improve teachers' work performance by utilizing a variety of applications for effective

teaching and learning, as well as the achievement of educational objectives. This study would also provide an insight into the impact of digital teacher on the work performance of secondary school teachers.

1.7 Scope of the Study

The study's scope will be examined in terms of both geographical and content scope. In terms of geography, the study will concentrate on public secondary schools and teachers in the Ibadan city. The variables that make up digital teacher that were investigated upon include; practical Professional development, and learning culture. Teacher Information and communication technology variables that were investigated upon include; use of information and communication technology in teaching-learning and digital content provision, constructs, as well as sub-indicators. Variables for work performance that were also looked into include; creativity, attitude to teaching and problem solving. Ibadan, the capital of Oyo State, is one of Nigeria's most populous cities. With a population of almost three million people, there are hundreds of thousands of schoolchildren. Nine hundred and sixty-nine (969) public secondary schools and fifty-seven (57) private secondary schools, including seven (7) science schools, are now operating. The study's context will be limited to factors that contribute to digital teacher, such as digital resources, digital learning culture, and qualified personnel. This study also focuses on secondary school teachers' ICT usage and work performance during COVID-19 era, using some selected secondary schools (public) in Ibadan metropolis.

1.8 Limitation of the Study

The following limitations were encountered throughout the study: Because people have a bad attitude toward completing out questionnaires, the researcher had difficulty getting teachers' attention to complete it. The difficulties in finding the schools presented themselves to the researcher.

1.9 Operational Definition of Terms

Digital: As used in this study**,** is the use of technology during teaching and learning.

Digital Teacher: This implies the secondary school teachers and to be measured in respect to their practical professional development, level of technology, and learning culture.

Teacher: As used in this study**,** is an individual who is professionally and academically qualified to teach in private and public secondary schools in Ibadan metropolis of Oyo State.

Secondary School: Is an educational institution where the second stage of the three schooling periods, known as secondary education and usually compulsory up to a specified age takes place.

Secondary School Teacher: A secondary school teacher is someone who impact knowledge into the life of a learner at the secondary school level in Ibadan metropolis.

ICT: Information communication technology in this study means devices and platforms used in teaching.

ICT Use: This is the use of technology for the teaching-learning activities to bring about changes and development in achieving the stated educational goals of an institution (Use of ICT in Teaching-learning and digital content provision).

Work: An activity involving the physical efforts done in order to achieve a purpose or result.

Performance: This is the aspiration of secondary school teachers from the secondary school teacher in a school.

Work Performance: Is how well an individual performs a job, role and task in achieving the stated educational objectives.

Teachers' Work Performance: As used in this study, teachers' work performance is the level of enthusiasm a secondary school teacher has towards tasks assigned to him or her in the school (creativity, attitude to teaching and problem solving).

School Location: School location in this study refers to where public secondary schools were been chosen from in Ibadan metropolis.

- **Urban Cities:** These are settlement with a high population density and infrastructure.
- **Semi-Urban Cities:** These are settlement with little infrastructure within the environment and with an average population.

Location: As used in this study, location refers to the geographical distribution of secondary schools in Ibadan metropolis.

Covid-19: This means during lockdown and after lockdown.

Endnotes

1. Mgboro .C.U, Otubo F. A, & Uda H.U: Enhancing Teacher and Creativity using Digital Technology, **Journal of Education and Practice***,* Vol10 (27), 2019, pp16-21

2. Oseni. Oni, Kelly Odaro-Ekhaguebo, & Emmanuel Akpoduado: Assessment of Communication Information and Technology (ICT) Proficiency of Secondary School Teachers. **Journal Pedagogical Research**, Vol2 (1), 2018, Pp46-54

3. Adem Yilmaz: The Effect of Technology Integration in Education on Prospective Teachers' Critical and Creative Thinking, Multidimensional 21st Century Skills and Academic Achievements. *Participatory Educational Research.* Vol8 (2), 2021, pp163-199

4. S.G. Chiemeke: Gender Issue and Information Technology in Nigeria, ***Nigerian Journal of Computer Literacy***, Vol5 (1), 2016, pp 45-64

5. D. Fakeye: Assessment of English Language Teachers' Knowledge and Use of Information Communication Technology (ICT) in Ibadan Southwest Local Government of Oyo State. ***American*** **Eurasian Journal of Scientific Research**, Vol5 (4), 2016, pp270-276

6. I. A Ogunsola & W.A. Aboyade: Information Communication Technology in Nigeria; Revolution or Evolution **.Journal of Social Science** Vol11 (1), 2005, pp11-17

7. M.O. Yusuf: Information and Communication Technologies and Education; Analyzing the Nigerian National Policy for Information Technology, ***International Educational Journal,*** Vol6 (3), 2015, pp 316-321

8. Ezenma Chimezie Bernard: Status of Information and Communication Technology (ICT) Training and Support for Science and Technology Teacher Educators in Colleges of Education in Southwest, Nigeria**. International Journal of Trend in Scientific Research and Development (IJTSRD),** Vol3 (3), 2019, pp939-946

9. C.H. Okwudishu: *Awareness and Use of Information Communication Technology among Village Secondary School Teachers' in Aniocha South Local Government Area of Delta State, Abraka Delta State University*, Unpublished B.Sc(LIS) project, (2017), pp18-26

10. T. Oyejola: *The extent of Utilization of Computer in the Teaching and Learning of English Language in Selected Private Secondary Schools in Ibadan*, Unpublished (M.Ed) project, (2018), pp12-17

11. R.J. House & R.N. Aditya: The Social Scientific Study of Teacher, **Journal of Management,** Vol 23 (3), (2016), pp73-85

12. A. Tella & D.A. Adeyinka: An Assessment of Secondary School Teachers Use of ICT'S; Implications for Further Development of ICT'S Use in Nigerian Secondary Schools, **The Turkish Online Journal of Educational Technology,** Vol6 (3), 2019, pp 45-60

13. F.R. Olakulehin: Information Communication Technology in Teachers Training and Professional Development in Nigeria, **Turkish Journal of Distance Educatio*n***, Vol8 (1), 2019, pp133-142

14. L.A. Ogunsola: Information and Communication Technology and the Effects of Globalization: Twenty –First Century "Digital Slavery" for Developing Countries-Myth or Reality? **Electronic Journal of Academic and Special Librarianship***,* Vol6 (1-2), 2015, pp1-10

15. M.J. Cox, C.S. Preston & K.Cox K: What Motivates Teachers to Use ICT?, paper presented at the British Education Reference Association Conference, Brighton, September, 2018, pp 34-37

16. O. Afolakemi: Lecture delivered on Advanced Teacher in Formal Organization, 23rd, April 2021 (Unpublished)

Chapter Two

Literature Review

This chapter shall be discussed under the following sub-headings

2.1 Conceptual Review

2.1.1 Information Communication Technology

2.1.2 Information Communication Technology use

2.1.3 Teacher

2.1.4 Digital Teacher

2.1.5 Work Performance

2.1.6 Teacher Work Performance

2.1.7 Secondary School Teacher

2.2 Theoretical Framework

2.2.1 The Unified Theory of Acceptance and Use of Technology

2.2.2 System Theory

2.2.3 Complexity teacher Theory

2.3 Review of Empirical Studies

2.3.1 Teachers' use of Technology and the Impact of Covid-19

2.3.2 Principals Digital Teacher Roles and Technology Capabilities and Work performance during Covid-19 Pandemic

2.3.3 e-Teacher, Information and Communication Technology Utilization and Work Performance during Covid-19

2.3.4 Digital Teacher and Communication Styles on Secondary School Teachers Work Performance in Nigeria

2.3.5 Resilience, Reorientation, Renovation and Scholl Teacher during the Early Months of the Covid-19 Pandemic

2.3.6 Digital Teacher Skills and Digital Collaboration and Teachers Work Performance

2.3.7 Information and Communication Technology and Teachers Work Performance during Covid-19 Pandemic

2.3.8 Digital Teacher and Teachers Technology Integration during the Covid-19 Pandemic

2.3.9 Information and Communication Technology Tools and Teachers' Work Performance

2.3.10 Principals' Digital Teacher and Teachers' Digital Teaching during the Covid-19 Pandemic

2.4 Conceptual Framework

2.5 Summary of Reviewed Literature

2.1 Conceptual Review

2.1.1 Information and Communication Technology

According to the International Federation of ICT, information and communications technology (ICT) is an extension of information technology (IT) that emphasizes the role of unified communications and the integration of telecommunications (telephone lines and wireless signals) and computers, as well as necessary enterprise software, storage, and audiovisual that allows users to access, store, transmit, understand, and manipulate information.[1].

ICT also refers to the integration of computer networks, telephone networks, and video and audio networks via a single cabling or link system. Combining the telephone and computer networks into a single unified cabling, signal delivery, and management system has considerable budgetary benefits. Any communication device, such as a radio, television, mobile phone, satellite system, computer and

network hardware, etc., as well as the different services and devices that go along with them, such video conferencing and distance learning, are included under the broad term "ICT"[2].

ICT is a broad subject with ever-evolving ideas. Any product that saves, obtains, manipulates, or transmits data is subject to this rule. Information and communications technology (ICT), according to the International Federation of ICT, is an extensional name for information technology (IT) that highlights the importance of unified communications and the integration of telecoms (telephone lines and wireless signals) and computers, as well as the essential enterprise software, middleware, storage, and audiovisual that allows users to access, save, transmit, understand, and alter information[3]. The philosopher Piyush Mathur identified theoretical differences between interpersonal-communication technologies and mass-communication technologies, and the Skills Framework for the Information Age is one of many models for describing and managing competencies for ICT professionals in the twenty-first century[4].

Nigeria, like other developing countries, is still in the early phases of integrating information and communication technology (ICT) into the teaching and learning process. There are several elements impacting the use of ICT to make teaching and learning successful in Nigerian schools, despite the fact that it is constrained by several constraints. Information and communication technology (ICT) is an electronic way of obtaining, processing, storing, and transferring data. Because it allows teachers and students to operate, store, manipulate, and retrieve information; encourages independent and active learning and self-responsibility for learning, such as distance learning; motivates teachers and students to continue learning outside of school hours; plans and prepares lessons and design materials, such as course content delivery; and facilitates sharing. This adaptable tool may not only engage students in instructional activities to improve their learning, but it can also assist them in solving complex issues to improve their cognitive skills5. According to one academic, information communication technology (ICT) is a technological tool that is used to communicate in order to create,

manage, and disseminate information. Computers, the internet, telephones, television, radios, and audio-visual equipment are all included in a broad definition of ICTs, according to the definition. She goes on to say that information and communication technology (ICT) refers to any device or application that is used to access, manage, integrate, assess, produce, and convey information and knowledge. This definition of services and applications for communication and information processing functions linked with these devices includes digital technologies. In general, three goals may be identified for the use of ICT in education[6].

The use of ICT as a study object; this refers to students learning about ICT in order to use it in their daily lives. (ii) The use of information and communication technologies to a discipline or profession; refers to the development of ICT skills for professional or vocational objectives. (iii) The use of information and communication technology (ICT) as a teaching and learning tool[6].

Teachers are, without a doubt, at the heart of curriculum change, and they have complete authority over the teaching and learning process. As a result, they must be able to prepare young people for a society where the ability to obtain and analyze information through ICT is critical. Several studies claim that incorporating new technologies into the classroom is critical for pupils to understand how to function in the information age. Traditional educational environments, it has been suggested, do not appear to be suited for educating learners to operate or be productive in today's businesses[6]. The argument goes on to say that organizations who do not incorporate new technologies into their institutions cannot properly claim to be preparing students for life in the twenty-first century. Another scholarly paper backed up this claim, stating that "by imparting ICT skills in educational institutions, students are equipped to meet future advances based on right comprehension"[7].

Initially, information and communication technology (ICT) was used to improve the efficiency of the educational process. Furthermore, it has been demonstrated that the use of ICT in education can aid memory retention, motivation, and overall comprehension[8]. Role playing, group problem-solving

activities, and articulated projects are all examples of how ICT may be utilized to foster collaborative learning. Individuals can form rich networks of contacts and relationships thanks to ICT. According to some authors, technology has the potential to alter how students learn and academics educate[9]. However, despite all of the positives, the success of ICT requires further research, particularly in poor nations like Nigeria, where a number of obstacles still work against its usage. ICT refers to all communication technologies, such as the internet, wireless networks, cell phones, computers, software, middleware, videoconferencing, social networking, and other media applications and services, that allow users to access, retrieve, store, transmit, and manipulate information in a digital form. ICTs also refer to the integration of media technologies like audio-visual and telephone networks with computer networks via a unified cabling (including signal distribution and management) or link system. However, because the concepts, methods, and technologies involved in ICT are constantly growing on an almost daily basis, there is no commonly accepted definition of ICT. The IEEE Computer Society, for example, has embraced the Skills Framework for the Information Age to define professional skill levels for its ICT professional education products (SFIA). In the agricultural and associated industries, the usefulness of ICT solutions as a method of bridging the digital gap and as a potent tool for economic and social growth around the world should not be ignored. Improving farmers' access to ICT services will significantly increase the transmission of global open data for agriculture and nutrition, allowing for the creation of practical solutions to food security, nutrition, and sustainable agriculture challenges.

There have already been "a variety of types of innovations taking place in the agriculture sector, including commodity and stock market price information and analysis, meteorological data collection, advisory services to farmers for agricultural extension, early warning systems for disaster prevention and control, financial services, agricultural product traceability, agricultural statistical data gathering, and so on," thanks to ICTs. (Information and communication technologies for agriculture's long-term

viability)[10]. There is evidence that ICT must be thoroughly integrated into the pedagogy in order to be effective in education. In particular, when teaching reading and numeracy, combining ICT with Writing to Learn yields greater results than either traditional techniques or ICT alone[11]. UNESCO, the United Nations Educational, Scientific, and Cultural Organization, has made incorporating ICT into education a priority in its efforts to provide equity and access to education. The following is a quote from a UNESCO publication on educational ICT that describes the organization's stance on the effort.

ICT can help with universal access to education, educational equity, the delivery of high-quality learning and instruction, teacher professional development, and more efficient education management, governance, and administration. In order to promote ICT in education, UNESCO uses a holistic and complete strategy. Among the key concerns they can solve are access, inclusiveness, and quality. Through the collaboration of three of the Organization's sectors, the Intersectoral Platform for ICT in Education focuses on these issues: Education, Science, and Communication & Information[28]. Despite the ability of computers to improve and reform teaching and learning practices, poor implementation is a widespread problem that is beyond the reach of increased funding and technological advances, with little evidence that teachers and tutors are properly integrating ICT into daily learning. Intrinsic hurdles, such as a belief in more traditional teaching approaches and individual attitudes about computers in education, as well as the instructors' own comfort with computers and ability to utilize them all, all contribute to various levels of success in integrating ICT into the classroom. The advent of information and communication technology (ICT) is one of the wonderful blessings of modern science and technology, and it has ushered in significant advances in library and information science. The use of information and communication technology (ICT) in library and information work has transformed the classic library notion from a "storehouse of books to an intellectual information hub," implying the concept of an electronic library. It has ushered in a new era of library communication, allowing for global access to information despite geographical barriers.

ICT is being increasingly used in library and information services for acquisition, processing, and dissemination of information. Libraries have been using ICT based services to satisfy the diverse information needs of the users. The use of ICT has become increasingly important in special libraries as it is switching over to ICT based resources and services at an accelerated pace. The use of computers for library operation avoids respectively jobs and saves a considerable amount of time, resources and labor. It also improves the efficiency of technical processing and information services. Because of its most defining aspects of a drastic decrease in cost, size, and tremendous rise in processing speed, storage, and communication capabilities, the impact of ICT is massive and worldwide in its extent, pervasiveness, and utility[18]. ICT has a significant impact on human civilization's progress and development. Computer programs, databases, communication networks, analysis and design methods, programming languages, artificial intelligence, and knowledge bases are just a few of the technologies utilized in ICT. ICT has long had an impact on practically every aspect of human activity. In the mid-1980s, the term "information and communication technology" (ICT) was coined to describe "all kinds of electronic systems used for broadcasting telecommunications and mediated communications," with examples including personal computers, video games, cell phones, the internet, electronic payment systems, and computer software, among others[15]. Computer and communication technology make up ICT. Computer technology aids in the storage and processing of digital data, while communication technology aids in the transfer and dissemination of digital data.

ICT also refers to a wide range of technology applications used in the information processing and transmission process. The acronym ICT stands for "information, communication, and technology." Knowledge is defined as information, and technology is defined as the use of computers and communication. "The integration of computing, networking, and information processing technologies and their applications" is how ICT is defined. As a result, ICT refers to a combination of computer applications and communication technology used to gather, process, store, and disseminate data[16].

Information Communication Technology (ICT) is a broad word that refers to the technologies that are used to gather, store, edit, and communicate data in a variety of formats. ICT refers to the use of computer-based technology and the Internet to provide information and communication services to a diverse group of people. ICT refers to hardware and software that enable society to create, gather, consolidate, and communicate data in a multimedia manner for a variety of reasons. Radio, TV, cellular phones, computers and networks, hardware and software, satellite systems, and other communication devices and applications are included in the term ICT, as are the different services and applications associated with them. ICT is playing a vital role in the current and future development of society and nation. ICT has impacted every aspect of life, including the library. ICT refers to a wide range of technological tools and resources that are used to communicate as well as create, disseminate, store, and manage information. ICTs (information and communication technologies) are frequently linked with the most advanced and expensive computer-based technologies. Information and communication technologies (ICTs) are a diverse range of items, applications, and services that are used to produce, store, process, disseminate, and exchange data. ICT stands for "Information and Communication Technology," which refers to a wide range of technological devices and resources that are used to communicate. They utilize it to create, distribute, gather, and administrate data. "The use of manmade tools for the collection, generation, communication, recording, re-management, and exploitation of information" is defined as "the use of manmade tools for the collection, generation, communication, recording, re-management, and exploitation of information[19]. It encompasses any applications and commodities that transfer, record, edit, store, alter, or broadcast information." ICT is a tool that has altered many parts of our lives. Computer hardware, software, telecommunication technologies, projection devices, Local Area Network (LAN), Wide Area Network (WAN), digital cameras, Compact Disks (CDs), Digital Video Disks (DVDs), cell phones, satellites, and fiber optics are all examples of information and

communication technology. Digital Technologies is a broad term that encompasses a variety of technologies. It is a system that combines two or more technologies[18].

The convergence of electronics, computing, and telecommunications is known as information and communication technology (ICT). It has ushered in a tidal wave of technological innovation in the gathering, storing, processing, transmission, and presentation of data that has not only transformed the information technology sector into a highly dynamic and expanding field of activity creating new markets and generating new investment, income, and jobs but has also provided other sectors with more rapid and efficient mechanisms for responding to shifts in demand patterns and changes in interconnectedness. In schools, ICT is being used to transform teaching, learning, and administration processes. Information and communication technology (ICT) now has a considerably broader scope, embracing practically every type of organization. Manufacturers, retailers, banks, and publishers, as well as research enterprises, medical institutions, law enforcement agencies, government agencies, and libraries, all rely on ICT workers to conduct their everyday operations. Managing a network of computers, creating original web pages, producing digital videos, designing computer systems as a consultant, selling products on the Internet, 3-D artwork, administering a company's database, coding software, providing technical support, managing projects and budgets, and writing technical documentation are all definitions that 20 dictionaries agree on.

Information and Communication Technology (ICT) is a term that refers to a mix of the two[21]. Information technology is the study and application of electronic equipment, particularly computers, for the storage of data. The process of sending, receiving, and exchanging information through network systems using IT and CT is known as communication technology. Without any boundaries, any information can be transferred from anywhere and at any time. This data interchange is made possible through a local area network (LAN), which can be expanded and connected to other networks around the world. ICT is a broad phrase that refers to a variety of activities and technologies

involving the use of computers and communications[1]. ICT stands for "Information Communication Technology," and it is the outcome of the technological convergence of formerly separate technologies such as computer technology, communication technology, information processing technology, and publishing technology, among others[2]. ICT is a scientific, technological, and engineering discipline, as well as management strategies, for dealing with information and its application, as well as its connection to social, economic, and cultural issues[3].

The application of computers and other technologies to the acquisition, organization, storage, retrieval, and transmission of information is known as information and communication technology (ICT). Information and communication technology, on the other hand, refers to the use of electronic equipment such as computers, telephones, the internet, and satellite systems to store, retrieve, and transmit data, text, images, and other types of information. Information and communication technology (ICT) is defined as the use of computers and other technologies to acquire, organize, store, retrieve, and transmit data.[4].

Computers process and store data, whereas telecommunication technology provides information communication technologies that allow users to access databases and connect them to other computer networks in other locations. Communication and Information Technology is divided into three parts: the technology itself, the information that it assists in delivering, and the communication process that technology facilitates and serves as a vehicle for the information[4]. In general, information and communication technology (ICT) can be defined as "the use and applications of computers, telecommunications, and microelectronics in the acquisition, storage, retrieval, transport, and broadcast of information." Effectiveness, efficiency, and creativity are only a few of the features of ICT. In a very short time, information and communication technology (ICT) has become one of the fundamental building elements of modern society. Understanding and mastering basic ICT skills and

ideas is now considered part of the core of education in many nations, alongside reading, writing, and arithmetic[20].

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) aspires to ensure that all countries, developed and developing, have access to the greatest educational facilities needed to equip young people to participate fully in modern society and contribute to a knowledge nation. Because ICT is so important in today's schools, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) has issued publications in this subject in the past as a practical way of assisting Member States: for example, Informatics for Secondary Education. Within the restrictions of available funds, all governments strive to offer the most complete education for their population. Because of the importance of information and communication technology in modern cultures, its implementation in secondary schools will be high on any political agenda. This book presents a practical and realistic approach to curriculum and teacher development that may be implemented quickly and at a low cost, based on available resources.

Communication and Information in its most basic form, technology can be defined as an electronic medium for creating, storing, altering, receiving, and delivering data from one location to another. It facilitates communication delivery by making it more convenient, accessible, understandable, and interpretable. Cell phones, the Internet, wireless networks, computers, radios, televisions, satellites, and base stations are among the devices used[24]. Information is created, stored, communicated, transmitted, and managed using these resources. Information and Communication Technology (ICT) is a broad field with many applications. It covers a wide range of topics related to communication technology and how it affects other areas of human activity. It is the most rapidly increasing academic discipline and a sustainable source of income. It is the unification of telephone and computer networking over a single cabling system that allows for easy data storage, modification, management, and retrieval. Database management, computer programming, and software development are all topics

covered. To name a few, web design, mobile app development, project management, security, networking analysis, media equipment, computer engineering, computer studies, the internet, intranet, internet protocol (IP), system software, application software, signal technology, and base station management[24]. Because of the growing proliferation of the Internet, convergence in IT and telecommunications technologies, and increasing globalization, the role of Information and Communications Technology (ICT) in human development has received increasing attention among development practitioners, policymakers, government, and civil society in recent years. ICTs have clearly had an impact on teaching, learning, and research in the field of education15. When considering the broad adoption and usage of ICT in modern countries, particularly among the young, the so-called digital generation, it is apparent that ICT will have an impact on the entire learning process today and in the future[25].

While ICTs in general, as well as the Internet and the World Wide Web, have made life easier by allowing for easy communication and access to information from anywhere on the planet, in today's society, technology is widely employed in practically all aspects of life, and as a result, the percentage of people who own a computer and use the internet is constantly increasing each year. The Internet has had a profound impact on society and the world at large. The retrieval of information on the Internet is relatively quick and available 24 hours a day, seven days a week. The worldwide system, which can be accessed and used on a very personal level, offers us with a one-of-a-kind platform for interaction—one that is changing the way we communicate. The Internet has evolved from a network of networks to a medium of media, or Meta medium. It's a communication system that acts as a platform for earlier forms of media such as telephony, print, and broadcasting. But it also allows us to work on both sides of the traditional media spectrum. We may now send and receive live audio or video streams, allowing us to have a television and a radio station on our desktop at the same time. You may quickly and easily switch between sending email, listening to streaming audio, and

broadcasting a video feed without leaving your computer once you've installed the necessary software components[25].

The Internet has evolved into a worldwide information resource that can be accessed at any time by anyone from anywhere in the globe. It has effectively transformed the entire globe into a global information society. It has greatly increased scientific research community communication and interaction, as well as provided them with access to a broad array of current information. It's a great complement to the usual method of getting information. It allows for electronic communication, collaboration, and exchange of ideas among researchers all over the world. The Internet is a vast, computer-linked network system that is used to access and transmit information by personal and business computer users throughout the world; it is also used for communication, research, entertainment, education, and business activities. Today, the Internet can connect all internet computers, allowing them to communicate with one another[23].

The term "Internet" comes from the phrase "Internet Connection Network," which uses a standard protocol to connect computers all over the world[23]. The unique characteristics of the Internet, such as speed, accessibility, intensity, and stimulation of its material, are thought to play a role in Internet addiction[23]. Interactivity, ease, availability, and rich and up-to-date information were all mentioned as the most valued Internet attributes[18]. In fact, the Internet's appeal has grown as a result of its accessibility, affordability, and availability.

The development of more user-friendly interfaces allows people to obtain information more easily and comfortably. The internet is one of the most significant recent developments in the field of information technology, and it has shown to be a valuable tool in the process of transforming the globe into a global village. In recent years, internet use has grown in popularity in a variety of fields, including education. It is a common truth that internet use has a significant impact on schooling. The Internet is a relatively new route for scholarly resources, and it contains large amounts of data that

differ greatly in terms of content, goal, intended audience, and reliability, among other things. As a result, it's critical that the end-user is aware of the various types of information available on the Internet and is well-versed in the criteria for evaluating information content[16]. Online services, specialized electronic networks, Webpages, E-mail, software, and worldwide information resources have all been brought to our homes and to education as a result of the phenomenal expansion in telecommunications. The Internet provides a platform for millions of people to participate in the development and dissemination of information. Many educators and policymakers feel that technology may be a catalyst for educational reform, and that using it in the classroom will change the roles of teachers and students[16]. Teachers will take on more of a facilitator role, assisting students in gaining access to material, processing it, and communicating what they have learned16. However, not all teachers who use technology in the classroom use it to its full potential[16]. Many classroom teachers are unfamiliar with the issue of pedagogical efficiency in the use of new information technologies (including the Internet) in education. Unlike the obvious and quantitatively beneficial successes in increasing educational accessibility, the specific good influence of the environment intermediate on teaching quality is less obvious. Furthermore, according to some academics, examinations of unconventional media utilized in education throughout the last 50 years (from radio and TV broadcasting to the internet) have not indicated any significant special effect on the teaching process for the given type of environment[19]. This concept was based on the assumption that new approaches of designing for teaching using new information technologies could help increase education quality, but not as a means of delivering instructional materials[19].

Academics have a number of options thanks to the Internet. It is a method of disseminating information and a medium for collaborative engagement between people and their computers that is not limited by geography[2]. Scholars' research productivity is aided by the usage of information technology. Every person wants to learn more about himself or herself through the use of information

technology and the events that occur on the Internet for the sake of education, awareness, amusement, and, most importantly, social interaction with strangers. Except in dreams, reality and imagination have competed for our attention more on the internet[10]. The Internet can be used for a multitude of applications in addition to email. On the Internet, one can listen to international research and education radio stations, read national daily from other countries, communicate with friends all over the world, and study books and other materials. On the Internet, there is a huge list of things that can be done. More information is available on the Internet than in the world's largest libraries[15]. The constructivist viewpoint emphasizes that technology should support the contents and methods of instruction. Internet applications allow you to apply and experience these capacities[24]. Simultaneously, the same technology can be utilized for a variety of educational activities, including teaching and learning[25]. E-mail communication is distinguished by its minimal resource consumption, which includes low teaching expenses, required equipment, and data channel, and it is frequently used in the educational process (especially in case of the territorially distributed teaching staff)[21]. Many scholars emphasize that, in addition to its direct educational purposes, the internet serves as a medium that regenerates epistolary culture, so contributing to the development of communication and writing abilities[20].

Students can communicate with their peers and teachers via the internet, which would otherwise be difficult due to their hectic schedules[20]. The lonely academic, who can grow isolated as a result of increased specialization or more mundane causes such as a lack of social or language skills, is a character to whom e-mail offers some intriguing possibilities. " Web applications enable teachers to conduct education in a manner and using technologies that are an intrinsic part of the contemporary generation of students' lives[20]. Different ways teachers use technology in instruction are described in the research on technology and teachers. The Internet has had a significant and dramatic impact on current educational practice[10]. As a result, one of the key goals of this study is to look into the usage

of the internet by secondary school teachers during Covid-19, including E-mail, preparing regular class lectures, chatting, and other re-creational activities.

2.1.2 Information Communication Technology use

In this digital age, using ICT in the classroom is critical for students to learn and apply the necessary 21st century skills. The introduction of new technologies into our daily lives has allowed for a significant expansion in the usage of ICT in education in recent years. ICTs have become increasingly important in modern society, with a diverse range of applications in industries as diverse as entertainment, administration, robotics, education, and all types of businesses. Because ICT is so widely used in society, classrooms should not be any different, and they must guarantee that they take full advantage of the benefits they may provide. Students and teachers, on the other hand, must be taught how to utilize them mindfully and securely[21]. Data storage in the cloud, digital whiteboards and interactive tables, blogs and social networks are among the most commonly used technology in the classroom. Online assessments, such as thousands of exam questions, detailed student progress, standardization of assessments, or the establishment of workflows, are added to e-learning platforms like Pedagoo[22].

It has been established that using ICT in the classroom enhances student motivation, causing them to become more interested and involved in the subjects they are studying[20]. ICT enables the use of innovative educational resources and the renewal of learning methods, allowing students to collaborate more actively and simultaneously acquire technological knowledge[22].

Furthermore, ICTs are quite beneficial in the development of discernment. Some of the most significant abilities that students learn thanks to the use of ICT include the ability to search for and contrast diverse sources, as well as the ability to arrange information, to name a few[23]. Computers began to be utilized in classrooms in the early 1980s, and some researchers think that ICT will be a significant aspect of education for the next generation[9]. Many means of boosting classroom teaching

and learning are available with today's technology. New technologies, it was argued, offer the ability to maintain instruction across the curriculum and provide opportunities for efficient student teacher collaboration in ways that were not before possible[11]. The use of ICT in education has the potential to transform education. To communicate, generate, transfer, save, and manage information, schools use a number of ICT tools. In some cases, ICT has become an integral part of the teaching-learning interaction, as evidenced by strategies such as replacing chalkboards with interactive digital whiteboards, using students' own smartphones or other devices for learning during class time, and the "flipped classroom" model, in which students watch lectures on a computer at home and use class time for more interactive exercises[20].

When teachers are digitally inclined and trained to use ICT, these approaches can lead to higher order thinking skills, provide creative and individualized options for students to express their understandings, and leave students better prepared to deal with ongoing technological change in society and the workplace. Teachers need specific professional development opportunities to improve their ability to use ICT for formative learning evaluations, personalized instruction, accessing online resources, and improving student interaction and collaboration[15]. This type of ICT training should not only improve instructors' attitudes about ICT in the classroom in general, but it should also provide specific instruction on ICT teaching and learning in each discipline. Teachers who do not have this support are more likely to employ ICT for skill-based applications, which limits student academic thinking. Students have various learning styles: ICT can provide a variety of possibilities for absorbing and processing information, expressing learning, and making sense of concepts. ICT can assist these children 'feel' the knowledge rather than merely reading and hearing it, as over 87 percent of students learn better through visual and tactile modalities[13]. Mobile devices can also provide extra support to students with special needs through programs ("apps") that include features like simplified screens and instructions, consistent placement of menus and control features, graphics combined with

text, audio feedback, the ability to set pace and level of difficulty, appropriate and unambiguous feedback, and easy error correction[14]. Students can use ICT to track and control their own progress, think critically and creatively, solve simulated real-world problems, collaborate, make ethical decisions, and take a global view of issues and ideas[19].

It also enables remote students access to experienced professors and learning tools, as well as giving administrators and policymakers the data and expertise they need to work more efficiently. ICT has developed to the point that it is now an intrinsic part of the educational system. Educational institutions in Australia, India, Finland, the United Kingdom, the United States, South Korea, Nigeria, and other nations are heavily relying on ICT curriculum and development to bridge communication and technology gaps. ICT's goal is to bridge the gap between parents, educators, and kids by encouraging practical, cooperative, and transparent communication methods[25].

At this time, information and communication technology (ICT) have an impact on every element of human existence. They have important responsibilities in the workplace, in business, in education, and in entertainment. In addition, many individuals see ICTs as catalysts for change, including changes in working circumstances, information management and exchange, instructional methods, learning methodologies, scientific research, and access to information communication technology[19]. In this digital age, using ICT in the classroom is critical for students to learn and apply the necessary 21st century skills. ICT enhances teaching and learning, and it is critical for instructors to fulfill their role as pedagogical environment designers. ICT enables a teacher to communicate his or her instruction in an appealing and easy-to-understand manner for students at all levels of schooling. Teaching training programs in India are becoming more practical and appealing as the word "information and communication technology" is used. ICTs, such as the internet and interactive multimedia, are clearly a key emphasis for future education and must be successfully integrated into formal teaching and learning, particularly in a teacher education institution. With the help of various

technologies incorporated in it, ICT aids in keeping up with the current advances. WWW stands for World Wide Web, which is one of the Internet's most essential and extensively used services (along with IRC and e-mail, among others). Its popularity has skyrocketed simply because it's so simple to incorporate colorful and rich information. "A web is a collection of linked documents maintained on a computer site or website"[21].

The employment of such technologies in teaching training programs will effectively improve the quality of instruction. To address the need of today's teachers who wish to learn how to use ICT effectively in their teaching, a well-designed teacher training program is required. It is therefore critical for teacher educators and policymakers to comprehend the factors influencing the effectiveness and cost-effectiveness of various approaches to ICT use in teacher education, so that appropriate training strategies can be explored to make such changes feasible for all. So, if the institute of conducting teaching training programs uses ICT in their teaching training programs, our teaching learning process will be much smoother and easier to understand for all types of students in our country[19].

Furthermore, ICT delivers tailored training courses, assists teachers in overcoming isolation, connects individual teachers to a wider teaching community on a constant basis, and promotes teacher to teacher communication. In traditional learning, ICT plays a significant role[20]. ICT can be used to supplement traditional topic teaching by providing teaching materials or delivering lectures and classes utilizing multimedia presentations. Many ICT in education initiatives focus on teaching students and teachers' fundamental IT skills, such as how to use word processors, create spreadsheets, and respond to emails. As several developing countries integrate ICTs into their wider economic activities, these abilities are critical for individuals to access opportunities in both work and further education. However, focusing solely on delivering these basic IT skills or improving existing teaching

falls short of realizing ICTs' transformative potential in moving education away from teacher-centered lecture-based instruction and toward student-centered interactive learning. ICT has the potential to shift education away from lecture-based instruction and toward student-centered, interactive learning environments[22]. In a variety of ways, technology has the potential to alter education and the connection between students and teachers. ICT can be utilized to help individuals acquire knowledge through the internet or other multimedia resources by putting students at the center. Collaboration and peer support are enhanced by creating presentations together. Individuals can overcome problems by developing and adopting their own learning approach. The use of multimedia and interactive ICT to teach material and subjects has also been shown to keep students engaged and attentive for extended periods of time. ICT can also open up a lot of possibilities for reversing the teacher-student relationship. Peer tutoring and reciprocal mentorship can help students become teachers, boosting self-esteem, motivation, and student involvement [22].

Teachers must be encouraged to use such tactics and not be embarrassed to teach young students or fear that they would 'lose control' of their classrooms. These potential advantages are especially relevant in poor countries, where schools and instructors frequently lack resources and must deal with enormous class numbers. Although the potential is great, such instructional incorporation of ICT is uncommon24. Understanding the present levels of technical and training assistance supplied to teachers, as well as the degree and types of help required, is critical to achieving this shift. Learning how to use operating systems, word processors, and spreadsheets will complement current classroom instruction.[17]. While basic ICT knowledge and abilities are an important beginning step for both instructors and students, success will be restricted unless teachers receive additional training and assistance to integrate ICT in ways that improve their teaching methods. To accomplish this, teachers must get specialized training that aims to introduce them to the various ways in which ICT might be utilized to improve education in the manner mentioned. Information and communication technology

(ICT) has become an integrated and fundamental part of modern life, and its rapid evolution is altering how work and learning are carried out and organized. Digital technology is also significant in schools, and thus in the working days of teachers. ICT is used by teachers to make the teaching and learning process easier and more entertaining.

A professional teacher uses a variety of skills and approaches to deliver effective instruction. As a result, knowledge of ICT and Science & Technology was necessary for the growth and enhancement of teacher skills and competences. Education in modern science and technological societies requires teachers to have a greater understanding of ICT and the ability to use it in the teaching and learning process22. Knowledge of ICT is also necessary for pre-service teachers during their training program, because this integrated technological knowledge allows a potential teacher to gain a greater understanding of the world of technology and how it might be implemented in the future for the benefit of students. Now-a-days ICTs are giving schools and classrooms a new look by introducing new curriculum focused on real-world problems and projects, providing learning tools, and providing teachers and students with more facilities and opportunities for feedback. ICT also facilitates collaboration between teachers, students, and parents. Continuous and Comprehensive Evaluation (CCE) encourages students and teachers to employ more technology in order to make teaching and learning more appealing to our future generations. Without sufficient ICT expertise, a teacher will be unable to perform in his or her classroom, and it will not be considered complete[24]. The typical classroom is being transformed into a two-way communication environment. Teachers and students now take part in classroom discussions. Education nowadays is centered on the child. As a result, the teacher should be prepared to deal with various forms of technology in order to use them in the classroom to make teaching and learning more engaging. Technology becomes the right medium for implementing specific student-centric techniques such as project-based learning, which puts students in the role of active research. ICT has enabled better and faster communication, as well as more

effective and relevant presentation of ideas. It is an effective instrument for gathering knowledge; as a result, students are encouraged to seek information from a variety of sources, and they are now better informed than they were previously.

As a result, information and communication technology (ICT) is critical for making teaching and learning more engaging. The term "information and communication technology" (ICT) can be interpreted in a variety of ways. ICT, according to a scholar, is a group of activities that facilitate the processing, transmission, and display of information through electronic means[24]. It was also stated that information and communication technology (ICT) is a technique that individuals use to share, disseminate, and gather information as well as converse via computers and computer networks[24]. ICT is defined as a diverse group of items, applications, and services used for producing, distributing, processing, and transforming information, such as telecommunications, television and radio broadcasting, hardware and software, computer services, and electronic media. Information Communication Information is defined as a group of related technologies that are defined by their functional use in information access and communication, with the internet serving as one example. Information and communication technology (ICT) are computer-based tools that employees utilize to work with an organization's information and communication processing demands. Its scope includes computer hardware, software, the network, and other digital devices such as video, audio, and cameras that transform data (text, sound, and motion, among other things). Communication and Information Teaching and learning of ICT related skills for enhancing the presentation of classroom work, teaching/learning respective tasks, teaching/learning intellectual, thinking, and problem-solving skills, stimulating creativity and imagination, for research by teachers and students, and as a communication tool by teachers and students are all examples of technology as tools in the school environment. ICTs have had an impact on education, which has surely altered teaching and research[24]. ICT's benefits in boosting educational quality have been established by a large body of research[24]. As

a result, developed countries such as the United Kingdom and the United States of America have incorporated ICT into their educational systems[24].There have been some advancements in the Nigerian education sector that show some level of ICT use in Nigerian secondary schools[10]. They ascribed the introduction of computer education in secondary schools to a policy adopted by the Nigerian government in 1988.

The Federal Government of Nigeria recognized the importance of ICTs in the modern world in its National Policy on Education of 2004 and has integrated ICTs into Nigerian education[10]. The document specifies that the government will provide basic infrastructure and training at the primary school level in order to achieve this goal. Computer education is a pre-vocational elective in junior secondary school and a vocational choice in senior secondary school. The Federal Ministry of Education launched SchoolNet, an ICT-driven programme aimed at equipping all Nigerian schools with computers and communication tools. MTN provided fully operational computer laboratories with 21 personal computers, VSAT interconnection, and hands-on training in 24 secondary schools in Kaduna, Lagos, Enugu, Kwara, Rivers, and the Federal Capital Territory Abuja as part of the SchoolNet initiative. Over 49,524 students and 2,412 teachers were instructed on how to use ICT tools in total[26]. The Nigerian Federal Government established a Mobile Internet Unit (MIU), which is run by the Nigerian National Information Technology Development Agency, to provide suitable ICT facilities to secondary schools (NITDA)[10]. The MIU is a bus that has been turned into a mobile training and cyber center. It was built locally. It contains 10 workstations inside, all of which are networked and connected to the internet. Printers, photocopiers, and a variety of multimedia equipment are also available at the MIU. Internet access is offered via VSAT, which is given via a 1.2m dish put on the bus's roof. It also has a small electric generator to maintain a consistent power source. The MIU brings the internet to numerous locations, communities, and secondary schools [10]. They went on to say that because the number of these vehicles is so tiny, most rural schools have yet

to benefit from the scheme. The availability, skill, and attitude of instructors regarding the use of contemporary technology in teaching and learning are all important factors in the successful integration of ICT in the school system. Most secondary schools have insufficient or no ICT tools to cope for the ever-increasing population of pupils in the schools, according to research, and if they are accessible, they are essentially out-of-bounds to the students[18]. In Ibadan research, it was also discovered that the majority of the schools studied did not have computers, and so were not linked to the internet. It was also mentioned that those who have computers only utilize them for administrative purposes, rather than for teaching[17]. Another study found that instructors' use of ICTs is hampered by the lack of certain ICT components in schools. Secondary school teachers claimed that a lack of basic search skills and access points in the classrooms was preventing them from using the internet[16].

2.1.3 Teacher

Teacher is the process through which a person persuades others to achieve a goal and steers the organization in a more unified and coherent direction. Teachers use their teacher traits, such as beliefs, values, ethics, character, knowledge, and abilities, to carry out this process. Teachers are cultivated rather than born. One can become an excellent teacher if they have the drive and the willpower to do so. Self-study, education, training, and experience are all part of the process of becoming a good teacher. This tutorial will assist you in the process. Teacher is distinct in that it motivates followers to accomplish lofty goals rather than simply commanding them16. Teacher is the process of influencing a subordinate in such a way that the subordinate is motivated to attain the goal, the group remains cooperative, and the intended objective is completed, all with the help of external groups. 5. The employment of a leading strategy to provide motivating motives and to boost the potential for growth and development of the employees is referred to as teacher[6]. It's also a procedure in which one person persuades a group of individuals to work toward a common goal6. Teacher is the act or process of

persuading others to participate freely in the achievement of organizational goals[4]. Teacher is a dynamic process in which one man persuades others to contribute voluntarily to the realization and attainment of the group's goals and objectives, aspiration of values, which represents the essence of teacher, which is to assist a group or organization in achieving long-term growth and development6. Some of the most important aspects of teacher are, in light of the above definitions.

- The human aspect that inspires and maintains a group together towards goals is the ability to influence and persuade people to work cheerfully toward set objectives.
- Having an interpersonal impact that is aimed toward goal achievement through the communication process.
- By establishing a new structure or technique for achieving or modifying the organization's objectives.
- Ability to influence the behavior, goals, behaviors, and beliefs of individuals you want to affect[24].

The conclusion drawn from the preceding elements is that teacher does not exist in a vacuum; it requires the combined effort of others to survive and achieve tremendous success in all endeavors[24]. A teacher must be able to instill in his or her followers a sense of worth and exhibit capability in this respect. Teacher is depicted as a process, implying that it is a continual and ongoing activity with no gaps. In essence, the organization's purpose is the primary motivation for being on the job, and until that goal is met, the teacher process cannot be separated. Teacher necessitates the ability to be followed, which means that a teacher must first lead before others follow[28]. As a teacher, you must demonstrate tenacity, brevity, and a sense of purpose. As a result, a teacher must be able to influence others' judgments, lead efficiently toward a goal, and remain focused on the task at hand. When

individuals and workers interact, one of the most dynamic consequences is teacher[16]. In other words, management's capacity to execute a collaborative endeavor is dependent on teacher skill. Understanding the impact of teacher on performance is especially significant since some academics believe that teacher is one of the most important factors in enhancing teacher performance. Effective teacher is viewed as a valuable source of management growth and a long-term competitive advantage for secondary school teachers[20].

Teacher is also known as influence, and it is the art or practice of persuading individuals to work voluntarily and enthusiastically toward achieving group objectives[7]. It is the management of human resources in order to control their performance by including them to work willingly[8]. Teacher also refers to an individual exercising influence over others to achieve desired objectives. A teacher is someone who has the ability to influence the actions of others. A teacher is a person who leads a group of people who have common interests, aims, or objectives[9]. Teacher is the art of persuading others to accomplish specific goals in specific situations[10]. A teacher has a sense of direction, and the efficiency of his or her attempts to influence is dependent on the circumstances. As a result, teacher is described as the ability to persuade people to achieve set objectives or goals. It entails the teacher's attempts to influence the behavior of a follower (affected) in a given situation. Often, the person who best meets the requirements of individual members of a group becomes the teacher.

Teacher is a prescriptive concept that encompasses a moral, if not passionate, dimension[20]. Teacher is defined as the ability to accomplish goals with the help and collaboration of others in the school system[12]. Any organization's success and existence are dependent on its teacher. It is the act of persuading someone to work gladly and enthusiastically toward the achievement of goals and objectives[12]. In a similar spirit, it was discovered that teacher entails persuading individuals to work gladly and zealously toward the fulfillment of common goals. A teacher cannot function alone; he or

she requires others to influence, direct, and carry out the institution's objectives. In any corporation, teacher is a critical issue. Most businesses, particularly those in the public sector, have been regarded as operating below expectations due to the teacher styles they employ. At all levels of an organization, teacher is critical. Teacher is the moral and intellectual competence to envision and strive for the organization's and employees' greatest interests[21]. Effective teacher aids in the development of an organization as well as the integration of individual and group goals inside the company. Teacher is persuading others to put out more effort in certain duties or to modify the behavior of group members[23]. Individuals are influenced by teacher to participate actively in group activities. In an organizational hierarchy, a teacher position is a recognized position of authority. A chairmanship in local government, for example, is a teacher post. Teacher is defined as a "dynamic process in a group in which one individual influence other to contribute willingly to the accomplishment of a collective task in a certain situation"[13]. Teacher is the ability of an executive to manage, guide, and influence the behavior and work of others in order to achieve certain goals in a given circumstance. A manager's capacity to inspire confidence and zeal in his or her colleagues is known as teacher.

Teacher is defined as the ability to influence the actions of others[29]. It can also be defined as the ability to persuade a group to achieve a common purpose. Future visions must be developed by teachers, who must also drive organizational members to aspire to accomplish them. "Teacher is the ability to persuade others to actively pursue established goals." It is the human aspect that brings a group together and inspires them to achieve their objectives[15]." Effective teacher has long been recognized as a powerful tool for accomplishing institutional goals and objectives, particularly inside the Institution. Teacher is an important part of management; one of the keys to being a great manager is the capacity to lead well; the essence of teacher is fellowship. In other words, a teacher is defined by the willingness of others to follow. Furthermore, people tend to follow those who they believe will help them achieve their own desires, wants, and requirements. That is why, in order to achieve its

goals, each organization needs have an effective and efficient teacher team that understands how to apply all management concepts to achieve its goals. The teacher must be enthusiastic and confident in his or her abilities. Confidence reflects expertise and technical proficiency, whereas zeal reflects ardor, sincerity, and passion in the execution of job. Leading entails guiding, conducting, directing, and moving forward. Teachers help a group achieve its goals by making the most use of its resources. They should not be teachers who do not support and encourage a group or organization. They should take a position ahead of time. As they facilitate progress and motivate the group to achieve organizational goals and objectives. It is impossible to overstate the value of teacher in any organization. In any organization, teacher is a critical component in establishing successful strategies and goals. It is crucial in providing direction and purpose in order to achieve the organization's objectives. It's also a crucial component of group social relationships at work. The main component that influences and shapes collective behavior is teacher. When it's done right, each employee feels a strong sense of dedication to reaching educational goals. Regardless of the equality of its members, every group will tend to have a teacher system[30].

Simply said, teacher is the process of influencing an individual's or a group's actions in order to achieve predetermined objectives. Any educational institution's lifeblood is teacher[31]. It was believed that a teacher's viewpoint regarding human nature has a significant impact on how he or she behaves as a teacher and how it affects the employees under his or her command[30]. It's vital to remember, nevertheless, that a great teacher is defined by his capacity to control and withstand forces around him, as well as his ability to efficiently use people and financial resources to achieve educational goals. However, there is a strong link between teachers' expectations and subordinates' subsequent performance. If the teachers' expectations are high, the teachers' work performance is likely to be high as well. Whatever style of teacher is used, the key purpose is to assure and maintain school improvement, which has to do with the quality of teaching, which is the most important component in

students' accomplishment. It is apparent, however, that teacher quality and effectiveness are understood and evaluated in relation to teachers' work performance, creativity, attitude, and effectiveness[16]. The teacher's goal of improving employee performance is a significant one, which he attempts to achieve by a variety of activities that take into account individuals' views, values, motivations, and talents. They give teachers with a strong drive to improve their performance by structuring a certain vision and delivering guidelines. Teachers' success in the classroom is improved by establishing a common purpose that explains the roles, objectives, and intended outcomes from their performance[26].

Furthermore, it is the principal's obligation to provide working conditions that allow for constructive and creative partnerships between teachers and the entire community, thereby reinforcing the teaching staff's professional development. In addition, the teacher can give opportunities for teachers to grow by arranging and supervising a variety of professional development programs or by providing individual mentoring. As a result of such teacher techniques, favorable working conditions are created, which help to encourage and influence the teaching staff[31]. According to new data, teachers can also determine teachers' emotions, such as sense of efficacy, job satisfaction, and anxiety, all of which have an impact on their motivation and effectiveness. It defined teacher as a process by which individuals or groups exert influence over the achievement of objectives. Furthermore, teacher has been defined as one of the world's oldest preoccupations; in support of this, teacher is not only a descriptive phrase but also a prescriptive one that encompasses a moral, even passionate dimension. Teacher may also be defined as the ability to accomplish goals with the help and cooperation of others in the school system[32]. The successful teacher creates a work environment that encourages instructors to be productive and efficient[32]. Many school teachers, on the other hand, did not appear to consider their teacher methods as predictors of teacher work performance in their schools. As a result, some of them appeared to have difficulty running their schools effectively[23]. Teacher includes more than

displaying power and being regarded as such by others1. It all boils down to developing talent and aiding them in achieving their goals. It is giving others with the required methods and techniques to optimize not only their organization's success, but also their own lives[1]. Breaking through boundaries is at the heart of teacher. It is also the skill of persuading a group of people to collaborate in order to attain a common goal[2]. Teacher in the workplace comprises guiding employees and coworkers via a strategy that meets the company's needs. As a result, the significance of being ready and willing to inspire others is emphasized by this description. As a result, it's critical to know that effective teacher is built on ideas (whether genuine or borrowed), but it won't happen until those concepts are communicated to everyone in a way that encourages them to act in the way the teacher wants[14]. Simply put, the teacher gives the activity direction and inspiration. They have the requisite teacher qualities and a personality that will entice others to follow their lead[20. In] the corporate world, teacher is connected with getting things done, which is something that everyone in a teacher position should be aware of. This may or may not be solely motivated by monetary gain. Teachers who help their company's productivity are typically recognized as effective[18]. A teacher's job may be terminated if he or she fails to reach profit targets set by the board of directors, top management, or stockholders. The process of persuading people to accomplish everything that their teachers truly desire is known as teacher. Good teacher, whether formal or informal, helps employees attain their full potential while staying focused on the organization's goals [20]. As a result, all members of the organization who are accountable for the organization's work have the potential to become teachers if properly nurtured[5]. He or she is a teacher if his or her activities inspire and motivate others to dream bigger, do more, study more, and strive to be the greatest[12]. Teacher requires challenging people's visions, improving their performance, and expanding their personalities beyond their natural bounds[15]. The achievements of a teacher's followers are used to determine his importance. This is the ultimate test of efficacy[22]. A good teacher's job is to help people connect with the future. Leading people with all of one's heart is

what it means to be a teacher[27]. Teacher entails being both a devout follower and a devoted teacher; in other words, he who is incapable of being a good follower cannot also be a good teacher.

According to the aforementioned definitions, teacher entails influencing others and bringing out the best in them through leading, guiding, directing, inspiring, and motivating them toward the organization's stated goals, as well as assisting others in becoming their very best.

2.1.4 Digital Teacher

Digital technology-assisted education is the most recent educational revolution, especially in light of the COVID-19 outbreak. Nigeria's Ministry of Education has taken the lead in initiatives to boost teachers' and students' digital technology skills and competencies. The strategic use of internet facilities such as telephones and computers, among others, to achieve educational goals is known as digital teacher. This can be addressed at both the organizational and individual levels. When looking at it on a more personal level, this is frequently done by personnel in charge of supervising digital assets[1]. A successful digital teacher is aware of the company's objectives and understands how their job responsibilities contribute to those objectives. A digital teacher at an organizational level, for example, could be a corporation that has successfully leveraged its digital assets to establish and retain a competitive advantage. These digital thought teachers will look at how technology may help their company become more responsive to client requests and ever-changing business requirements. An effective digital teacher recognizes the value of inbound data and the business processes that enable it[1]. Order to support business initiatives, they value employees who can communicate effectively, are imaginative, and are prepared to try out novel emerging methods and digital information. Digital teacher is an evident balancing act in today's world, requiring a distinct combination of talents to achieve success for the teacher, business, and total workforce. According to reports, 42 percent of major corporations today believe that developing teachers is becoming increasingly crucial, and that success in the digital age is heavily reliant on it[1].

The information economy is the era of the twenty-first century. The knowledge-based economy has become a factor of production and competition for any company seeking to achieve new heights. It all boils down to what can be done with what is already known. Everything is built on data, which may be used to turn knowledge into a product. It is a more tangible component that has the ability to generate innovation for future features. These new circumstances compelled any organization's performance to change away from a profit-oriented approach and toward a more socialized goal. Including in educational institutions, notably secondary schools and higher education, where the place to foster innovation as a means of assisting the organization's performance in the face of its existential issue.

There is a strong offering to be an organization that innovates for educational institutions; this can be observed in the goals of survival, human resource growth capability, and sustainability. As a result, educational teacher is critical in assisting students in locating and perhaps emerging as excellent secondary school output that satisfies the expectation or goal of secondary education[1]. Digital teachers are primarily concerned with the use of technology for instructing and learning in schools, particularly their role in overseeing ICT instruction, learning, and other ICT-related activities.

Furthermore, it has been discovered that digital teacher is very important for teachers to implement and nurture ICT-related innovations[2]. A school teacher is both a change agent for improving school technology and a technology teacher expert[2]. School teachers, such as administrators and instructors, are now reforming themselves in response to the industrial revolution's desire to elevate the current educational system, with their technology teacher emphasized on how it will further boost their teachers' technical competency. The development of teachers' digital competency and awareness may be aided by teacher awareness. It entails cultivating teacher in schools and higher education institutions to assist teachers in learning and improving their digital capabilities for use in the

classroom in order to create a digitally friendly learning environment[3]. Digital teacher is defined as the use of instructional technology, such as digital devices, services, and resources, to inspire and lead school digital transformation, create and sustain a digital learning culture, and support and enhance technologically oriented professional development[4]. Effective digital teaching and learning are encouraged and improved through digital teacher[5]. The principal's attitude toward technology has an impact on the quality of teaching and the ability of teachers to integrate technology into their lessons. In school, the most important thing is teacher. School teachers should take teacher seriously. In general, literature studies reveal that as a result of rapid progress in the field of Advanced Information Technology such as the internet, email, video conferencing, and groupware systems (GSS) in the late 1990s4, education teacher has evolved. This change has an impact on school teachers' teacher styles. As a result of this progression, school teachers must be proactive in implementing technology while also preparing for technologically connected knowledge and information[4]. Literature studies, on the other hand, suggest that many school teachers in Malaysia have low to medium levels of knowledge and skills in technology teacher. As a result, school teachers must investigate and acquire new knowledge and abilities, as well as keep up with technological advancements. Principals who want to be technology teachers in their schools must first master and be competent with technology[6]. Principals must also be knowledgeable and skilled in various digital technologies such as interactive whiteboards (IWBs), document cameras, chrome books, cloud computing, and 3D content. New technology advancements are rapidly altering the environment of both teaching and learning. Ideal learning and teaching environment should incorporate technology such that students may utilize it as effortlessly as they would other teaching materials like pencils or books[6]. Educational landscape is getting more and more challenging, especially in the digital age when educators must promote the use of technology in school management and administration. School instructors must acquire skills in digital technology, including digital technology-focused teacher characteristics. For the

acquisition of ICT and modern technology skills by teachers is also encouraged in order to facilitate the smooth implementation of these developments. [28]. As a result, in order to achieve educational transformation, school principals and instructors must employ these abilities to improve students' academic performance through the usage of digital technology. Principals who want to implement digital teacher must wisely use their time and resources to make significant changes in school culture and thus have a positive impact on the Ibadan Metropolis' education system, which aims to use technology and digital mastery to improve student marketability during the Covid-19. Principals must determine the best strategy for ensuring effective participation of both instructors and students. Teachers' roles have gotten more complicated, since they must be devoted to exploring numerous options for integrating digital technology into teaching and learning. Because they demand internet access, students are enthusiastic about digital learning and the usage of digital devices such as mobile phones and tablets[9].

According to a survey, some teachers are still afraid to use digital technologies in the classroom and misunderstand them, such as the importance of social networking and the advantages of using new technology tools. Some teachers lack the digital and information technology abilities they need[17]. There is a connection between principals' understanding of technology integration and their capacity to motivate themselves to implement whole-school reforms. It was also asserted that the teacher serves as the model for the integration of technology into education and must set the example by incorporating it into daily management and administrative practices[14,16]. It was determined that school teachers' ability to adapt to technology changes is critical, as technological advancements will continue to emerge. Today's school teachers must work to fill any gaps in their technology knowledge and skills in order to provide direction and teacher to their school's digital development and promote this practice throughout the school[15]. Secondary schools have taken it upon themselves to become tech-savvy on their own; they use digital tools to create teacher training programs, run their schools, and perform teacher duties[15].

Management of the educational system by leaders will have a favorable effect on teachers' instructional strategies and digital learning platforms. Due to the usage of technology within the classroom, student achievement has increased, the achievement gap has shrunk, and the number of students opting out has decreased. Others, on the other hand, have discovered a substantial link between the two aspects (International Society for Technology in Education (ISTE), 2021). ISTE sets strong standards to advise and direct principals in their position as digital teachers, as seen by the overall ISTE Standards for Administrators. In the subject of educational management, digital teacher refers to the use of digital instruments to bring about change. Integrate the use of digital devices as a teaching and learning medium through strategic planning related to the school's goals (International Society for Technology in Education (ISTE), 2021)[27]. ISTE has released a digital teaching standard for administrators called the ISTE Standard for Administrators (ISTE-A). This requirement is meant to act as a resource for all school administrators looking to promote digital teaching and learning. The ISTE-A Standard defines five characteristics of a digital teacher: visionary teacher, digital age learning culture, excellence in professional practice, systemic improvement, and digital citizenship. ISTE also suggests that teachers provide an adequate amount of time and ongoing training to teachers' competencies in order to ensure that the vision to enhance digital education is implemented smoothly. Transformational teacher approaches and the utilization of digital technology are hallmarks of digital teacher. Teachers, according to this view, model behavior, and employees are encouraged to follow suit. This type of transformational teacher does not change; rather, it adapts to the circumstances. It can be used to any profession, but it is especially crucial in fields that must adapt to rapidly changing technologies and demand innovation and agility. Digital teaching is when a teacher uses digital technology to help students learn. It is possible to find it in all areas of the curriculum. In order to improve student accomplishment, teacher quality characteristics are critical for an effective teaching system[20].

The ability to master digital competences is one of the markers of teacher quality. According to a study, not only the availability of digital devices, but also the competences that teachers must master are the most important factors determining the success of digital-based learning. Several studies have identified challenges to digital technology integration in learning, such as instructors' inability to use digital technology in the classroom due to a lack of knowledge, skills, training, and self-confidence, as well as insufficient facilities[20]. Teachers do not properly research course materials and do not want to use that time to complete coursework or exercises, digital teaching is dependent on the instructor's level of computer literacy. It also places a heavy burden on the teacher to determine learning effectiveness through student assessment. The Organization for Economic Cooperation and Development (OECD) research also discusses obstacles that obstruct the implementation of digital teaching and learning, such as limited access to the use of computers. Students are using mobile devices for non-educational purposes, and the degree of student willingness to utilize digital devices has a variety of performance implications[19]. There were no clear descriptions of what elements may be used to signify effective digital teacher at the time. Digital teacher was classified as vision, professional development, infrastructure support, assessment, and communication by the Principals' Technological Teacher Instrument. Digital teacher was also defined as being conversant with technology, using information retrieval, communicating with stakeholders, and managing resources, according to the study. However, some factors, such as digital citizenship, were not included in the categories. Professional teachers constantly reflect on their work practices by pondering the issues they experience in their careers[19]. To put it another way, seasoned educators must be reflective practitioners[7]. The reflective practitioner possesses a comprehensive skill set that includes the ability to continuously reflect on activities as part of the learning process [16]. Teachers are constantly expected to pay attention to their pupils, beginning with learning, methods employed, successful teaching methods, and how to assess their students, thus having reflective abilities is difficult. Other important resources that instructors must

examine are the students' living surroundings and their parents. Such an idea exemplifies the value of reflective education and the invisible realities it addresses.

Teachers' reflective practices are more successful in this regard when prospective teacher education program directors work as reflective practitioners to focus on educational performance. Teachers tasked with developing student potential relating to companies and industry will have a greater demand for self-development abilities as reflective practitioners.

Regarding the aforementioned teachers, they cannot fend for themselves and require the support of the principal, which is one of the driving forces in forming teacher character and an important aspect in determining school effectiveness[10]. In other words, teachers serve as role models for the school community they lead and play a part in learning effectiveness tactics. Although much study has been done on teacher and its impact on teachers and the learning process, basic teacher concepts are still required for schools to be considered effective. Researchers are still trying to uncover the other side of teacher's understanding of digital technology, which presents new potential and challenges for businesses and society[27]. More than that, digital teachers must stay up with the global shift, because changing and/or improving school culture requires a dynamic combination of mentality, behavior, and abilities. Changing circumstances and people's reliance on technology demand that teacher methods evolve in order to establish schools that can adapt to technological advancements[19].

As a result, teacher is critical to the educational process's and goals' achievement. Teacher, as stated in the preceding paragraph, is a mix of talents and character that enables one to influence and motivate others to perform efficiently and below expectations.

Teachers are predicted to be more motivated to continue to reflect on their learning if they have a strong commitment to the instructor as a result of the work engagement variable. Students will pick up on the teacher's commitment to constant change in the learning system, technological advancements, and the ever-changing times. Another aim is that teachers will be able to instill in their

students the same reflective practice so that they are prepared to enter the larger community. It is commonly recognized that technological advancements have an impact on education and instructional methods. In order to stay up with the modern age, educational institutions have been obliged to undergo a digital transformation in recent years due to the widespread adoption of information and communication technology. Traditional chalkboard, and educational activities are now feasible in almost all settings and under practically all circumstances. Today's changes include altered employment definitions, changing daily living patterns, and a need for economic value; these are the key outcomes of this digital transition.[3,6,9] The rapid development and improvements in technology have had a significant impact on the educational process, altering both the methods and the speed with which knowledge is accessed[12]. There have been significant changes in educational practices in this digital age, as well as in almost every other field, and it is clear that educational institutions must keep up with this trend. The most often utilized technical tools in recent years, as well as the sustainability of education in almost all circumstances, have both grown as a result of the sector's digital transformation. The digital revolution of these institutions has undoubtedly benefited much from the educational teachers' vision. Digital transformation capabilities are mostly determined by the simplicity of the digital strategy employed by leaders who support a culture open to change and welcoming of novel concepts and methods. Teachers must also be able to determine whether other digital tools or strategies can help with the application of these changes. Additionally, they must be able to identify the characteristics of contemporary culture that will spur more significant digital change[26].

The term "digitalization" refers to a widespread revolution that touches almost every component of human life, not just business. On the other hand, governments around the world are at different stages of digital transformation based on their priorities for building a viable digital economy is based on their government's agenda[6]. Organizational administrators cannot escape this growing and ongoing

radical process of change8 in this digital transformation process. As is well known, organizational change nearly always begins with senior administration or executive management, but for a successful transformation, teachers must be able to excite their people and successfully steer them toward the organization's goals. In Only educators with the necessary management skills can truly alter their companies using digital technology. Compared to non-teachers, digital teachers have diverse skill sets, attitudes, specializations, and both professional and personal experiences. Teachers need to be adaptable, curious about new ideas, and quick to learn in the digital age. They should always encourage their coworkers and followers to do the same by being open to lifelong learning and seeking out answers from all across the world.

2.1.5 Work Performance

Education is necessary for advancement, development, and growth. Education is viewed as an investment rather than a need for national progress and survival[16]. Education has also been regarded as a valuable source of cultural development and survival. As a result, it is clear that education is a priority for both individuals and nations. Since independence, we have been making concerted efforts to restructure our educational system to meet the changing needs and competing expectations of society[16]. The teachers and students, or 'the school,' are the most crucial variables in any proposed educational restructuring. Schools play an important part in the educational system, and if there is any possibility of reform, it will come from teachers, because it is commonly considered that what happens in a classroom is largely dependent on the teaching/learning process and the numerous activities undertaken by the teachers. Almost all educators, including laypeople, think that a school has an impact on a student's intellectual and social development. Furthermore, schools with better facilities have a greater favorable impact on students and leave a longer lasting impression[16]. Though there are a lot of physical and financial resources invested on the secondary schools, yet they fall short of what may be considered as the essential minimum. Some may be related to products and

others to processes of education and many to the physical characteristics of teachers and headmaster in relation to the pupils in the organisation. The pattern of interpersonal relationship and interaction with the situational variables determine a specific tone of climate in the school. In the current atmosphere, it is incumbent on adults to guide adolescents in their pursuit of knowledge and skills in order for them to develop social responsibility, economic competence, and moral strength. In today's schools, a teacher's responsibilities include not only teaching children, but also participating in in-service training programs, purchasing teaching and learning materials, checking for dropouts and absentees, organizing games and sports activities, involving the community in school activities, working toward the goal of 100% enrolment, retention, and continuation, and making the classroom creative. Teachers must also take part in literacy programs, pulse polio, family welfare activities, clean and green programs, electoral duties, and other activities as assigned by the government. Teachers' responsibilities are increasing all the time. As a result, it's important to understand how teachers carry out their various responsibilities. Teachers' attitudes are likely to play a significant impact in increasing teacher performance. Teachers' performance is likely to be influenced by many facilities provided in schools, such as physical facilities, teaching facilities, welfare facilities, and support from the headmaster and co-teachers.

Education's importance in the advancement of a country cannot be overestimated, as it promotes individual cognitive, personal, social, political, and economic development. Individuals get new skills, principles, moral conducts, and information through education, which has an impact on the technical and industrial world. Because the educational sector can only achieve its goals with the help of well-trained and experienced teachers, the roles teachers play in the lives of their students, in the educational sector, in society, and in national development are huge and crucial. Educational stakeholders must guarantee that vital facilities that will improve their job satisfaction are supplied for them to work with in order for these instructors to fulfill their jobs properly and efficiently, as their

job satisfaction is likely to boost their job performance favorably. If excellent education is to be ensured, the learning environment must be made suitable for both instructors and pupils, as the quality of school infrastructure can have a significant impact on teachers' decision to stay in the field. This supports the notion that when teachers are at school, they want a pleasant working environment in which to carry out their duties. There was a lot of anxiety a few years ago regarding the performance of teachers in Nigeria's primary, secondary, and university institutions, especially when the government took over schools from their proprietors[26]. Many educational stakeholders believe teachers are performing below expectations, according to the researchers' views and experience as a lecturer, and as a result, they have lost interest and reliance in them, particularly in public schools. As a result, many of these stakeholders are sending their children to private schools, where they are paying through the nose for the kind of education they desire for their children. Teaching-learning activities take place under trees in certain public schools, which have dilapidated classrooms, no practical laboratories, no good amenities for both staff and kids, no play field, no parking lots, no school farms, and no water supply, to name a few. This problem (inadequate infrastructure) may have resulted un low teacher performance as well as job dissatisfaction. Educational stakeholders are concerned about this and have tried certain measures they believe will help, such as hiring Parents Teachers Association (PTA) teachers to supplement teachers' efforts, but to no avail. If this problem is not addressed, it is possible that educational goals and objectives may not be met. Furthermore, teachers' performance may deteriorate, significantly affecting pupils' academic success. The method through which an employee completes a task that is required of him is known as job performance. Teachers' work performance can be described as the duties they complete in the classroom in order to meet educational goals and objectives. Employee performance is greatly determined by how satisfied or rewarded they are at work. In this regard, suitable teaching facilities must be provided in order for teachers to perform their tasks properly and successfully. In any organization, management are

constantly eager to examine the outcome of an employee's work in order to determine which aspects and places the individual needs to develop. Work performance refers to the abilities needed to boost an organization's production. It entails the employee's acquisition and use of appropriate knowledge in order to develop and fulfill the organization's stated goals and objectives. Work performance can be defined as the degree to which an individual person fulfills a specific task or responsibility while adhering to a set of standards[18].

2.1.6 Teacher Work Performance

Teachers play possibly the most essential function in professional groups for the future of our country. Teacher work performance can be used to identify the teacher's responsibilities for teaching pupils both in and out of the classroom. The use of instructional materials, regular assessment of students, lesson planning, assessment of pupils, field work, teachers' participation in sports, teaching methods, attendance at school assemblies, and guidance and counseling are all important aspects of teaching, so teacher job performance is defined as the ability of teachers to integrate their experience, teaching methods, instructional materials, knowledge, and skills in delivering subject matter to students. Teachers' work performance can be defined as the actions made by teachers in order to attain educational goals and objectives in their classrooms. Teaching is widely regarded as one of the most important and difficult professions in modern society[18]. These individuals are held accountable for their pupils' academic success as well as their social and emotional growth[7]. Teachers' work performance, which is linked to students' results, is of critical importance for a range of stakeholders, including administrators, parents, legislators, and society at large[7]. Given the high demands and expectations in terms of student growth. Looking at the country's education sector today, one of the most critical and important tools needed to strengthen the country's educational sector is teachers' work performance. It refers to a teacher's overall behavior during the teaching and learning process in order to meet the stated educational goals and objectives. Some of this behavior includes the teacher's

acquired skills, such as cognitive skills (intellectual behaviors), psychomotor skills, and affective skills, all of which are necessary for effective teaching and learning to fulfill the specified educational goals and objectives. Teachers who act as in-loco-parentis (parents in school) and as custodians of information want to improve their skills, knowledge, attitudes, talents, and diversified methods in order to provide a successful teaching and learning process. Teachers' work performance can be influenced by the level of influence school teachers have on their lives. If school teachers can implement the use of information communication technology in schools to improve the work performance of schoolteachers, it will be beneficial. There is no question a strong correlation between teacher performance and digital teacher. A teacher who is dissatisfied with his or her employment is more likely to perform poorly in the classroom and in their interactions with pupils, which can have a detrimental impact on school efficiency[8]. Teachers' work performance is critical in the classroom because it affects students' academic accomplishment, study, social, emotional, and intellectual growth, as well as their academic success. Furthermore, teachers who do not feel encouraged at work may be less motivated to put out their best effort in order to maintain a good degree of work performance. Work performance can be defined as the degree to which an individual employee fulfills a certain task or responsibility while adhering to a set of standards. Teachers' work performance refers to a teacher's behavior that varies in response to changes in the surrounding environment, such that when a specific task is assigned to a teacher, he or she successfully completes that assignment[21]. In truth, the goal of influencing students' education is contingent on the teacher's performance, which is influenced by a variety of circumstances. A good teacher must not only teach in such a way that he or she can satisfy the class with his or her distinctive teaching style, but also manage time and other responsibilities outside of teaching, such as managing ethics and discipline in the classroom, motivating students, ensuring students' interaction, and maintaining a proper relationship with students' parents and the educational institution's administration[10].

Task performance, contextual performance, and adaptive performance, according to some scholars, are the three major areas in which instructors' work performance can be separated. A set of behaviors by which an employee acknowledges and comprehends that the institutional goals have been highlighted and explored is referred to as task performance. The technical behavior and actions involved in an employee's work are referred to as task performance. The employee's ability to perform technical tasks is assessed here. In the context of teaching, task performance refers to a set of regulated job behaviors that a teacher can engage in. Instructional effectiveness, teacher-student engagement, and teaching value are all factors in a teacher's task performance[25].

Apart from task performance, contextual performance refers to employees' activities that support the organizational, social, and psychological environment in which the organizational goals are pursued. It is made up of occupation morality, job dedication, and teacher aid and cooperation. Finally, adaptive performance is a novel performance concept in which learning plays a vital role in performance. This new understanding of performance differs from previous conceptions of performance, which considered learning to be a requirement for performance. Now, under adaptive performance, learning is recognized as a component of performance that can be classified as a performance aspect. Adaptive performance, according to some experts, comprises of qualities such as dealing with emergencies, dealing with stress at work, solving issues creatively, demonstrating interpersonal adaptability, and demonstrating physically oriented adaptation. It is important to note that the performance of these three types of teachers is not only linked, but also influences one another. They are both equally significant in contributing to the overall effectiveness of teachers' performance. that is, competence, adaptability, and initiative[25].

Teachers' work performance is largely influenced by their knowledge base, sense of duty, and inquisitiveness; student attributes such as chance to learn and academic work; and instructional

elements such as lesson format, atmosphere, style, and organization and administration. Only when the teachers are performing well can a school be called to be effective. To put it another way, school effectiveness can be judged by the work performance of instructors, which has been linked to students' academic success on multiple occasions. All of the activities carried out by the teacher to accomplish the desired impact on students are included in the teacher's work performance. It refers to how involved teachers are in the general operation of the school in order to meet the school's desired objectives and goals. In other words, achievement of school goals is what performance is all about. Teachers' work performance has also been regarded as a multidimensional construct since it assesses a range of characteristics of teaching, including topic competence, effective communication, lesson preparation, and presentation[8].

2.1.7 Secondary School Education

Secondary education, as the name implies, is the second level of the Nigerian Federal Republic's three-tier education system. Secondary education is defined in Nigeria as the education that children receive following primary school but before they enter postsecondary education. In truth, secondary education was established in Nigeria by missionaries in the late 1850s. Secondary school education refers to an institution that provides secondary education, as well as the building in which it is delivered. Some secondary schools offer both lower secondary (ages 12 to 15) and upper secondary (ages 16 to 18) education (age 15-18). Secondary schools are the next step after primary school, preparing students for vocational or higher education. Secondary school education also refers to the educational opportunities available after primary school and prior to higher or optional education. The transition from a single-class-teacher delivering all material to a cohort of students to a system where content is taught by a series of subject specialists marks the beginning of lower secondary education. Its educational aim is to complete provision of basic education (thereby completing the delivery of basic skills) and to lay the foundations for lifelong learning[18].

Lower secondary education is likely to show these criteria:

- admission after 6 years of primary schooling
- the need for more highly qualified professors to teach only within their areas of expertise
- after 9 or more years of education, transition to Level 3 courses, vocational education, or work.

In nations where compulsory education exists, the end of lower secondary education frequently corresponds with the end of compulsory education[1].

After completing basic education, which is sometimes known as lower secondary education, (upper) secondary education begins. The educational focus shifts depending on the student's interests and career goals. At this level, education is frequently optional. These factors are likely to be evident in (upper) secondary schooling.:

- entry after some 9 years of basic education
- typical age at entry is between 14 and 16 years
- all teachers have level 5 qualifications in the subject they are teaching
- exit to Level 4 or 5 courses or to direct employment[1].
- More disciplines may be eliminated, resulting in increased specialization. The completion of (upper) secondary education provides the prerequisites for postsecondary study, technical or vocational education, or straight entry into the workforce. The broad goals of secondary education should be aligned with our national goals.
- preparation for useful living within the society
- preparation for higher education

In specific terms, the secondary school should.

- provide an increasing number of primary school pupils with the opportunity for education of higher quality, irrespective of sex, or social, religious and ethnic background.
- diversify its curriculum to cater for the differences in talents, opportunities and roles possessed by or open to students after their secondary school course
- equip students to live effectively in our modern age of science and technology
- develop and project Nigerian culture, art and language as well as the world's cultural heritage.
- Instill a drive for achievement and self-improvement in its students, both in school and afterwards in life[18].

2.2 Theoretical Framework

2.2.1 The Unified Theory of Acceptance and Use of Technology

Venkatesh and others developed the unified theory of acceptance and use of technology (UTAUT) as a technology acceptance paradigm in "User acceptance of information technology: Toward a unified view"[29]. The UTAUT seeks to explain how users intend to use an information system and how they actually utilize it. Performance expectancy, effort expectancy, social influence, and facilitating conditions are the four fundamental constructs according to the theory. The first three are direct predictors of usage intent and behavior, whereas the fourth is a predictor of user behavior. The impact of the four major constructs on usage intention and behavior is thought to be moderated by gender, age, experience, and voluntariness of use. The theory was created by reviewing and combining the constructs of eight previous models used to explain information system usage behavior (theory of reasoned action, technology acceptance model, motivational model, theory of planned behavior, a combined theory of planned behavior/technology acceptance model, model of personal computer use, diffusion of innovations theory, and social cognitive theory). In longitudinal research, UTAUT was found to account for 70% of the variance in Behavioral Intention to Use (BI) and roughly 50% of the

variance in actual use[30]. The unified theory of technology acceptance and use has recently emerged as one of the most sophisticated and intense approaches for evaluating technology adoption and acceptance[31]. Technology acceptance ideas and models have been changing since the turn of the twentieth century and are constantly evolving. In this evolution, which occurred from a variety of theoretical approaches, including those on intellectual, affective, motivational, and behavioral aims[28]. Technology acceptance theories is viewed as a framework for investigating how users comprehend and accept new technologies, how they might use them, and what the consequences of doing so are. This development came from diverse theoretical approaches. Users' choices of which technologies for using and how to use them can be influenced by their usefulness, ease of use, sophistication, and social impact[26]. The primary significance of any information system depends on the presence of a need to use it. However, two ideas are necessary for information systems to continue being used: The users of the computer system must initially accept it. Then, after adoption, users' contentment with the system determines whether or not they continue to use the system. In the business world, this implies continuing to increase investment in information technology[27].

The UTAUT, user resistance, user anxiety, and attitude toward using scores were found to have adequate reliability and internal consistency, confirming earlier studies. Acceptance of technology is a gradual process that has evolved over time[27]. software improvement initiatives in the software engineering profession, information on system adoption, acceptability, and usage behavior has been drawing attention since the 1970s. In the life cycle of any information system, understanding why consumers prefer or dislike new technology has become a crucial role[28]. Technology acceptance theories and models have been developed as a framework for studying how users comprehend and accept new technologies, how they may use them, and what effects they may have on their ability to continue using them. Some characteristics, such as utility, ease of use, complexity, and social impact, might influence users' decisions on whether or not to use a technology and how they use it[32]. These

factors have been included into several theories and investigations in a variety of research projects. Aside from the numerous works that have been completed to date, the real use of any information system is predicated on the presence of a purpose to use it. However, the continuation of using the information system is contingent on two assumptions: The information system must be accepted by the users in the first stage. Then, after adoption, consumers' pleasure with the system determines whether they continue to use it. In the workplace, this entails continuing to increase investment in information technology. Some of the research studies were conducted with the goal of defining unified technology acceptance theories. It found five fundamental flaws in investigations and comparisons conducted on previous ideas and models. As a result of accepting and incorporating the most advantageous components from prior theories and models, the unified theory of technology acceptance and use becomes one of the most integrated and developed technology acceptance theories. The following are some of the limitations:

1. Older theories explored simple, individual-oriented information technologies that were far removed from complexity and sophisticated organizational technology.

2.The majority of prior studies on older theories were conducted in an academic atmosphere with students as participants, rather than with more accurate users such as employees in businesses.

3. The majority of the testing procedures carried out using previous ideas were done after the participants had decided whether or not to accept or reject the technology, when they should have been done during the technology adoption stage. As a result, the adoption decision was made retroactively.

4. The bulk of theory comparison studies were cross-sectional.

5. The majority of the testing procedures were picked up in the voluntary usage context, but their results could not be generalized to the forced usage circumstances.

Individuals' behaviors and their accepting abilities to adopt new technologies have been discussed using technology acceptance theories and models based on some characteristics and factors. The psychological and behavioral perspectives of technology users have been the focus of these ideas. However, each theory has its own constraints and frameworks, which are regarded as the primary reasons for their formation. TPB, DTPB, and TAM theories, for example, are all derived from the TRA. However, there are still significant flaws in the hypothesis. There are two fundamental concerns with acceptance theories: first, each theory's structures utilize various terminologies, although they are all essentially the same principles. Second, due to the complexity of behavior study and the researchers' limitations, no single theory can account for all behavioral aspects. To put it another way, each theory has its own set of constraints and does not complement the others[33].

Complexity Teacher Theory

Complexity teacher theory is an area of scientific thought that deals with how people behave in a complex system, like as an organization. Educational teachers used to engage with their subordinates through physical contact, but this has changed throughout time. The globe has been able to grow dramatically into a global village in this era of globalization, which has resulted in changes in numerous elements such as social change, economic change, and environmental change, among others[29]. As a result of these societal dynamics, the use of complexity teacher theory could aid educational and digital teachers in becoming more advanced and moving with the emergence of society. The complexity teacher theory also aids in identifying the qualities that particular teachers require in order to improve their work performance. In today's global world, digital teacher refers to a teacher's capacity to use complicated teacher theory to favorably impact the behaviors of subordinates toward the achievement of established goals[30].

2.3 Review of Empirical Studies

2.3.1 **Teachers' use of Technology and the Impact of Covid-19**

Technology has a significant impact on modern education. There are some challenges to overcome, but schools are expected to use technology to enhance the education of their students. The first are environmental concerns including the accessibility of resources, the availability of equipment, teacher support, and training. If teachers and pupils are lacking access to personal computers and quick internet connections, online instruction cannot be done. Second, internal factors include the attitudes and beliefs of the teachers regarding the use of technology in addition to their skills and knowledge. Teachers will not have the necessary skills if they have not received proper technology training. Some academics refer to these traits as "first and second order hurdles," because either of them can thwart attempts to integrate technology. Effective actions are needed to solve both. At-school assistance and support are equally crucial. Online educators need to adapt to new pedagogical theories and modes of instruction for that they have not received formal training. Nearly 20% of instructors acknowledged a critical need for more training, and 40% of instructors needed professional development in using technology, based the OECD's Teaching and Learning International Survey (TALIS 2018). It was discovered that younger instructors and those who had undergone in-service training used technology more regularly than their more experienced counterparts. According to studies, the majority of teachers preferred employing technology, but the main barrier was a lack of training. Nearly a quarter (23.3%) of instructors reported not having received any training on how to use technology to teach literacy. According to study, in order to properly incorporate technology into their classrooms, teachers must obtain training. When used appropriately, technology may be a useful tool in the classroom, therefore teachers need to know when and how to use it[20]. Success depends on teachers' technological prowess and their capacity to modify both the content's quality and quantity. Government actions taken in response to the Covid-19 epidemic resulted in the closure of numerous schools. Since they must create lessons, coursework, tasks, and evaluations that are suitable for online learning, teachers now have no choice but to work online. A substantial change in their field is

affecting many teachers who say they have little to no training in it. Normally, change is conducted in small steps with the aim of figuring out what succeeds and what doesn't but the Covid-19 outbreak has called for a quicker response. In essence, the character of teachers' work underwent a drastic transformation almost immediately. It entered an unexplored territory with no set norms, and much of whatever functions in person might not function online. Online teaching is referred to by scholars as Emergency Remote Teaching (ERT), not even just online teaching. It was also mentioned that the word ERT would be preferable. Teachers will find this change challenging regardless of terminology. Student learning had a substantial change as a result of this modification. It is unreasonable to anticipate that all students will also have access to the advantages of technology and domestic help. We cannot assume that all instructors or learners would be successful online. The switch to ERT is probably going to cause a lot of students to fall behind. Learning loss is associated with student anxiety, a lack of motivation, and reduced learning time. Underprivileged children will be more affected by this loss since they might not have access to the internet, and other essential technologies. These are what are referred to as "first-order difficulties." The fact that certain students do not have a suitable learning home environment complicates this. According to researchers, nine percent of 15-year-olds in OECD nations lacked a place to study at home. Parental support, both direct and indirect, might not be sufficient. Successful online learners possess the traits of discipline, motivation, self-direction, and time management. For students that work at home and receive less help, this could be more challenging. All students will be impacted, but the educationally underprivileged children will suffer more. A researcher explains how difficult it is to create and maintain an online "presence." Due to the lockdown, many students will not have the chance to interact with classmates or form friendships that would regularly take place in a classroom. Teachers and students must communicate and provide feedback much more frequently as a result of their online social presence. It's especially crucial when students are worried about a global issue. It can be calming and sociable to be a

participant in a learning community. Increasingly more children, a lot of whom are quite young, are using the internet today. In the UK, 52 percent of children aged 3 to 4 and 82 percentage of children aged 5 to 7 are currently online[10]. Teachers have the chance to use technology in the classroom because these kids are already engaged in it. This emphasizes how important it is for instructors to be proficient with and at ease with technology.

2.3.2 Principals Digital Teacher Roles and Technology Capabilities and Work Performance during Covid-19 Pandemic

The quality of a school's teacher determines its performance to a considerable extent. As a school's instructional teacher, the principal assists in the integration of human and non-human resources into a productive functioning mechanism. Principals use collective supervision activities, cooperation, incentive, effective communication, and evaluation to influence teachers' behavior and beliefs in order to fulfill the school's instructional objectives. Principals serve as both administrators and professional educators. Principals have a variety of responsibilities as administrators, including planning and coordinating, responding to mail, and visiting ministries to resolve school issues, among others. As a professional teacher, the principal participates in the development of curriculum and seeks out material resources to aid teaching personnel. In order to carry out these duties, the principle must have excellent interpersonal skills[35]. The attitude of a principal toward his subordinates has a substantial impact on teacher behavior, which in turn has an impact on students' academic success. It can then be argued that the level of engagement between principals and their teachers determines the level of performance of pupils in their academic assignments, either directly or indirectly[35]. The principals must assess the performance of school teachers in order to determine how well the school's educational goals are being met. When performance falls short of expectations, the principal takes corrective action, provides direction and counseling, and coaches the affected staff. Collective

bargaining, negotiations, employment regulations, work life, equal opportunities, and managing diversity are all aspects of human relations. One of the most important aspects of human relations is the involvement of staff members in school management. This includes, among other things, teacher involvement and participation in decision-making, as well as principal self-awareness. It symbolizes the ability to become the focus of one's own attention. It is regarded as the most humane workplace emotional intelligence method for increasing institutional effectiveness[36]. The job of a teacher Many factors influence secondary school performance, including motivation, qualifications, and school climate, among others[37]. The level of involvement of teachers in the day-to-day operations of the school has been defined as a measure of their job performance. It is defined as a measurement of a teacher's effectiveness in relation to their expected obligations in the classroom. It is used to assess if a teacher is effective in terms of teaching, discipline, lesson planning, delivery, and devotion[38]. Work performance of secondary school teachers in Khyber Pakhtunkhwa's Southern Districts. In this study, a survey research design was adopted. The study's findings suggested that teacher job performance in the Southern Districts of Khyber Pakhtunkhwa was above average and good[39]. In Nigeria, instructors' job performance and students' academic progress in secondary schools to see if there was a bi-causal relationship[39]. The study used an ex-post facto research design. The study solely looked at Economics professors and senior high school students at Ekpoma public secondary schools in Edo State, Nigeria. The study's findings revealed that teachers' job performance in each of the three periods influenced students' academic attainment.

Teachers' job performance and other teacher attributes such as (teachers' academic qualification, professional qualification, topic knowledge, instructional quality, assessment methods, work value, and Moral attitude, were discovered[40]. As a result, principals' human relations techniques (Self-awareness, Self-acceptance, involvement, and incentive) were viewed as aids for boosting secondary school teachers' job performance[41]. The Problem is Stated The principle, as the instructional teacher

of a secondary school in Nigeria, is critical to the school's success[42]. Building a strong culture of cooperation and creative problem-solving requires instructional teacher skills that have proper interpersonal interactions among all members of a school's staff in order to achieve good teaching[43].

During the COVID-19 pandemic, the current study investigates teachers' experiences and perceptions with their secondary principal's digital teacher duties and technological capabilities. It is well acknowledged that technological improvements affect education and educational approaches. Due to the increased usage of information and communication technology, educational institutions have been forced to undertake a digital transformation in recent years in order to keep up with the modern world[44]. In most schools, interactive whiteboards have long since replaced the traditional chalkboard, and educational activities have become viable in almost all settings and under practically all conditions. The primary outcomes of this digital shift are altered job definitions, changing everyday life patterns, and a requirement for economic value[45]. Technology's rapid advancements have had a substantial impact on the educational process, altering both the methods and the rate at which knowledge is learned[46]. Major changes in educational procedures, as well as almost every other field, have been observed in this digital age, and it is clear that educational institutions must keep up with this trend. As a result of the sector's digital transformation, the most often used technical equipment in recent years, as well as the sustainability of education in nearly all conditions, have developed. The vision of educational teachers has clearly been a key role in the digital transformation of these institutions[46]. Digital transformation capabilities are mostly determined by the clarity of the digital strategy used by leaders who support a culture open to change and supportive of novel concepts and methods. Additionally, educators should be able to determine whether or not specific digital tools or methods can facilitate the adoption of these changes. Additionally, they must be able to identify the aspects of contemporary society that will spur a more thorough digital transition[47]. Digitalization is a global transformation that affects practically every aspect of human life, not just the business.

Governments around the world, on the other hand, are at various levels of digital transformation, depending on their priorities for creating a functioning digital economy based on their national agenda[48]. Organizational teachers cannot avoid becoming involved in the digital transformation process since it is an emergent and continuing radical change process[7,8]. As is well known, organizational change nearly always begins with senior administration or executive management, but for a successful transformation, teachers must be able to excite their people and successfully steer them toward the organization's goals. True digital transformation within firms can only take place with executives that are capable of overseeing the entire process[34,37]. According to the findings of the most recent Euro barometer study, many respondents believe that digitization has a good impact on the economy (75%), quality of life (67%), and society (64 percent)[38]. Indeed, digital technologies have had a significant impact on people's daily lives and enterprises in recent years. Digitalization enabled the worldwide connection of more than 8 billion devices, changed the value and administration of information, and began to alter the character of companies, their borders, work processes, and relationships[49].

The use of a portfolio of technologies that most organizations have used to varied degrees includes the Internet, digital platforms, social media, Artificial Intelligence (AI), Machine Learning (ML), and Big Data[23]. "Rapidly becoming as infrastructural as electricity," according to these technologies and equipment. At the macro level, the shift to new technologies is paving the way for new competition mechanisms, industrial structures, work systems, and relationships to emerge. Digitalization has had an impact on company dynamics, procedures, routines, and skills16 at the micro level. Companies are transforming their workplaces into digital workplaces across a variety of industries and sizes of organizations[50].

Many vocations today need considerable use of technology and the capacity to exploit it at a rapid speed, it was discovered. Nonetheless, digitalization is being viewed as both a global job generator

and a global job destroyer, resulting in a significant shift in job requirements. As a result, executives must invest in upskilling personnel, as well as support and motivate them as they navigate steep learning curves and cognitively challenging problems[51]. Furthermore, increased connectivity and information sharing are assisting in the dismantling of hierarchies, functions, and organizational barriers, resulting in the transformation of task-based activities into more project-based activities, in which employees are required to directly participate in the creation of new added value[49]. As a result, the teacher role has become critical in capturing the true benefit of digitization, particularly in terms of talent management and retention through better reaching out to, connecting with, and engaging with people[40]. Teachers, on the other hand, must be held responsible for resolving new ethical challenges that have arisen as a result of the dark side of digital revolution. For example, the use of digitalization processes to overburden employees with information or further blur the barriers between work and personal life[41].

Teacher experts have been trying to track the effects of digitization processes for decades. Part of the scholarly debate has centered on teachers' abilities to incorporate digital transformation into their organizations while also inspiring staff to embrace change, which is frequently viewed as a challenge to the current status quo[52]. To help clarify the dispute, the term "e-teacher" was coined to define a new type of teacher who is continuously interacting with technology. E-teacher is defined as a "social influence method mediated by Advanced Information Technology (AIT) to effect a change in attitudes, feelings, thinking, behavior, and/or performance with individuals, groups, and/or organizations," according to the definition[52]. Despite the growing interest in examining the relationship between digital technology and teacher, contributions from diverse disciplines have been scattered. Scholars have struggled to "identify wider patterns of change coming from the digital transformation as a result of this fragmentation[42]. It also implies that a variety of theoretical models have been used to explain the event. Indeed, while businesses are transforming as a result of

technology advancements, the manner in which the change occurs is still up for debate[53]. Furthermore, due to the rapid evolution and deployment of digital technology, it is necessary to keep up with and examine the most recent contributions to the field[54].

The following boundary conditions are used in this study. To begin, we used a wide definition of teacher, which defines a teacher as someone who leads a group of people, an organization, or empowers their transformational processes. Second, research about market or industry teachers in which the teacher is represented by an organization were omitted[55]. Finally, we looked at studies that explicitly mentioned a digital or technical transformation. Fourth, we excluded studies that could not show a strong link between information technology and teacher, such as municipal teachers defending urban economies' physical and digital infrastructures in the face of climate change[55].

2.3.3 e-Teacher, Information Communication Technology and Work Performance during Covid-19

This study uses the Van Wart et al. and Roman et al. E-teacher paradigm, which stresses a teacher's virtual communication skills and specifies six distinct characteristics. That is to say: E-teacher is a set of information communication technologies that mediate social influence processes aimed at changing attitudes, feelings, thinking, behavior, and performance[56]. It is based on the ability to communicate clearly and effectively, provide appropriate social interaction, inspire and manage change, build and hold teams accountable, demonstrate technical capabilities related to ICTs, and develop a sense of trust in virtual environments[57]. E-communication, e-social skill, e-change management, e-team skills, e-tech savvy, and e-trustworthiness are the six major interrelated digital abilities in the concept[58]. It's thought of as a multi-dimensional, integrated, and comprehensive idea in which one component is linked to others[59]. Except for e-tech, which is an additional dimension of competence necessary to properly use virtual media, it reflects the types of communication abilities expected in traditional communication uses[45]. It's also worth noting that e-teacher isn't about replacing or substituting

traditional media (for example, face-to-face meetings, printed documents, and traditional mail) with virtual communication tools (for example, email, videoconferencing, social networking, and instant messaging)[60]. It's about combining traditional and digital media to increase the efficiency and effectiveness of a teacher's multiple goals relating to tasks, people, and organizational outcomes[61]. It has long been acknowledged that technology has a significant impact on teacher and communication patterns.[48]. The study of the integration of virtual communication technologies (e-teacher) has become a significant research topic as a result of the digital revolution and the ubiquity and power of ICTs in teachers' lives[48]. Covid-19 is both a challenge and an opportunity for remote workers, emphasizing the need of electronic teacher in team activities and performance[62]. The use of information communication technologies (ICTs) has been identified as a crucial aspect supporting institutional assistance[46]. However, little is known about the role of organizational teachers in ICT use, particularly in project management situations when time-sensitive goals are expected of temporary team members. This study looks at the role of teacher in utilizing ICT to complete work obligations in a group context. The following are the research questions: At the team level, when and how do teachers use (and integrate) media, including ICTs? What is the link between teacher and the use of ICT? What effect does teacher have on group outcomes like performance, contentment, and learning?[62]. The general role of ICTs in individual and group tasks has been addressed in the communication and teamwork literatures. Despite this, little is known about the exact relationship between teacher and various forms of ICTs, particularly at the team level[47]. The need of studying this relationship and providing lessons for teachers who handle team-level duties for members working from home or at a distance is heightened by Covid-19. This study delves into this complicated link and helps to a better understanding of the function of teacher in ICT use and team effectiveness[63].

Because of the rapid development and dispersion of various digital technologies, particularly Industry 4.0, digital transformation has become a buzzword in the previous 2-3 years. As previously said,

digital transformation entails a more thorough digitalization experience that affects corporate processes, business models, customer relationships, and operations, as well as causing disruptive alterations in all business structures[64].

Today's enterprises have a significant difficulty in managing digital change. The competencies of the active individuals, particularly the teachers of the digital transformation process are one of the main successes elements[65]. As the first requisite of digital transformation, it also addresses organizational teacher capacity. Digital teacher has problems such as dynamic environments with rapid changes in digital technologies, accelerated globalization, and simple communication of distributed organizational forms[66]. Unfortunately, the organization's digital culture and competencies, as well as the new desired type of digital teacher, are not well understood[18]. Some of the present research look at which executive abilities and traits are required to successfully navigate digitalization-related difficulties, while others propose and systemize teacher skills[67].

Digitalization in organizations began with the introduction of computers to manage digital data. Then, with the help of various digital technologies, particularly the Internet, digitalization manifested itself in organizations as the automation of business operations, leading to enterprises changing their business models[68]. With the rapid development and integration capabilities of new emerging digital technologies such as Big Data, Cloud Computing, Social Media, Artificial Intelligence, Augmented Reality, and others within the fourth Industrial Revolution Industry 4.0, digitalization became more disruptive and began to be referred to as "Digital Transformation (DT)," because the digitalization process in businesses includes a comprehensive transformation of business processes, buses, and other infrastructure[69]. Based on scholar, companies develop new business models offering personalized product experiences as a result of changing customer behavior, such as customers expecting real-time product experiences and sharing data about themselves, as well as the ability to offer smart products and services enhanced with digital capabilities[70]. The companies should rethink

their value chains and organizational structures and they are challenged to operate faster and flexible and they need appropriate teacher techniques to adapt to new market conditions and to keep their competitive advantage[71]. Digital Transformation is a continual process rising the extent of digitalization within the organization[19]. By using digital technologies more business processes are digital transformed and more digital business models are created[71]. In this manner the organization is moving to a more digital one. It can be captured that digital transformation is a state with different digital maturity levels of the businesses[72]. At the same time the transformation process must be led by a digital teacher facing the disruptive challenges of digital transformation. Digital teachers must lead the digital transformation in order to guide the company through Industry 4.0 while managing disruptive developments and encouraging people[72]. Another study describes the role of digital teachers as their contribution to the transition to a digital organization[36]. The right things are being done by the digital teacher for a successful digitization of businesses. However, digital teacher is responsible for not just managing the digital transformation system process, but also for leading the resulting digital organization[73]. Teacher 4.0, for example, is defined as leading new methods of working and managing high-performing teams[74]. It was also thought about digital teacher from the standpoint of running a virtual organization[74]. Unfortunately, as the above definitions confirm, there is no widespread awareness of the need for teacher changes in the digital transformation era, because digital teacher entails not only leading the digital transformation process, but also leading an organization in a digital environment, depending on the organization's digital maturity level[75]. Classical teacher is the type of teacher that existed before digitalization[76]. Digital teacher is concerned with both the digital transformation process and leading the business in a digital environment, starting with digitalization[77].

2.3.4 Digital Teacher and Communication Styles on Secondary School Teachers Work Performance in Nigeria

Performance is defined as the accomplishment of predetermined objectives, which might be personal, organizational, or national in nature[78]. Diverse interests of people involved and the associated actions that occur within an organization can be used to analyze organizational performance (workers)[79]. Organizations are driven to perform in a way that reflects the goals, and expectations of a larger society. This could lead to the organisational progress and expansion through a return on investment in profits, or it could lead to its demise[79]. In some organisations, an employee's performance is assessed during the preceding year or cycle to determine the stands of the employee as far as his or her peers in the same team are concerned (peer to peer review). This is used to examine employee development and contribution to the organization. However, the focus of this research is on work performance. Job performance is defined as the completion of a task against the standards of accuracy, completeness, cost, and speed, which is a determinant of whether a person performs a job properly[80]. Employee performance indicates a formal organization's strengths, shortcomings, and potential managerial inadequacies. Work performance is also view as an employee's ability to complete the tasks assigned to them. A school is a type of educational institution that aims to offer students with opportunities to learn. A school is an educational institution or structure where students get instruction[81]. A school is also an organization where learning activities occur. A school is a learning environment designed for students[81]. Both the government and the private sector own schools. Private persons own the majority of childcare centers, nurseries, and elementary schools[82].

Public schools are those that are run by the government. A primary school is an institution that provides emotional and cognitive teaching as well as aids in a child's social development[82]. This level of education encourages students to flourish, learn how to participate, and offers the child a sense of belonging[83]. A primary school is an educational institution for students aged six to eleven years old where they receive their first formal education[83]. Primary school is a place of learning where a kid obtains his or her first and compulsory formal education[84]. In the educational sector, a curriculum

implementer instructor does all possible to obtain the desired result[85]. A teacher is a person who is competent and has obtained certification in areas like as the Nigeria Certificate in Education (NCE), Bachelor degree in Education (B.Ed), and others[86]. He or she is a person who has developed professional and pedagogical skills in order to facilitate effective teaching and learning[87]. Teachers are should employ proper teaching approaches to successfully teach in order to improve learning[70]. A teacher is also a person who, via his or her character, leaves a lasting influence on his or her pupils/students[87]. A teacher is a someone with the ability to influence and develop moral character in his or her students[88]. Teachers successfully arrange and manage the classroom and generate a healthy emotional climate for learners to participate in the learning process[86]. Elementary school instructors only work with young pupils in primary schools. Primary school teachers receive in-service training and upgrade their skills in order to improve learning[89]. They underwent training and retraining in order to gain new skills and knowledge that would help them in the future[90]. Educational training and in-service allow teachers to adapt their teaching approaches and methodology[84]. Digitalization is the use of Microsoft programs to innovate or rebrand an organization's output and value-producing potential[91]. This simply means that digitization extends beyond the use of computers in the workplace to the employment of Microsoft applications to boost the product's worth. It's a term that refers to how businesses and society employ digital technology and Microsoft applications[92].

Digitalization is defined as the associated changes in an organization's, society's, and object's connectedness. Digital teacher is a team-oriented job and cooperative approach with a significant focus on changes in the competitive market[93]. Digitalization is also defined as the ability to approach both technology design and business architecture strategically[94]. It is the strategic application of digital technology and digital abilities[95]. Digitalization is a preferred teacher style in the digital age. Digital teacher is also the adoption of many types of strategies that favorably influence the digital transformation process[95]. Digital teacher is the act of being in charge of a key sector of the

information society, such as the press, or various media and communication[95]. Digital is a philosophy or idea that uses broad access to technology to improve the lives, wellbeing, and conditions of subordinates[95]. Good communication between the teacher and the group members of an organization is required to achieve an organizational goal. teacher communication styles have been categorised into many dimensions ranging from dominant to friendly among group members in an organization, which influences both teachers and subordinates' job outcomes[96]. There are four basic teacher communication styles which include. (Passive communication style, assertive communication style, passive-assertive communication style and aggressive communication style). Teacher communication styles are viewed in a variety of ways by researchers. Digital teachers are people who communicate their views and opinions without apologizing. A passive communication style can be describing as such a teacher achieves little or no results when it comes to effective people management to meet organizational goals[97]. Researchers identifies the following traits: they ignore their rights and allow others to limit their rights, they do not express and are unsure of their own wants, ideas, or feelings, and they are emotionally unsure[96]. However, there are times when a passive communication style is used by a teacher. It was argued that when teachers are overly forceful, members of a group or team in an organization's morale, self-esteem, and confidence suffer. Assertiveness entails sticking up for your own rights while still acknowledging the rights of others[94]. It was seen as a way for teachers to share their thoughts and sentiments in an open and honest manner without damaging the feelings of their subordinates. Other characteristics, include being respectful, maintaining good eye contact, communicating in a calm tone and plain language, and not allowing people to mistreat or manipulate them[97]. Teacher communication style training programs have recently been established to help teachers enhance their communication skills. Communication in a demanding, abrasive, or confrontational manner is part of a teacher's aggressive communication style and behavior. The usual goals of an aggressive communicator are dominating and winning, and driving the other person to

lose. Aggressive communicators' intents are common in communication and are an aspect of an individual's personality. Because of their demanding, criticizing, accusing, and frustrating attitude, believes they are underappreciated. The passive-aggressive communicators are the last sort of teacher communicators. These are teachers that appear inert on the surface but are acting out their anger in a covert, indirect, or behind-the-scenes manner[97]. Such teachers may also feel weak or trapped within themselves, which can lead to bitterness and a desire to perceive things or act out in subtle, indirect, or secret ways. They are teachers who communicate in both a passive and forceful manner. It was determining that their activities are indirect rather than blatant aggression, and they refuse to address people about a problem that they are having. In Nigeria's Kwara State College of Education, a researcher conducted an empirical study to determine the relationship between teachers' communication styles and lecturer job performance[98]. The findings demonstrated that there is a link between the democratic communication practices of teachers and the work performance of lecturers. The communication strategies of autocratic and laissez-faire teachers had little effect on academics' work performance[98]. He then stressed the democratic pattern of communication as a means of facilitating or encouraging the institution's aims to be met. A school administrator's teacher and communication styles encompass not only the characteristics of an administrator (person), but also extend beyond the physical encounter between the administrator and the teachers[99]. Furthermore, another research was conducted on investigating the relationship between teacher communication style and organizational productivity.

The findings revealed that there is a link between teacher communication style and organizational productivity[99]. It establishes that assertive communication style (friendly and attentive communication style) has a favorable substantial association with organizational productivity and teacher performance. The impact of school digital teacher communication styles (passive communication style, assertive communication style, aggressive communication style, and passive-aggressive

communication style) on the job performance of public primary school teachers in Oyo State was revealed at COVID-19[100]. In this day and age, it is critical that school administrators, particularly public primary school teachers, move away from the traditional method of communicating with their subordinates. This act would not only benefit school administrators, but it would also benefit public primary school teachers who are not digitally savvy. When the COVID-19 pandemic struck, everything came to a halt, and the Federal Government was forced to close all schools, including primary schools, revealing the degree of both school teachers and public primary school instructors' digitization[101]. The pandemic caught practically everyone off guard, especially in Nigeria, in contrast to other wealthy countries where education remained relatively unaffected[102]. Some scholars have also conducted research on teacher styles and teacher communication, among other topics.

During Covid-19, public and private companies will face a problem in ensuring job productivity in work-from-home arrangements due to disparities in digital capabilities. Covid-19 has changed the world by speeding up the process of digitalization, often known as digital transformation[101]. It forces us to consolidate all of our activities from many locations (for example, working in an office, studying in a classroom, shopping in a mall, and worshipping at a worship center) into doing everything at home[102]. This condition is triggered by the massive expansion of virus-infected victims, and working, learning, shopping, and worshiping from home is one effective strategy to flatten the curve of Covid-19 infected patients[102]. Businesses undergo digital transformation, but also private citizens and government entities. As a byproduct of digitalization, digitalization, and digital transformation, work-from-home will become the most widely available option for working arrangements in enterprises[102]. Other hand, using digital change is more complicated than simply turning on a light. 37% of work can be done entirely from home in the United States alone[103]. Furthermore, a worker's productivity level can differ greatly when working from home as opposed to an office103. Regarding digital disparity, not all office workers currently have the same access to and

comfort with home technology. In the UK, the lockdown policy has led to a growth in online inequality. The closure of public libraries and e-learning facilities hinders citizens seeking health-related information who lack access to digital technologies or have little digital proficiency. People who are experiencing a digital imbalance in the UK can be divided into three categories: those who cannot afford the equipment and connection fees; those who lack the motivation to use technology in their everyday lives and businesses; and those who lack the digital expertise necessary to use it for communication and information retrieval[104]. Many businesses in both the private and governmental sectors are still questioning the efficiency of work-from-home as a temporary employment arrangement, particularly in organizations that deploy heavy virtual work. Work-from-home productivity is influenced by digital skills. Workers with proper digital abilities can more flexibly use and manage their working time, thereby achieving work-life balance. The support of superiors or supervisors, as well as contacts with other employees, might influence the development of digital abilities. The impact of supervisors' teacher and collaboration with coworkers on the work-from-home process is also investigated in this article. This article aims to offer suggestions for supervisors and companies on how to maximize work productivity during COVID-19 by efficiently strengthening the digital skills of office workers, particularly those who are new to working from home. Technology in many different ways, and it also aids in the growth of numerous companies.

Policy initiatives to promote digital adoption must therefore be supported by a rise in digital literacy.[104]. All technology-related abilities are included in the digital skill set, which includes basic skills such as literacy, general skills for all workers, and specific skills for information technology specialists[17]. The notion of digital skill was defined in this article, and it is measured in four dimensions: digital technical skill, digital communication, digital analysis, and digital thinking[105]. A pattern of mutually advantageous and well-defined partnerships between two or more entities to achieve common goals is known as digital collaboration. To solve difficulties or deal with challenging

situations, people frequently collaborate[15]. In a work-from-home setting, collaboration takes place over the internet. The construct of digital collaboration is used in this article, which is operationally defined as collaboration between employees and internal and external partners to execute joint activities using digital technology[21]. Team characteristics, job kind, collaboration quality, and digital technology use are the four dimensions of digital collaboration. Because of the disruption generated by digital technology, a company's competitiveness requires both digital and teacher skills.

Ability to efficiently conduct digital transformation, according to certain sources. Business educators that use digital teaching techniques present a focused vision and carry out digitalization strategies[104]. members in the use of digital technology to aid businesses in attaining commercial success is described in this article as "digital teacher," utilizing those principles as a guide[105]. driven digital transformation since it will affect the productivity of working professionals in both the private and governmental sectors.

A worker's proficiency with digital tools is referred to as their digital talent. The ability of an office worker to use internet, including digital thinking, modern devices, electronic information, and digital analytical skills, is referred to as having digital skills. Theoretically, there are two ways to advance digital skill development: vertically and horizontally. The supervisor's teacher has an impact on the development of vertical direction. Collaboration with coworkers affects the development of the horizontal direction[106].

2.3.5 Resilience, Reorientation, and Renovation: School Teacher During the early Months of the Covid-19 Pandemic

Many schools struggled to respond swiftly and appropriately as the COVID-19 pandemic expanded across the globe. The pandemic had a significant impact on schools, which were one of the most important societal institutions. Most school teachers, on the other hand, have little to no experience in

crisis management and have never dealt with a crisis of this magnitude and complexity. In the early months of 2020, the news reports became increasingly ominous[107]. "Is the world ready for the coronavirus?" the New York Times wondered in late January.[20]. "Coronavirus spread in the United States is inevitable, CDC warns," the Los Angeles Times headline read a month later. 20 Schools were obliged to pay attention as the COVID-19 outbreak spread. By the middle of March, it was evident that the virus had spread worldwide. The Washington Post headline read, "Coronavirus now a global epidemic as United States and world rush to control outbreak," as school systems around the world began to close"[108]. Early outbreaks in China and Italy resulted in severe societal restrictions across Southeast Asia and Europe. Soon after, the rest of the globe followed suit[22].

Even though many regions had several months' notice, most educational systems were caught off guard. Boards of education and administration debated what to do. Support from the government for schools and families was questionable. There was a palpable sense of unease in the air. The global pandemic spread quickly, and most schools struggled to respond appropriately and promptly. Schools in the United States began to close in early March, whether they were ready or not, and the country faced "an unprecedented school shutdown" a few weeks later[107]. COVID-19 is still sweeping the globe, with several countries, including the United States, experiencing their highest rates of infection and mortality to date. While some schools have reopened, others have closed or shifted nearly all of their pupils to remote instruction[108].

It is clear that the global epidemic has presented school administrators with an unprecedented task. Although principals and superintendents are used to dealing with smaller crises like hallway fights, a leaking boiler, upset parents, financial issues, or even a scandal involving a local educator, most school teachers have never dealt with a crisis of this magnitude and scope for this long. Even the immediacy of greater emergencies that frequently compel school closures–such as a major snowstorm, a hurricane, or a school shooting–usually passes in a matter of days or weeks[109]. The COVID-19

pandemic has exposed the flaws in our educational systems and the lack of administrator preparedness for crisis teacher like no other disaster before it[110].

Crisis Teacher in Schools during the Pandemic

In non-educational sectors, some recent publications have sought to apply crisis teacher techniques to the COVID-19 pandemic. These teacher concepts are similar to a list developed for public health authorities a few years ago, which emphasized trust, decisiveness while remaining flexible, and the ability to coordinate several stakeholders[111].

Recent research on school teacher during the COVID-19 pandemic is also beginning to emerge. Scholars are beginning to try to grasp the early stages of the problem, despite the fact that it is still too early to make sense of schools' responses to the pandemic. However, most of this research has been theoretical or conceptual rather than empirical. For example, the epidemic "is fast changing schooling and teacher," and teachers should lead adaptively, establish organizational and individual resilience, and construct distributed teacher structures for optimal institutional response, according to the report[111]. Similarly, many of the tensions that school administrators are experiencing during the pandemic were mentioned. These conflicts range from the need to lead both quickly and slowly, to reconciling equity with excellence and responsibility, to taking human needs as well as organizational outcomes into account[112].

During the epidemic, academic teachers were advised to concentrate on best practices, look for opportunities in the crisis, communicate clearly, connect with people, and spread teacher throughout the organization. Seven ideas were proposed for consideration and possible research attention, including the notions that "most school teacher preparation and training programmes are likely to be

out of step with the challenges facing today's school teachers" and that "self-care and consideration must be the main priority and prime concern for all school teachers"[19]. "Crisis and change management are now vital skills of a school teacher that demand more than normal problem dealing or occasional firefighting," it was also noted[113].

Three promising practices for P-12 school systems were identified in one of the few empirical studies on pandemic-era school teacher that has emerged so far: treating families as equal partners in learning, continuing to provide high-quality learning opportunities for students, and decision-making that is coordinated, coherent, and inclusive[212]. They also provided three recommendations based on their interviews with thirteen central office executives in the Puget Sound area of Washington: for school districts to focus on "building on" rather than "learning loss," to prioritize relationships, and to develop anti-racist, systemic coherence. "This is an opportunity to create systems to recognize and build on what children learnt (and continue to learn) at home," they said of their first recommendation[112].

More empirical study on the effects of COVID-19 on schools and other institutions is clearly needed as the pandemic advances. Evidence from the field is needed by educational scholars and school teachers to inform the theoretical and conceptual approaches that dominated during the early months of the global crisis[110].

2.3.6 Digital Teacher Skills, Digital Collaboration and Teachers Work Performance

Covid-19 has changed the world by speeding up the process of digitalization, often known as digital transformation. It forces us to consolidate all of our activities from many locations (e.g., working in an office, learning in a school, shopping in a mall, and worshipping at a worship building) into doing everything at home[99]. One effective technique to flatten the curve of Covid-19 infected patients is to work, study, shop, and worship from home, which is triggered by the large development of virus-

infected victims[99]. Digital skill is the ability of a worker to effectively use digital tools. digital Digital skills are defined as the capacity of an employee to use the internet, as well as digital thinking, contemporary technology, digital data, and digital analytical skills. Technically, there are two directions, vertically and horizontally, in which digital skill development can be advanced. The growth of vertical direction is influenced by the supervisor's instructor. Working together with coworkers influences how the horizontal direction develops.[68]. In contrast hand, using digital change is more complicated than simply turning on a light. 37% of jobs in the United States alone can be conducted entirely from home. Furthermore, a worker's productivity level can differ significantly when working from home as opposed to an office97. Regarding digital disparity, not all office workers currently have the same access to and comfort with home technology. In the UK, the lockdown policy has led to a growth in online inequality. The closure of schools and libraries and web - based learning facilities hinder citizens seeking health-related information who lack access to digital technologies or have little digital proficiency. In the United Kingdom, people who are experiencing digital imbalance fall into three categories: inability to pay for equipment and connection fees; lack of motivation to use digital technology in their personal and professional lives; and low digital expertise, inability to use digital technology for information retrieval and communication[112]. Digital collaboration is a pattern involving mutually beneficial and clearly defined relationships involving two or more people to accomplish shared objectives. Collaboration is frequently used to resolve issues or handle challenging circumstances[113]. Collaboration takes place over the internet in a work-from-home environment. This article employs the construct of digital collaboration, which is operationally defined as collaboration between workers and internal and external partners using digital technology to complete joint activities[113]. The four dimensions of digital collaboration include team characteristics, work kind, collaboration quality, and utilization of digital technology[113].

Because of the disruption caused by digital technology, both digital and teacher talents are critical to a company's competitiveness[113]. Based on researchers, digital teacher is a critical skill that managers must possess in order to carry out digital transformation[87]. Business teachers who practice digital teacher have a clear and meaningful vision and implement digitalization strategies[99]. In light of those criteria, this article illustrates that a digital teacher is someone who can motivate and train all of their staff to use digital technology to help their company expand commercially. This essay analyzes digital education from two angles: digital attitude and teaching skills[99].

2.3.7 Information and Communication Technology and Teachers Work Performance During Covid-19 Pandemic

During the COVID 19 crisis, there are a number of considerations that colleges should consider. This is because most colleges have postponed personal attendance and instead rely on technology to maintain connection between academic staff and students. ICT infrastructure refers to the equipment, software, communication systems, and the human component such as experience, skills, command, and principles, while ICT infrastructure refers to the equipment, software, communication systems, and the human component such as experience, skills, command, and principles[114]. The goal of this study was to look at the impact of ICT and ICT infrastructure on academic staff knowledge sharing. Knowledge generation, sharing, and management are now regarded essential challenges in information management, and the role of ICT has expanded beyond data collecting. ICTs serve an important role in enhancing knowledge sharing (KS) processing as digital resources[1]. Technology, which promotes the gathering of data outside of companies or institutions, networks, internal databases, papers, theses, processes, approaches, methodologies, and e-mails, is at the heart of KS[55]. ICTs, on the other hand, rely on technology that help with data gathering, storage, retrieval, and dissemination. ICT can increase access to information and knowledge held in databases by improving specific KS in companies. Institutions face the difficulty of sharing information in a way that

promotes and encourages KS, which, if not managed properly, might result in a loss of competitive advantage[115]. Furthermore, when information is shared in this setting, an organization may face a problem: process exchanges might result in learning issues due to weak linkages and network variety[115]. ICT has the potential to remove some of the hurdles to KS5. Meanwhile, using ICT would help educators and students exchange information and knowledge.[113] Academics can leverage developing technologies like PowerPoint presentations, online forums, URL collections, and websites to improve instruction and make it more accessible[115]. During the COVID-19 epidemic, most colleges have postponed classes and are continuing their education online using technology tools. During the COVID-19 epidemic, ICT is seen as a critical instrument for academic staff to share information and stay in touch with one another. Iraq has also been devastated by the epidemic, and the spread of COVID-19 has had a significant impact[115].

During the academic year 2019-2020, all universities postponed lectures and transitioned to online learning. However, there were a number of challenges with this plan, including a lack of IT infrastructure and a lack of consumer technological awareness. Iraq, as a developing country, nevertheless has a poor IT infrastructure, lagging behind the majority of developing countries. Low- to middle-income countries with low living standards and limited technical and technological infrastructure were characterized as developing countries[110]. Not just between developing and rich nations, but also within developing countries, ICT technology and policy support varies greatly[7]. ICT infrastructure includes network internet facilities, software, and hardware that support and increase knowledge sharing activities8. The majority of previous studies have focused on the impact of ICT and ICT infrastructure in the public sector[5,3,9,10]. However, just a few studies have been undertaken among the academic staff in Iraqi universities[11]. Knowledge sharing could be a crucial aspect in enhancing the productivity of academic employees. Finding and fostering a culture of information sharing among academic staff at Iraqi public universities is critical for increasing staff productivity,

which will improve the ranking of Iraqi universities, which now ranks poorly among regional universities[60].

Furthermore, technological elements play an important role in increasing academic staff productivity, notably in terms of the number of publications, by ensuring that academic staff have access to databases and publish in respected journals and publishers. When compared to regional countries, Iraqi academics' productivity may be limited and this issue has placed Iraq in a low ranking among other countries' universities. Universities should boost academic staff productivity by improving information sharing and technology tools[80].

2.3.8 Digital Teacher and Teachers Technology Integration during the Covid-19 Pandemic

The COVID-19 pandemic wreaked havoc on the educational system. According to the World Bank (2020), the global health crisis led schools to close in 180 countries. Online distance learning has replaced traditional face-to-face learning as the only way to attend school. Educators, like healthcare professionals, were front-line soldiers, putting in great efforts to help pupils cope with the pandemic. Educators were confronted with new obstacles that previous studies had not anticipated[116]. Initially, most governments and institutions expected that the pandemic would be under control in a matter of months and that all sectors would quickly return to normal. However, most countries continued to report large numbers, necessitating the shutdown of economies and the imposition of strict controls to prevent the virus from spreading. Governments attempted to accomplish this in a variety of ways, one of which was to encourage social isolation. Following the initial closures of schools, the education sector was resurrected through the use of digital media Educators have had to alter their digital learning skills while simultaneously acting as users and teachers for these[116]. As a result of the COVID-19 epidemic, new educational boundaries have been explored. From elementary school to higher education institutions, technology has been interwoven into practically every classroom.

During the epidemic, school closures impacted approximately 128 million students in over 190 countries[117]. Teachers, as both users and educators, have had to improve their digital literacy skills, as they play a key role in encouraging students to embrace computer literacy. This has placed a significant load on Kuwaiti school principals, who are inexperienced with such extensive use of technology.

The strategic use of an entity's IT assets to maximize its business achievements is referred to as digital teacher. Digital teacher guarantees that the firms involved remain competitive in their fields of expertise in order to provide the required services or commodities to the stakeholders[117]. The COVID-19 pandemic has necessitated distance learning and transformed traditional learning systems into digital active spaces[117]. Five aspects of digital teacher are suggested by the International Society for Technology in Education (ISTE): (1) Professional Practice: Excellence in learning and teaching entails a thorough understanding of the subject that must be taught and presented to students[118]. Teachers must also possess the necessary pedagogical abilities to guarantee that skills are passed on to students. School administrators should foster an environment that encourages innovation and professional development, allowing pupils to learn using digital and technical resources[119]. Using IT guarantees that students are well-informed and up to date on the current developments in technology-assisted learning. (2) Visionary Teacher: One of the most important parts of digital teacher is visionary teacher. This emphasizes on the digital teacher's ability to integrate a clear vision for where they want to take their company. One of the key reasons for including visionary teacher into the digital teacher framework is that it improves decision-making efficiency[119]. The value of the decision-making process is substantially enhanced by digital teacher, which increases school administrators' awareness and understanding of current challenges, not only in the near term but also in the long run. In terms of digital teacher, this is a critical component of success.

Educators must stay current on current technology advances to ensure that they not only communicate, but also articulate the vision of teacher and development with all stakeholders involved[118]. In the digital age of learning, school teachers must establish and manage the tools and relationships that are required. They are also responsible for guiding development and inspiring and implementing a shared vision of integrating technology to promote transformation and excellence in a school setting. (3) Digital-age Learning Culture: Educators must now endeavor to establish and maintain technology use as a significant learning resource, according to[120]. Through a learning culture that incorporates current digital platforms and advances, school teachers should build, enable, and sustain the dynamic digital era[121]. The degree to which digital teachers embrace the digital age learning culture has a direct bearing on their ability to achieve high levels of success. These teachers must ensure that they are well-versed in the methods that make up the framework for creating a digital age learning culture in their various settings or organizations[122].

(4) Digital Citizenship: Digital citizenship refers to the acts and behaviors that promote beneficial digital communities and environments. Principals are responsible for modeling and mobilizing the knowledge of ethical, legal, and social duties as digital culture and citizenship evolve. Teachers must also guarantee that learners have access to appropriate resources to suit their technical needs. Computer science, technical platforms, and the various tendencies that characterize digital progress are all part of digital citizenship[120]. The integration of digital citizenship into digital teacher increases teachers' ability to successfully interact with the requirements of various stakeholders while also remaining on top of emerging trends and developments, both internally and internationally.

(5) Systemic Improvement: School teachers try to establish a system of continuous improvement in digital learning while providing learners with the skills they need to develop their own unique competences[119]. Systemic improvement provides a platform for implementing changes in the teacher process without producing instability. Furthermore, systemic improvement has the favorable effect of

increasing the extent to which high efficiency standards are maintained within the teacher process, both in the short and long term. These are always important characteristics when it comes to improving digital teacher. Lesson plans, notices, and other documentation are among the documents that teachers are expected to generate in their professional capacity. This article looks at how technology can be used in the classroom[120]. Teachers can access course information and lessons via a variety of electronic devices, including tablets, PCs, and laptops. Through imaginative, user-friendly programming, these gadgets can be utilized to further explain complex subjects. Teachers can use the results of quizzes and polls to determine how well students grasp the material. They can then utilize the information to plan out the most successful techniques for imparting the relevant skills to their students[118]. Because students can use their literacy abilities to absorb the taught topic, technology allows teachers to have a high degree of engagement in learning. It reduces the amount of work that teachers have to do in order to fulfill their responsibilities. According to the literature, integrating technology into the classroom might be difficult for teachers due to a variety of variables[121]. Previous online learning experience, technological understanding, pedagogical knowledge, and the support system are all examples[122]. Lack of access to contemporary technology, poor internet connection, low motivation, and attention deficiency among learners were among the most common issues identified[123].

2.3.9 Information and Communication Technology Tools and Teachers Work Performance

In Nigeria, education is a tool for supporting national development and maximizing citizens' potential. Over time, the country's vision is for a thorough transformation of all facets of its life. As a result, education should be able to transmit our beloved heritages and living inventions between and among generations. It should improve Nigeria's global standing in science and technology in all areas of life. Nigerian society is dynamic, and education, as a micro element of society, must adapt to these

changes[124]. The introduction of Information and Communication Technology (ICT) into every facet of human endeavor is one of these major transformations, and for education not to be caught off guard, it must integrate ICT, which Nigerian teachers are adopting into all aspects of the school's curriculum from planning to evaluation. Teachers' use of Information and Communication Technology to boost job performance has been a critical component in schools and schooling over the last few decades and secondary schools in Nigeria are not exempt from this search for a technologically driven economy[125]. Teachers' use of ICT has improved school functioning on various levels and improved their job performance. As a result, the importance of teachers using teaching aids such as ICT tools cannot be overstated. The use of improvised materials and teaching aids in the art of teaching not only engages both the students' auditory and sensory organs in the art of teaching, but also helps students retain the topics learned more successfully[126]. The use of Information and Communication Technology (ICT) devices to teach content in many areas has been proven to be a more effective teaching tool. This claim is supported by the UNESCO Information and Communication Technology Competency Framework for Teachers, which highlighted benefits of using ICT to teach students, including the fact that using ICT gadgets to teach students makes the content taught more interesting to the students and maintains their attention as new technological devices are used to learn, making the contents taught appear interesting and fun[126]. The progress of education, as well as its multiple stakeholders, requires the use of information and communication tools. As a result, the pervasive effect of Information and Communication Technology has had an impact on the field of education. ICT has unquestionably had an impact on the quality and quantity of teaching, learning, and research at both traditional and remote learning institutions. ICT can improve teaching and learning by providing dynamic, interactive, and interesting information, as well as actual opportunity for personalized education. ICT has the ability to improve learning outcomes by accelerating, enriching, and deepening skills, as well

as motivating and engaging students. Studies have been done on this, such as study on students' and instructors' perspectives of ICT use in the classroom:

The usage of Information and Communication Technology (ICT) in Pakistani classrooms confirmed that ICT has become a major driving factor in revolutionizing education around the world. In the previous ten years, Pakistan's use of ICT has expanded dramatically[126]. The government of Pakistan's most recent educational policy emphasizes the use of ICT in classrooms. Teachers are also encouraged to use ICT into their classroom teaching and learning activities, according to the curriculum materials. Information and communication technology (ICT) includes a variety of tools and systems that qualified and creative teachers can use to improve teaching and learning conditions. Informative tools, resigning tools, constructive tools, communicative tools, and collaborative tools are among the five characteristics of ICT tools for education. Informative tools include the internet, network virtual drive, intranet systems, and homepage; 1) Informative tools - Internet, Network Virtual Drive, Intranet Systems, Homepage, and so on. (2) Resignation devices, such as CD-ROMs. (3) Constructive tools, such as Microsoft Word, PowerPoint, FrontPage, Adobe Photoshop, and Lego Mindstorm 4) Communication tools, such as e-mail and SMS (5) Collaborative tools, such as discussion boards and other forums. These technologies also aid in the linking of school experiences to work practices, the creation of economic viability for tomorrow's workers, the strengthening of instruction, and the creation of chances for school and world connections[120]. In any educational context, information and communication technologies (ICT) are critical instruments. They have the potential to be used to address the learning needs of individual students, expand educational opportunities, raise student self-efficacy and learning independence, and enhance teachers' professional development. ICT has the potential to completely transform school administration. It encourages students to be more independent and responsible for their own learning, which motivates and engages them in studying. As the influence of ICT is prevalent in every field, it helps to connect

academics to the practice of today's work. Students' understanding and performance have been shown to improve when teachers use ICT tools in the classroom, yet teachers cannot teach unless they have the necessary ICT skills[127].

Teachers must be able to assist pupils in learning how to use ICT tools to seek for information. As a result, the study aims to establish a link between ICT tools and teacher job performance in public senior secondary schools in Rivers State's Port Harcourt Metropolis. Information and communication technology (ICT) includes a variety of tools and systems that qualified and creative teachers can use to improve teaching and learning conditions. Information and communication technology (ICT) tools come in a variety of sizes and applications. Where applicable, its use is determined by the user's intended goal. Because there are so many tools and so many of them appear regularly, the researcher opted to group the ICT tools into the following subheadings, which reflect technique of organizing ICT tools. Under the headings that follow, the two dimensions of ICT tools listed above are discussed in further depth[128].

2.3.10 Principals' Digital Teacher and Teachers' Digital Teaching during the Covid-19 Pandemic

The educational landscape is getting more and more challenging, especially in the digital age when educators must promote the use of technology in school management and administration. To support Malaysia's digital education policy, the Malaysian Ministry of Education (MOE) has published the ICT Transformation Plan 2019–2023. Principals must receive training to understand how to use digital technology, which includes having characteristics of a digital technology-focused teacher[129]. The acquisition of ICT and modern technology skills by teachers is also encouraged in order to facilitate the smooth implementation of these developments[120]. As a result, school administrators and teachers must use these skills to raise students' student success through utilizing digital technology in

order to bring about educational reform. In order to have a beneficial impact on Malaysia's school system, which wants to leverage technologies and digital mastery to increase student brand value in the 4.0 era of education, principals who wish to implement digital teaching should take the most of their time and resources.

The most effective method for guaranteeing that instructors and students participate fully must be decided by the principals[129]. Because they must focus on coming up with numerous solutions to encourage the incorporation of digital technology into education and learning, teachers' tasks have become more challenging. Because they desire to have access to the internet, students are passionate about e-learning and the usage of digital devices like smartphones and tablets[130]. According to a scholar, there are still some teachers who are cautious and have misconceptions about the use of mobile technology, such as the function of social media and the advantages of utilizing digital gadgets. In terms of ICT and digital technology, some principals are lacking. There is a connection between principals' understanding of technology integration and their capacity to motivate themselves to implement whole-school improvements. The principal is responsible for starting and maintaining the combined use of technology in the classroom by serving as an example of it and integrating it into daily management and administrative tasks[130]. Since technological improvements will not stop, it is crucial for educational leaders to adapt. With the help of the dimensions of visionary teaching, digital era learning, practice - based quality, systemic improvement, and digital citizenship, this study aims to evaluate the quality of digital teaching exhibited by principals. In addition, characteristics of administrators' digital teachers were identified in this study that can be used to forecast instructors' digital teaching[130].

2.4 Conceptual Model

Independent Variable

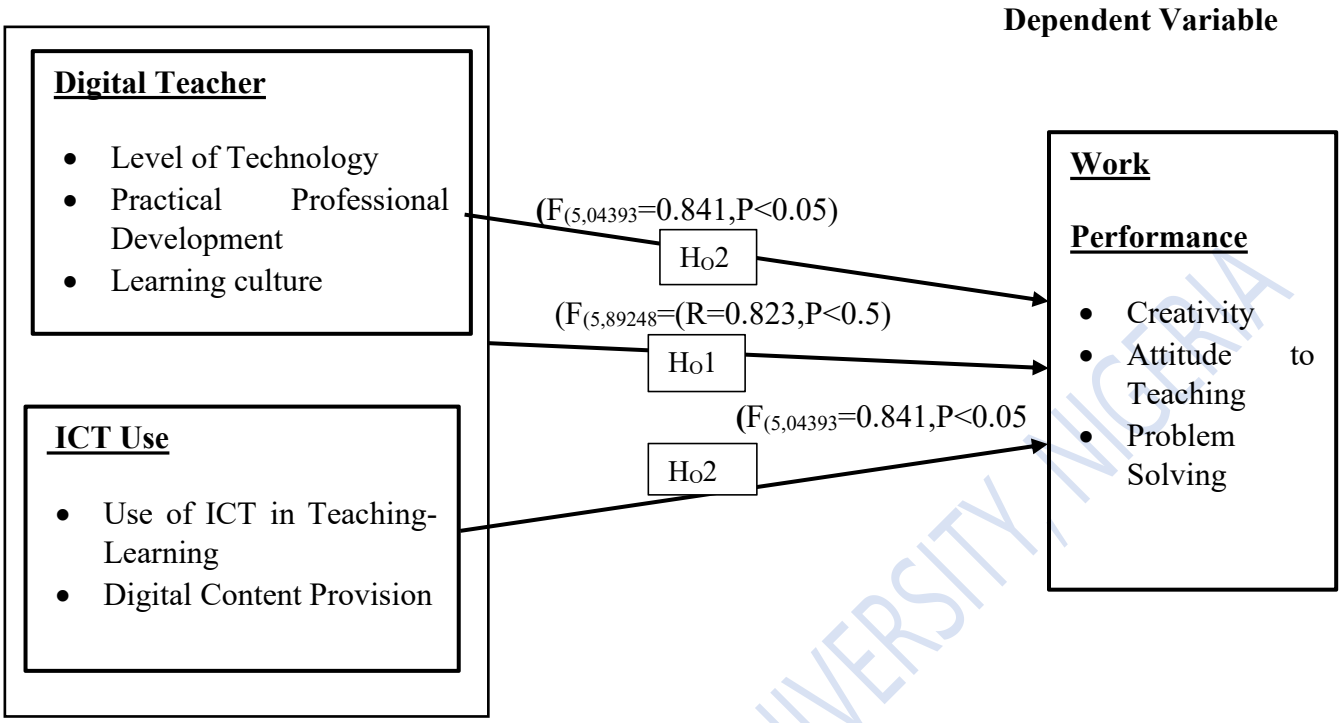


Fig2.1: Showing the Conceptual Model of Digital Teacher, Information Communication and Technology use, and Teachers Work Performance

Field Survey

2.5 Summary of Literature Reviewed

During the COVID-19 outbreak, digital teacher has a direct impact on secondary school teachers' digital skill development. Digital teacher influences digital collaboration, which in turn influences digital skill. The ability to use technology has an indirect impact on the ability to use technology. As a result, employees are the most important factor in the success of every business. An individual's effectiveness is typically reflected in his or her knowledge, abilities, skills, and personality attributes. Humans in any company must be highly motivated in order to achieve their ultimate aims. Around the world, ICT in education is now regarded as both a requirement and an opportunity. Issues and Challenges of ICT in Education discusses the usage of ICT in educational technologies. The key obstacles and challenges of ICT in education are the integration of ICT equipment and tools in the instruction as a media and technique. The purpose of the concerns and challenges of ICT in education

is to familiarize students and teachers with the use and functioning of computers and related technologies, as well as the social, ethical, technological, cost, and electricity challenges of using ICT in education, to name a few. When used properly, ICTs can help to increase access to education by allowing for faster information distribution and availability at any time and place[2]. Given the importance of ICT integration in teaching and learning (IITL), one goal of research in this area is to find characteristics that may be controlled to influence IITL positively. Several theories can be considered for determining the IITL variables.

Endnotes

1. Donmez-Turan, Does Unified Theory of Acceptance and use of Technology Reduce Resistance and Anxiety of Individuals Towards a New System? Vol.49 (5), 2020, pp. 1381-1405

2. S. Sanjay, Digital Disruption is Redefining the Customer experience: The digital Transformation Approach of the Communications Service Providers. Telecom Business Review, New Delhi. Vol. 10, (1), 2017, pp41-52

3. G. Sainger, Teacher in Digital Age: A Study on the Role of Teacher in this Era of Digital Transformation**.** ***International Journal on Teacher*****,** ***New Delhi***. Vol. 6, (1), 2018, pp1-6

4. Turgut Karakose, Hakan Polat & Stamations Papadakis. Examing Teachers'Perspective on School Principals' Digital Teacher Roles and Technology Capabilities during the Covid-19 Pandemic. Vol. 13, Issue 23/10.3390/su132313448, 2021.

5. G. Cette, J. Lopez, G. Presidente, & V. Spiezia. measuring Indirect Investment in Information Communication Technology in OECD Countries. Econ**.** Innov. New Technol. 2019, 28, 348-364. (Google Scholar) (CrossRef)

6. T. Karakose, The impact of the Covid-19 Epidemic on Higher Education: Opportunities and Implications for Policy and Practice. *Ed.* **Process. International journal** 2021, 10. 7-12. Google Scholar) (CrossRef)

7. P. Waiwanijchakij, Digital Trend and Digital Transformation. NBTC J. 2017, 2, 569-592. Google Scholar)

8. G.C. Kane, D. Palmer, A. Nguyen Phillips, D. Kiron, & N. Buckley. Strategy, Not Technology, Drives Digital Transformation; MIT Sloan Management Review and Deloitte University Press: London, UK, 2015; Available online: http://sloanreview.mit.edu/projects/strategy-not-technology-drives-digital-transfornation.

9. A. Cahyadi, & R. Magda. *Digital Leader in the Economics of the G20 Countries: **A** secondary Research Economics* 2021, 9, 3. Google Scholar) (CrossRef)

10. I. Panshin, O. Solovieva, O. Kornilova, & V. Eronin. *The Impact of Digitalization on Teacher in Modern Global Economic System: Evolutional Developmentvs Revolutionary Leap*; Poplova BS Eds, Springer Cham Switzerland, 2021. Pp 1272-1278. Google Scholar) (CrossRef)

11. M. Mok, M.C. & PJ. Moore, Teachers and Efficacy. **Educational Psychology Journal** 2019. 39, 1-3. Google Scholar) (CrossRef)

12. J. Nagy, J. Olah, E. Erdei, D. Mate, & J. Popp, *The Role and Impact of Industry 4.0 and the Internet of things on the Business Strategy of the Value Chain, The case of Hungary Sustainability* 2018. 10-3491. (Google Scholar) (CrossRef)

13. E. Sheninger. Pillars of Digital Leadership, International Center for Leadership in Education. Rexford, NY, USA, 2019, Available Online: http://teachermedia.net/pdf/leadingintheDigitalAge_11.14.pdf

14. H. Antonopoulou, C. Halkiopoulos, O. Barlou, & G.N. Beligiannis. Teacher Types and Digital Teacher in Higher Education: Behavioural Data Analysis from University of Patras in Greece. **Int J. Learn. Teach Edu. Res**. 2020, 19, 110-129. Google Scholar) (CrossRef)

15. G. Couros. Digital Leadership Defined, Corwin Press: Thousand Oaks, CA, USA, 2013; Available online: http: georgecouros. Ca/blog/archives/3584.

16. L. Zhong. Indicators of Digital Leadership in the Context of K-12 **Education. Journal. Educ**. Technol. Dev. Exch. 2017, 10, 27-40. Google Scholar) (CrossRef)

17. F. Navaridas-Nalda, R. Clavel-San Emeterio, & M. Arias-Oliva. The Strategic Influence of School Principals Leadership in the Digital Transformation of Schools. Comput. Hum. Behav. 2020, 112, 106481. Google Scholar) (CrossRef)

18. T. Karakose, R. Yirci, & S. Papadakis. *Exploring the Interrelationship Between Covid-19 Phobia, Work-Family Conflict, Family-Work Conflict, and Life Satisfaction among School Administrators for Advancing Sustainable Management Sustainability* 2021, 12, 8654. (Google Scholar) (CrossRef)

19. O.B. Adedoyin, & E. Soykan. Covid-19 Pandemic and Online Learning: The challenges and Opportunities. Interact Learn. Environ. 2020 Google Scholar) (CrossRef)

20. T. Karakose. Emergency Remote Teaching Due to Covid-19 Pandemic and Potential Risks for Socioeconomically Disadvantaged Students in Higher Education. **Ed. Process. Int. Journal**. 2021, 10, 53-61. Google Scholar) (CrossRef)

21. T. Karakose, & M. Demirkol. Exploring the Emerging Covid-19 Research Trends and Current Status in the Field of Education: A bibliometric analysis and knowledge mapping. Ed. Process**. Int. Journal.** 2021, 10, 7-27. Google Scholar) (CrossRef)

22. J. Sladdin. Coronavirus: Risk in Online Delivery of Education; Pinsent Masons, 2020; Available Online: https://www.pinsentmasons.com/out-law/analysis/coronavirus-education-online-delivery-risk Google Scholar) (CrossRef)

23. M.L. Ellis, Y.H. Lu, & B. Fine-Cole. Digital Learning for North Carolina Educational Teachers. Tech Trends Vol65, 2021, 696-712. (Google Scholar) (CrossRef)

24. T. karakose, R. Yirci, S. Papadakis, T.Y Ozdemir, M. Demirkol, & H. Polat. Science Mapping of the Global Knowledge Base on Management, Teacher, and Administration Related to Covid-19 for Promoting the Sustainability of Scientific Research. Sustainability 2021, 13, 9631 Google Scholar) (CrossRef)

25. H. Aldawood, A. Alhejaili, M. Alabadi, O. ALharbi, & G. Skinner. Integrating Digital Leadership in an Educational Supervision Context: A critical appraisal. In 2019 international conference in Engineering Applications: IFFF: Piscataway, NL USA2019; PP1-7. Google Scholar) (CrossRef)

26. A. Besser, S. Lotem, & V. Zeigler-Hill. Psychological Stress and Vocational Symptoms Among University Professors in Israel: Implications of the Shift to Online Synchronous Teaching DuringCovid-19 Pandemic. *J.* **Voice Official J.** Voice Foundat. So892-1997, 30199. doi: 10.1016/j.jvoice.2020.05.028

27. J. Cachon-Zagalaz, M. Sanchez-zafra, D. Sanabrias-Moreno, G. Gonzalez, G. Lara-Sanchez, A. J, M. & L.Zagalaz-Sanchez. Systematic Review of the Literature about the Effects of the Covid-19 Pandemic on the lives of School Children. Front. 2020.Psychol. 11:2457. doi:10.3389/fpsyg.2020.569348

28. Q. Chen, M. Liang, y. Li, J. Guo, D. Fei, L. et al. Mental Health care for medical staff in china during the Covid-19 outbreak. Lancet Psychiatry Vol7,2020, pp15-16. doi: 10.1016/S2215-0366(20)301681-1

29. N. Idoiaga, N. Berasategi, A. Eiguren & M. Picaza. *Exploring children's social and emotional representations of the Covid0-19 pandemic.* Front. Psychol. 11:1952. 2020, doi: 10,3389/fpsyg.2020.01952.

30. A. R. Ahmad, N. Keerio, A. S. Jameel, and M. & A. Karem, "The Relationship between National Culture and Succession Planning in Malaysian Public Universities, J. **Educ. e-Learning Res**, vol7, (3), 2020, pp.242–249.

31. A. S. Jameel, M. A. Karem, & N. Z. Mahmood, "A Review of the Impact of ICT on Business Firms," **Int. Journal. Latest Eng.** *Manag. Res*., vol.2 (1), (2017). pp. 15–19,

32. A. S. Jameel: Challenges facing students toward ICT library Adoption, in International Conference on Accounting, Business, Economics and Politics, 2018, (3), pp. 231–237.

33. R. Farooq. A conceptual model of knowledge sharing. **Int. Journal. Innovation. Science**., Vol. 10, No.2,2018, pp. 238–260

34. S. Al-Husseini & I. Elbeltagi, "The role of knowledge sharing in Enhancing Innovation; A Comparative Study of Public and Private Higher Education Institutions in Iraq," Innovation. Education Technology. 2018. **International journal**., Vol55, (1), pp.23–33

35. Akosile & W. Olatokun, "Factors influencing knowledge sharing Among Academics in Bowen University, Nigeria. **Journal. Librariansh. Inf. Sci**, Vol52, (2), 2019, pp. 410–427

36. M. Al-Emran, V. Mezhuyev, & A. Kamaludin, "Towards a Conceptual Model for Examining the Impact of knowledge management factors on Mobile Learning Acceptance," Technol. Soc., Vol.61, 2020, pp. 101247.

37. C. C Obadimeji, & A. O Oredein. 'Digital Leadership and Communication Styles on Public Primary School Teachers' Job Performance in Nigeria. ***Science Journal of Education*****,** Vol10 (1), 2022, pp1-11.

38. M. Chheryl. Digital Leadeship Institute: Inclusive Digital Transformation. www.dlii.org, 20th may, 2020

39. O. Birgit & E.Alptekin. 'Leadership 4.0: Digital Leadership in the Age of Industry 4.0. **International Journal of Organizational Leadership**. https://www.AIMIJOURNAL.com, 15th Nov 2018.

40. Elena-Lulianalon & Criveanu Maria. Organizational Performance, A Concept that Seeks to find itself, Annals of the Constantin Brancusi, University of Targujiu, Economy series issues 4, 2016

41. O. Benard Nashon & J. Jane Njoroje." Effect of Leadership Styles on Employee Performance: A Case of Technical University of Kenya, **An International Journal of Education and Research,** vol17 (6), 2019, pp55-68.

42. Roxana-Lucia & Alina Cretu: Leadership in the Digital Era. Valahian Journal of Economic Studies. Vol10 (1), 2017, pp65-72.

43. R. Goethals Georgr, S. Georgia Jones, & B. Jmes Mac-Gregor. Teacher in the Digital Age, Wilson, Ernest J. 'Scholarship and Practice in the Transitions to a Knowledge Society'. Items and issues, spring/summer, 2020, pp 1-4

44. Yao-Ting Sunga & Tzu-Chien Liva. 'The Effects of Integrating Mobile Devices with Teaching and Learning on Students' Learning Performance. **A meta-direct Journal**, Vol 94, March, 2016, pp252-257

45. R. Zupancic, J. Verbeke, H. Achten, & A. Hemeoja. Digital Teacher, conference proceedings, 34th eCAADe Conference. University of Ovlu Finland,Vol 1, August 2018, pp22-26.

46. N. Urbach & M. Rogkinger. 'Introduction to Digitalization Cases: How Organization Re-think their Business for the Digital Age, in Digital Cases, Springer International Publishing, pp1-12 in Cijan Anamarija, Jenic Lea, Lamovsek Amadeja & Stemberger Jakob: **How digital changes the workplace Dynamic Relationships Management Journal**, Vol8, (1), 2019,https://doi.org/10.17708/DRM

47. B. Matheas Shemelis: 'Students' Conception of Learning Environment, their Approach to Learning and its Implication on Quality Education, http://www.academic journals.org/ERR, Doi 10:5897/ERR2017.3258, ISSN 1990-3839, Vol12 (14), July 2017, pp 695-703.

48. Nzarirwehi Jackson & Atuhumuze Faith. 'In-Service Teachers' Training and Professional Development of Primary School Teachers in Uganda, **The International Academic Forum (IAFOR) Journal of Education,** https://doi.org/10.22492/ije.7.1.02, 1st JUNE, 2019.

49. M. Gosti, N. Ferro, & G. Silvello. 'Digital Libraries: From Digital Resources to Challenges in Scientific Data Sharing and Re-use. In: Flesca, S., Greco, S., Masciari, E., Saccà, D. (Eds.) Comprehensive Guide Through the Italian Database Research Over the Last 25 Years. 2017, pp. 27-41. Germany: Springer International Publishing.

50. Kayode Aderinsola Eunice. 'Impact of Computer-Based Information Technology on Job Performance of Secretarial Staff in Nigerian'. **South American Journal of Academic Research**. Special Edition May 2016, pp1-6.

51. K. Aderinsola Eunice, I. Abigail Olubukola, & Agunbiade Folasade, Janet George & Kayode Blessing. 'Information and Communication Technology for Effectiveness and Job Performance of Staff in the Universities in Nigeria'. **Texila International Journal of Academic Research Special Edition.** DOI: 10.21522/TIJAR.2014.SE.19.02. Art004 ISSN: 2520-3088 Dec 2019. pp 1-9

52. K. Das. The Role and Impact of ICT in Improving the Quality of Education: An Overview. **International Journal of Innovative Studies in Sociology and Humanities (IJISSH).** Vol4 (6), 2019

53. C. Eric. Amadi1 & S. Prinye Alaputa. 'Information and Communication Technology Tools and Teachers' Job Performance in Public Secondary Schools in Port Harcourt Metropolis of Rivers State'. **International Journal of Innovativ e Social & Science Education Research**. www.seahipaj.org ISSN: 2360-8978, Vol9 (3), July-Sept., 2021, PP 86-94.

54. K. Ratheeswari. 'Information Communication Technology in Education'. https://dx.doi.org/10.21839/jaar.2018.v3S1.169. **Journal of Applied and Advanced Research**, Vol3 (1), 2018 pp45-47

55. Spela Bagon, Mateja Gacnik & Andreja Isteni Starcic: Information Communication Technology Use among Students in Inclusive Classrooms. International Journal of Emerging Technologies in Learning (Ijet) Vol13 (6), 2018. https://doi.org/10.3991/ijet.v13i06.8051

56. J. Allen, L. Rowan & P. Singh. Teaching and Teacher Education in the Time of Covid-19. ***Asia-Pacific Journal of Teacher Education*.** https://doi.org/10.1080/1359866x.2020.1752051. Vol46 (3), 233-236

57. C. Aserin. Beyond Covid-19 Supernova. Is another Education Coming? **Journal of Professional Capital and Community.** https://dpi.org/10.1106/jpcc-05-2020-0019. Vol5 (3/4), 2020, pp 381-390

58. R. Baticulon, Sy, Jinno., N. Alberto, M. Baron, R. Mabulay, L. Rizada, J. Carlo. Barriers to Online Learning in the Time of Covid-19: A National Survey of Medical Students in the Philippines. *Medical Science Educator.* Vol31 (2), 2021, pp 615-626. https://doi:org/10.1007/240670-021-01231

59. Christopher Deluca, Benjamin Bolden & Jessica Chan. Systematic Professional Learning Through Collaborative Inquiry: Examining Teachers' Perspectives. Teaching and Teacher Education. Doi:10.1016/j.tate.2017.05.014.

60. Damijana Kerzic, Jogymol Kalariparampil Alex, Roxana Pamela Balbontin, Roxana, Bezerra, Denilson da silva, Cheraghi, Maria Dobrowolska, Beata Fagbamigbe, Adeniyi Francis, Faris,

Moezallslam Ezzat, Franca, Thais, Gonzalez-Fernandez, Belinka, Gonzalez-Robledo, Luz Maria, Inasius, Fany, Kar, Sujita, Kumar, Lazanyi, Kornelia, Lazar, Florin, Machin-Mastromatteo, Juan D, Maraco, Alpana, Mollica, Cristina, Jimenez, Silvana Guadalupe Navarro, Obadic, Alka, Raccanello, Daniela, Rashid, Md Mamum Ur, Ravseji, Dejan, Tomazevic, Nina, Uleanya, Chinaza, Umek, Lan, Vicentini, Giada, Yorulmaz, Ozlem, Zamfir, Ana-Maria, Aristovnik, Aleksander. Academic Student Satisfaction and Perceived Performance in the E-Learning Environment During Covid-19 Pandemic; Evidence Across Ten Countries. Published October 20th, 2021. https://doi.org/10.1371/journal.pone.o258807

61. Egemen, Hanmoglu. The Impact Technology Has Had on High School Education Over the Years. Received: November 14, 2018. Accepted: December 7, 2018, online published 17, 2018. doi:10.5430/wje. v8n6p96. URL:hhttps://doi.org/10.5430/wje.v8n6p96

62. A. Beth, Buchholz, Jason DeHart, Gary Moorman. Digital Citizenship During a Global Pandemic: Moving Beyond Digital Literacy. **Journal of Adolescent & Adult Literacy**. Vol 64(1), 2020, pp 11-17. Doi:10.1002/jaal.1076

63. Muhammed Adnan Shereen, Suliman Khan, Abeer Kazmi, Nadia Bashir. Covid-19 Infection: Emergence, Transmission, and Characteristics of Human Coronaviruses. **Journal of Advanced Research**. Vol24 (3), july 2020, pp, 91-98

64. Leonardus Mihardjo, Sasmoko, FDirdaus Alamsjah, & Elidjen Djap. Digital Teacher Impact on Developing Capability and Strategic Alliance Based on Market Orientation. **Polish Journal of Management Studies.** Vol19 (2), 2019, pp285-297

65. Mohd Norakmar Omar, Siti Noor, & Abd Latit Kasim. The Influence of Mobile Technology Adoption among Secondary School Teachers Using the UTATUZ Model. **International Journal of Recent Technology and Engineering**. Vol8 (4), 2019, pp3827-3831

66. P. Bazelais, T. Doleck, & D.J Lemay. Investigating the Predictive Power of TAM; A Case study of CEGEP Students' Intentions to use Online Learning Technologies. Education and Informative Technologies. Vol23 (1), 2018, pp99-111. https://doi.org/10.1007/s10639 -017-9587.0.

67. N. Donthu, & A. Gustafesson. Effects of Covid-19 on Business and Research. **Journal of Business Research**, Vol5 (2). 2020, pp117, 264-269.https;//doi.org/10.34105/.2020.05.006

68. S.J. Daniel. Education and the Covid-19 Pandemi. PROSPECT, Vol49 (12), 2020, pp 91-96. https://doi.org/10.24059/olj.v2li4.966.

69. Ya, Tang, P., Chen, K., Law, Wu, Y., LauJ., Guan. Comparative Analysis of Student's live Online Learning Readiness During Covid-19 Pandemic in the Higher Education Sector. Computer & Education, Vol7 (2),2021, pp104211. https://doi. Org/10.1016/ computer edu Journal.2021.104211.

70. T. Gonzalez, De la Rubia, Hinez, K. Comas-Lopez, M., Subirats, L. Port, G. M. Sacha. Influence of Covid-19 Confinement on Students' Performance in Higher Education. PLOS ONE, Article e0239490, Vol15 (10), 2020. https://doi.org/10.1371/journal.pone.0239490.

71. G. Gordon, P. A. Bourne, V. L. Quarrie, V. Peterkin, Michael Burke, C. Foster. COVID-19 and its Influence on Academic Performance and Health Status of Tertiary Level Students in Jamaica. **International Journal of Transformation in English & Education**. Vol6 (1), 2021, ISSN: 2581-3951

72. K. Haase, Cosco, T. Kervin, L. Riadi, I., & M. O'Connel. Older Adults' Experience of Technology use for Socialization during the Covid-19 Pandemic: A regionally Representative Cross-sectional Survey (preprint). JMIR Aging. 2021. https://doi. Org/10.2196/26010.

73. F.J. Garcia-Penalvo, A. Corell, V. Abella-Garcia, & M. Grande-de-Prado. Recommendations for Mandatory Online Assessment in Higher Education during the Covid-19 Pandemic. In Radical Solutions for Education in a Crisis Context. **Advanced Education Journal**. *Vol7, (2), 2021*, pp85-98.

74. Jude Stephen & Andrew Paul. Learning Approaches on Student Academic Achievement, Perception and Persistence. **Journal of College Student Retention***:* Research Theory & Practice. Vol10 (1), 2021, pp 3-19. https://doi.org/10.2190/CS.10.1.b.

75. S. Pokhrel, & R. Chhetri. A literature Review on Impact of Covid-19 Pandemic on Teaching and Learning. Higher Education for the Future. Vol9 (1), 2021, pp133-141. https://doi.org/10.1177/2347631120983481.

76. A. Schleicher. The Impact of Covid-19 on Education Insights from Education at a Glance. Retrieved from oecd.org website https://www.oecd.org/education/the-impact-of-covid-19-on-education-insight-education-at-a-glance-2020.pdf.

77. P. Schaber, K. Wilcox, A. Whiteside, L. Marsh, & D., Brooks. Designing Learning Environments to Foster Affective Learning: Comparison of Classroom to Blended Learning. ***International Journal for the Schorlship* of *Teaching and Learning.*** Vol4 (2). 2019,https://doi.org/10.20429/ijsotl.2019.0040212.

78. S.G. Chiemeke: Gender Issue and Information Technology in Nigeria, **Nigerian Journal of Computer Literacy,** Vol 5 (1), (2016), pp 45-64

79. A. Koohang, J. Paliazkiewice, D. Klein & J.H. Nord. The Importance of Active Learning Elements in the Design of Online Courses. **Online Journal of Applied Knowledge Management**. Vol4 (1), 2016, pp17-26.

80. I. Hasin, & Nasir, M. K. M. N. The effectiveness of the use of information and communication technology (ICT) in rural secondary schools in Malaysia. **Journal of Education and e-Learning *Research,*** Vol8 (1), 2021, PP59-64. Available at: 10.20448/journal.509.2021.81.59.64.

81. N. Khalid, M., & D. Quick, D. Teaching presence influencing online students' course satisfaction at an institution of higher education. **International Education Studies**, Vol9(3), 2016, PP62-70. Available at: https://doi.org/10.5539/ies.v9n3p62.

82. F. A Aksal, & F. A. Are headmasters' digital teachers in school culture? Education and Science, Vol40 (182), 2015, pp 77–86. Available at: https://doi.org/10.15390/EB.2015.4534

83. A. Olatoun Akinsolu. Teachers and Students' Academic Performance in Nigerian Secondary Schools: Implications for Planning. **Florida Journal of Educational Administration & Policy.** Vol3 (2) 2016, pp 87-103.

84. M. Jannah, L.D Prasojo., & M. A Jerusalem. Elementary school teachers' perceptions of digital technology-based learning in the 21st Century: Promoting digital technology as the proponent learning tools. Al Ibtida: Jurnal Pendidikan Guru MI, Vol7 (1), 2020, pp1-18. Available at: https://doi.org/10.24235/al.ibtida.snj.v7i1.6088.

85. International Society for Technology in Education (ISTE). International technology standards for administrators. Retrieved from: https://my.iste.org/s/login/?ec=302&inst=1U&startURL=%2Fidp%2Flogin%3Fapp%3D0sp1U000000KzRe%26RelayState%3D https%253A%252F%252Fwww.iste.org%252Fsaml_login%26binding%3DHttpPost%26inresponseto%3D_b2343d5d57e597ada894 38745fc7de1a95a694c11f. 2021

86. E. J Van Niekerk, & M. M Van WyK. Staff's Perceptions of Vision and Long-term Principal Teacher in South African schools: An exploratory study. ***M*editerranean Journal of Social Sciences,** Vol5 (4),2016, pp 406–414. Available at: https://doi.org/10.5901/mjss.2014.v5n4p406.

87. Global Campaign for Education. Civil Society Organizations Call on States and the International Community to Ensure the Right to Education for All during the #COVID19 Crisis. 2020. Available online: https://www.campaignforeducation.org/en/2020/04/24/civil-society-organisations-call-on-states-and-theinternational-community-to-ensure-the-right-to-education-for-all-during-the-covid19-crisis.

88. V. T. Olayanju. The Challenges of New Technologies on Secretarial Profession. ***Nigerian* Journal of Business Education *(NIGJBED),*** Vol3 (2), 2018, pp77-85

89. A.E. Kayode. Impact of Computer-Based Information Technology on Job Performance of Secretarial Staff in Nigeria". **International Journal of Academic Research**. 2016. www.texilajournal.com/academicresearch/article/415-impact-of-computer-based.

90. R. Zupancic, J. Verbeke, H. Achten. & A. Hemeoja. Digital Teacher, Conference Proceedings, 34th eCAADe Conference, Vol 1, University of Oulu, Finland, pp 22-26, Aug 2018

91. Masrur. Digital Teacher to Improve the Pedagogical Competence of University English Lecturers in Samarinda. **Journal of Social Studies Education Research**. *Vol12 (4), 2021, pp 424-446*

92. I. N. Cupit. Life is but a digital memory: A review of Remember Me: Memory and Forgetting in the Digital Age by Davide Sisto. (Trans. Alice Kirgariff). Cambridge, UK: Polity Press, 2021. 160 pp. (ISBN: 13: 978-1-509-54503-2). 64.95. Reviewed by Illene Noppe Cupit

93. T. Budiharso, & B. Tarman. Improving Quality Education through Better Working Conditions of Academic Institutes. **Journal of Ethnic and Cultural Studies,** Vol7 (1), 2020 pp99–115. https://doi.org/10.29333/ejecs/306

94. A.A Bone, A. Rachman, & I. Mashudi. The Teacher Performance Appraisal System in Improving Teachers Performance in Limboto District. Governance: *Jurnal Ilmu Administrasi Publik*., Vol4 (1), 2021, pp30–40. https://journals.ubmg.ac.id/index.php/JIAP/article/view/189

95. S. Bertrand, & K. Porcher. (2020). Teacher Educators as Disruptors Redesigning Courses in Teacher Preparation Programs to Prepare White Preservice Teachers. **Journal of Culture and Values in Education**, Vol3 (1),2020, PP 72-88. https://doi.org/10.46303/jcve.03.01.5

96. A. Asmarani, Sukarno, & M. EL Widdah. The Relationship of Professional Competence with Teacher Work Productivity in Madrasah Aliyah. Nidhomul Haq : Jurnal Manajemen Pendidikan Islam, Vol6(2), 2021, p220–235. https://doi.org/https://doi.org/10.31538/ndh.v6i2.1365

97. M. Almatrooshi, J. A. A., G. S.A Khalifa, A. Ameen, S. HossainM. A, & Morsy. The Role of Knowledge Oriented Teacher and Knowledge Sharing to Manage the Performance of Ministry of Interior in UAE. **International Journal on Recent Trends in Business and Tourism,** Vol4 (2),2020, pp 9–17. https://ejournal.lucp.net/index.php/ijrtbt/article/view/1007

98. A. F Alheet, A. Al. Adwan, A. y. Areiqat, A.M. Zamil, & M.A. Saleh. The Effect of Teacher Styles on Employees' Innovative Work Behavior. Management Science Letters, Vol4 (11), 2021239–246. https://doi.org/10.5267/j.msl.2020.8.010

99. S. Daniel. Education and the Covid-19 Pandemic. Prospect. Vol49 (1-2), 2020, pp91-96. https://doi.org/10.24059/olj.v2114.966.

100. A. Pauci. H. Lane & R. Redfield. Covid-19 Navigating the Uncharted. **New England Journal of Medicine.** Vol352 (13), 2020, pp1268-1269. https://doi.org.10.1056.4202537

101. Y. Meng, J. Tan, & Li, J. Abusive supervision by academic supervisors and postgraduate research students' creativity: the mediating role of teacher–member exchange and intrinsic motivation. **International Journal of Teacher in Education**, Vol20 (5), 2017, pp605–617.

102. S. Messick, S. Validity in performance assessments. In Phillips, G. W. (ed.). Technical issues in large-scale performance assessments. US Department of Education, Office of Educational Research and Improvement. 2016

103. D. Morales, C. Ruggiano, C. Carter, K. Pfeifer, & K. Green. (2020). Disrupting to Sustain: Teacher Preparation Through Innovative Teaching and Learning Practices. **Journal**

of Culture and Values in Education, Vol3 (1),2020, pp 1-20. https://doi.org/10.46303/jcve.03.01.1

104. B. H. Mutongoza, B. E Olawale, & B. Mzilikazi. Chronicling School Principals' Experiences on School Management in the Context of COVID -19 Stringency. Research in Social Sciences and Technology, Vol6 (3), 2021, pp 146–162. https://ressat.org/index.php/ressat/article/view/566

105. Adrian McDonagh, Patrick Camilleri, & Oliver McGarr Introducing the PEAT model to frame professional digital competence in teacher education. **Nordic Journal of Comparative and International Education (NJCIE)**. Vol. 5 (3), 2021, pp5–17

106. B. K Engen. Understanding social and cultural aspects of teachers' digital competencies. Comunicar, Vol27 (61), 2019, PP9-19. https://doi.org/10.3916/C61-2019-01

107. A. Emejulu., & C. Mcgregor. Towards a radical digital citizenship in digital education. Critical Studies in Education, Vol60 (1),2019, pp131-147. https://doi.org/10.1080/17508487.2016.1234494

108. K. Beckman., T. Apps., S. Bennett, & L. Lockyer. Conceptualising Technology Practice in Education Using Bourdieu's Sociology. Learning, Media and Technology, Vol43 (2),2018pp19. https://doi.org/http://www.doi.org/10.1080/17439884.2018.1462205

109. A. Aslam, & C. Zhu. Investigating variables predicting Turkish pre-service teachers' integration of ICT into teaching practices. **British Journal of Educational Technology**, Vol48 (2), 2017, pp552-570.

110. G.B. Gudmundsdottir, & O.E Hatlevik. Newly qualified teachers' professional digital competence: implications for teacher education. **European Journal of Teacher Education**, Vol41 (2), 2018, PP214–231. https://doi.org/10.1080/02619768.2017.1416085

111. A. Granić, & N. Marangunić. Technology acceptance model in educational context: A systematic literature review. **British Journal of Educational Technology**, Vol50(5), 2019, pp2572–2593. https://doi.org/10.1111/bjet.12864

112. L. Starkey. A Systematic Review of Research Exploring Teacher Preparation for the Digital Age. **Cambridge Journal of Education,** Vol50 (1), 2019, pp37-56, https://doi.org/10.1080/0305764X.2019.1625867

113. Tarhini, A., Hone, K., Liu, X., & Tarhini, T. (2017). Examining the moderating effect of individual-level cultural values on users' acceptance of e-learning in developing countries: A structural equation modeling of an extended technology acceptance model. Interactive Learning Environments, Vol25 (3), 2017, pp306–328. https://doi.org/10.1080/10494820.2015.1122635

114. M. Spante, S. Sofkova Hashemi, M. Lundin, & A. Algers. Digital competence and digital literacy in higher education research: Systematic review of concept use. Cogent Education, Vol5 (1), 2018, pp 1-21. https://doi.org/10.1080/2331186X.2018.1519143

115. Unesco. Ict Competency Framework For Teachers. Unesco. 2018. http://unesdoc.unesco.org/images/0026/002657/265721e.pdf

116. C. Redecker. European framework for the digital competence of educators (DigCompEdu). Joint Research Centre Science for Policy Report. EU: Luxembourg Publications Office. 2017. https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/european-framework-digital-competence-educators-digcompedu.

117. O. McGarr, & A. McDonagh. Digital Competence in Teacher Education. Output 1 of the Erasmus + funded Developing Student Teachers' Digital Competence (DICTE) project. 2019. https://dicte.oslomet.no/nordiccie.org

118. S. Bubb & M. A. Jones. Learning from the Covid-19 home-schooling experience: listening to pupils, parents/cares and teachers. (2020). Improve.sch.23, 209-222. doi: 10.1177/1365480220958797. (Google Scholar) (CrossRef)

119. A. Colao, P. Piscitelli, M. Pulimeno, S. Colazzo, A. Miani, & S. Giannini. Rethinking the role of the school after Covid-19. Lancet Public Health 5:e370. doi:10.1016/s2468-2667(20)30124-9 (2020). (Google Scholar) (CrossRef)

120. S. L. Comi, G. Argentin, M.Gui, F. Origo & L. Pagani. Is it the way they use it? Teachers, ICT and students' achievement. Econ.Edu. Rev. 56,24-39. doi: 10.1016/j.econedurev.2016.11.007. (2017). (Google Scholar) (CrossRef)

121. J. Crawford, K. Butler-Henderson, J. Rudolph, B. Malkawi, M. Glowatz, R. Burton, P. Magni, Sin Manwsophia Lam: Covid-19: 20 Countries higher Education Intra-period Digital Pedagogy Response. J.Appl.Learn.Teach. Vol3, 2020, pp9-28. doi:10.37074/jalt.2020.3.1.7

122. C. De Aldama. Cognitive Enhancement or Cognitive Diminishing? Digital Technologies and Challenges for Education from a Situated Perspective. Limite Interdiscip.J. Philos.Psychol.15:21, (2020). (Google Scholar) (CrossRef)

123. A. Devitt, A. Bray, J. Banks & E. Chone. Post-Primary Students Perspectives on Teaching and Learning During Closures: Lessons Learned from Irish Students from Schools in a Widening Participation Programme. Dublin: Trinity College Dublin. (2020) . (Google Scholar) (CrossRef)

124. R. E. Ferdig, E. Baumgartner, R. Kaplan-Rakowski, R. Hartshorne, & C. Mouza. Teaching, Technology, and Teacher Education During the Covid-19 pandemic: Stories from the Field. Waynesville, NC: Association for the Advancement of Computing in Education (AACE). (2020) . (Google Scholar) (CrossRef)

125. N. Iivari, S. Sharma, & L. Venta-Olkonen. Digital Transformation of everyday life-How Covid-19 pandemic transformed the basic Education of the Young Generation and Why Information Management Research Should Care? Int.j.Inform. Manag. 55:102183. doi:10.1016/j.ijinfomgt.2020.102183 (2020)

126. E. Kocoglu & D. Tekdal. Analysis of Distance Education Activities Conducted During Covid-19 pandemic. Educ. Res. Rev. 15.536-543. doi: 10.5897/ERR2020.4033. (2020). (Google Scholar) (CrossRef)

127. OECD. How Prepared are Teachers and Schools to face the Changes to Learning Caused by the Coronavirus Pandemic? Teaching in focus 32, Paris: OECD Publishing. 2020. doi: 10.1787/2fe27ad7-en. (Google Scholar) (CrossRef)

128. Ezenma Chimeize Bernard: Status of Information and Communication Technology (ICT) Training and support for science and Technology Teacher Educators in Colleges of Education in Southwest, Nigeria. International Journal of Trend in Scientific Research and Development. Vol3 (3), 2019, pp939-946.

129. A.Tella, A. Tella, Oluwole Majekodunmi, L.O Adika & D.A. Adeyinka: An Assessment of Secondary School Teachers Use of ICT'S; Implications for Further Development of ICT'S Use in Nigerian Secondary Schools, **The Turkish Online Journal of Educational Technology,** Vol 6 (3), 2007, pp 45-60

130. R.O. Asubiojo & J. A Ajayi: The Role of Information and Communication Technology in Enhancing Instructional Effectiveness in Teachers' Education in Nigeria. **KIU Journal of Social Science.** Vol3 (2), 2017, pp289-295

Chapter Three

Methodology

This section outlines the methods and tactics that were employed to achieve the study's goals and objectives. Research design, population of the study, sample and sampling procedure, instrument utilized for data collection, validity and the reliability of the instrument, pilot study, procedure for data collection, and method of data analysis are all introduced in the preceding subheadings.

3.1 Research Design

For the study, the researcher used a descriptive survey method. In order to research and characterize how digital teachers affect secondary school teachers' usage of information and communication technology and work performance during the Covid-19 pandemic, a descriptive survey design was utilized in this study.

3.2 Population of the Study

All of the secondary school teachers in Oyo State's capital of Ibadan make up the study's population. One thousand, one hundred and forty-three (1143) public secondary schools were operating in Oyo State as of the time of this study. These schools are further classified into junior school and senior school. Out of the thirty-three (33) local government areas in Oyo State, the junior public secondary school in Ibadan has a student population of 571 and the senior secondary school has a student population of 572; both are located in the city. There are 615 public secondary schools in the Ibadan metro area, including junior and senior high schools (615). In other words, there are 288 senior public secondary schools and 287 junior public secondary schools. The five (5) local government areas that make up Ibadan's urban city areas are Ibadan North, Ibadan North West, Ibadan North East, Ibadan South East, and Ibadan South West, while the six (6) local government areas that make up the semi-urban city areas are Akinyele, Egbeda, Ido, Lagelu, Oluyole, and Ona-Ara. Similarly, out of the

13,732 public secondary school teachers in Oyo State, 8,762 are located in Ibadan metropolitan. In table 3.1, the statistics were displayed.

Table 3.1: Population Size of Public Secondary Schools and Teachers in Ibadan metropolis

S/N	LGA	No. of Public Secondary schools	No. of school Teachers
1	Akinyele	36	692
2	Egbeda	27	915
3	Ibadan North	33	1451
4	Ibadan North East	28	1060
5	Ibadan North West	14	559
6	Ibadan South East	29	1033
7	Ibadan South West	26	1105
8	Oluyole	23	418
9	Lagelu	27	771
10	Ona Ara	24	512
11	Ido	19	246
Total	**11**	**228**	**8762**

Source, Oyo State Ministry of Education, 2021

3.3 Sample and Sampling Techniques

The respondents to the study were chosen using a multistage sampling approach that employed simple random, techniques, Cluster, and purposive selection techniques. Out of the 338 public secondary schools in the eleven local government districts of the city of Ibadan, Oyo State. Using cluster and purposive sampling methods, a sample of 219 public secondary schools was selected. Using that, local governments were divided into two clusters, or rather, urban and semi-urban cities, and the purposive sampling method was used to alphabetize local government regions within each cluster. Due to its intermediate location and low number of schools, the urban city's local government was chosen, along with two local government districts from the semi-urban city (Ibadan North West, Ido and Lagelu). The second stage was the selection of public secondary schools and teachers, one from the Urban Cities and two from a semi-urban area, for a total of three schools (3), using a purposeful and simple random procedure. With the local governments in Ibadan metropolitan arranged alphabetically, the one in the center and with the fewest public secondary schools was

chosen using a purposeful sampling strategy. The purposeful selection of public secondary schools in the three local government areas that have been operating for more than fifteen years was made on the grounds that they are presumed to have been in operation for a sufficient amount of time and will also meet the requirements for carrying out this research study, and teachers were not even distributed.

Table 3.2: Summary of Local Government and Cities with their year of establishment

S/N	LGA	Year of Establishment
	Urban Cities	
1	Ibadan North	1991
2	Ibadan North East	1991
3	Ibadan North West	1991
4	Ibadan South East	1991
5	Ibadan South West	1991
	Semi-Urban Cities	
6	Akinyele	1946
7	Egebeda	1989
8	Ido	1989
9	Oluyole	1976
10	Lagelu	1976
11	Ona-Ara	1989
Total	**11**	

Source; Field Survey, 2022

Table 3.3: Summary of Sample and Sampling Techniques

S/N	LGA	No. of Public Secondary schools	No. of school Teachers	No. Sampled Schools	No. of Teachers in Sampled Schools	Number of Sampled Teachers
1	Akinyele	36	692	20	324	72
2	Egbeda	27	915	18	207	72
3	Ibadan North	33	1451	34	672	72
4	Ibadan North East	28	1060	15	322	72
5	Ibadan North West	14	559	09	72	72
6	Ibadan South East	29	1033	36	315	72
7	Ibadan South West	26	1105	20	431	
8	Ido	19	246	10	112	72
9	Lagelu	27	771	11	96	72
10	Oluyole	23	418	12	114	72
11	Ona Ara	24	312	24	137	72
Total	**11**	**228**	**8762**	**209**	**2,510**	**792**

Source; Field Survey, 2022

3.4 Research Instrument

This is a crucial step that must be taken when doing a research study. It alludes to the equipment utilized to gather the data necessary for the research investigation. Data for the study were gathered using a self-developed four Likert scaled instrument, which was given the title (DTICTUWP). The instrument is divided into five sections: Sections A, B, C, D, and E. For this study, questionnaires were employed to collect data from secondary public and private schools in the city of Ibadan. The participant's demographic information, including Name of School, Class, Gender, Age, Number of Teachers in the School, and School Type, is included in Section A. The structured questions in

Section B address the defined level of secondary school teachers' job performance (creativity, teaching philosophy, and problem-solving skills) in the Ibadan Metropolitan Area. The components in Section C can be utilized to assess the most popular teaching platform in the city of Ibadan during the Covid-19 era (both during and after lockdown). In the Ibadan metropolis, Section D has objects that can be used to measure the most popular teaching tool throughout the Covid-19 era (both during and after lockdown). Items in Section E can be used to gauge how much public secondary school teachers have been digitalized. The Likert scale has four categories: Very True of Me (VTM), True of Me (TM), Not Very True of Me (NVTM), and Not True of Me (NTM). The responses to the items would be based on these categories.

3.5 Validity of the Instruments

Face, content, and concept validity tests were conducted on the questionnaire utilized in this study. For this reason, the supervisor carefully examined the research tool, examining the content as well as the structuring, appropriateness, and originality. Additionally, Lead City University's department of Arts and Social Sciences Education experts in item generation were contacted. Before administration, all corrections were made.

3.6 Reliability of Instrument

A trial test was used to ascertain the instrument's level of dependability in producing the required data. A set of 47 respondents from two different public schools who were not included in the study's sample sizes were given copies of the questionnaire in this respect. In order to assess the instrument's reliability, the responses were compiled and subjected to Cronbach's Alpha analysis, which was assessed at the 5% level of significance. The reliability index stands at 0.794.

Table 3.4: Showing the reliability of the test instrument

Reliability Statistics

Cronbach's Alpha	No of Items
.794	47

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected item-Total Correlation	Cronbach's Alpha if Item Deleted
BQ2	148.90	123.867	.211	.791
BQ5	149.03	123.815	.165	.793
BQ6	149.11	123.060	.204	.791
BQ7	148.92	123.916	.156	.793
BQ15	148.85	121.335	.285	.789
CD1	148.49	123.793	.203	.791
CD2	148.94	120.069	.382	.796
CD3	149.01	118.117	.443	.783
CD4	148.87	120.150	.370	.786
CD7	148.81	122.791	.256	.790
CD8	148.78	123.191	.213	.791
CD9	148.78	124.673	.136	.793
CD10	148.57	123.665	.204	.791
CA1	148.82	119.346	.411	.785
CA2	148.91	121.896	.290	.792
CA3	148.81	123.651	.187	.783
CA4	148.96	118.680	.486	.791
CA5	148.77	123.051	.208	.780
CA6	149.04	116.590	.517	.787
CA7	148.97	120.051	.348	.789
CA8	148.84	122.393	.286	.823
CA10	148.42	116.602	.094	.792
DD1	148.44	124.236	.179	.785
DD4	149.10	119.755	.397	.785
DD5	149.04	120.172	.294	.788
DD6	149.07	118.375	.465	.783
DD7	148.76	124.440	.144	.793
DD9	148.98	120.050	.353	.787
DD10	148.99	118.670	.410	.784
DA1	148.33	123.730	.268	.790
DA2	148.72	124.394	.151	.793

DA3	148.62	122.013	.342	.788
El1	148.46	123.289	.221	.791
El9	148.61	122.608	.264	.790
E1	148.50	123.022	.246	.790
E2	148.64	122.679	.288	.789
E3	148.77	122.705	.250	.790
E6	148.82	123.044	.236	.791
E7	148.87	124.451	.147	.793
E8	148.86	122.560	.254	.790
E10	148.91	124.048	.163	.793
E13	148.86	122.951	.222	.791
E15	148.83	124.564	.129	.793
E16	148.87	122.954	.230	.791
E17	149.72	123.880	.178	.792
E19	148.75	124.099	.183	.792
E22	148.71	123.559	.206	.791

3.7 Administration of Research Instrument and Method of Data Collection

In each of the public secondary schools visited, the junior and senior secondary school teachers were given the questionnaire. The researcher asked the principal of the school for approval before using the instrument for research purposes. Two research assistants were used to assist the researcher in administering the questionnaire. Additionally, the researcher briefed the respondents and discuss the purpose of the research instrument before letting the respondents respond to the inquiry items. This questionnaire was self-developed by the researcher to collect information on digital teacher, information communication and technology use, and public secondary school teachers work performance in the COVID-19 Era. It was constructed with the use of the four-point liker-t rating scale with response varying from 4, Very Often, 3= Seldom, 2=Rarely, and 1=Never; and At all Times (4), Sometimes (3), Rarely (2), Never (1).

3.8 Method of Data Analysis

In order to analyze study questions one, two, three, and four, descriptive statistics of frequency counts, percentages, mean, and standard deviation were used. Additionally, multiple regression inferential statistics were utilized to test hypotheses one and two at a significance level of 0.05.

Endnotes

1. C. C Obadimeji, & A. O Oredein. 'Digital Leadership and Communication Styles on Public Primary School Teachers' Job Performance in Nigeria. **Science Journal of Education,** 10(1), 2022, pp1-11.

2. I. Hasin, & Nasir, M. K. M. N. The effectiveness of the use of Information and Communication Technology (ICT) in Rural secondary schools in Malaysia. **Journal of Education and e-Learning *Research,*** Vol8(1), 2021, PP59-64. Available at: 10.20448/journal.509.2021.81.59.64.

3. H. Antonopoulou, C. Halkiopoulos, O. Barlou, & G.N. Beligiannis. Leadership Types and Digital Leadership in Higher Education: Behavioural Data Analysis from University of Patras in Greece. ***Int J. Learn. Teach Edu. Res***. Vol19 (4), 2020, pp110-129. Google Scholar) (CrossRef)

4. Munirah Khalid Aljmi. The Impact of Digital Leadership on Teachers; Technology Integration During the Covid-19 Pandemic in Kuwait, **International Journal of Educational Research**, 2022. Free PMC article.

Chapter Four

Results and Discussion of Findings

The answers to the study's research questions and hypotheses are presented in this chapter. Respondents (Public Secondary School Teachers in the Ibadan Metropolitan Area) administered questionnaires to gather data and establish facts that would aid in addressing the research questions and hypotheses. Five hundred (505) out of the seven hundred and ninety-two (792) copies of the questionnaires that were distributed were retrieved (64%). The analyses were based on the 500 questionnaires, some of which had responses. To provide responses to the research questions and hypotheses, each of the objects was analyzed. Data were acquired, and descriptive and Pearson product moment correlation analyses were performed. Descriptive statistics were employed in section A of the questionnaire, including frequency, bar charts, and percentages. The questionnaire's Section B was based on central tendency data. An inferential statistical tool, such as Linear Multiple Regression- (ANOVA) was utilized at a 5% level of significance to determine the acceptance or rejection of the null hypotheses in section C. Below are the subheadings that will be used to describe this chapter:

4.1.1 Presentation of Demographic Data

4.1.2 Presentation of Research Questions

4.1.3 Presentation Test of Hypotheses

4.1.3 Discussion of Findings

4.1.1 Presentation of Demographic Data

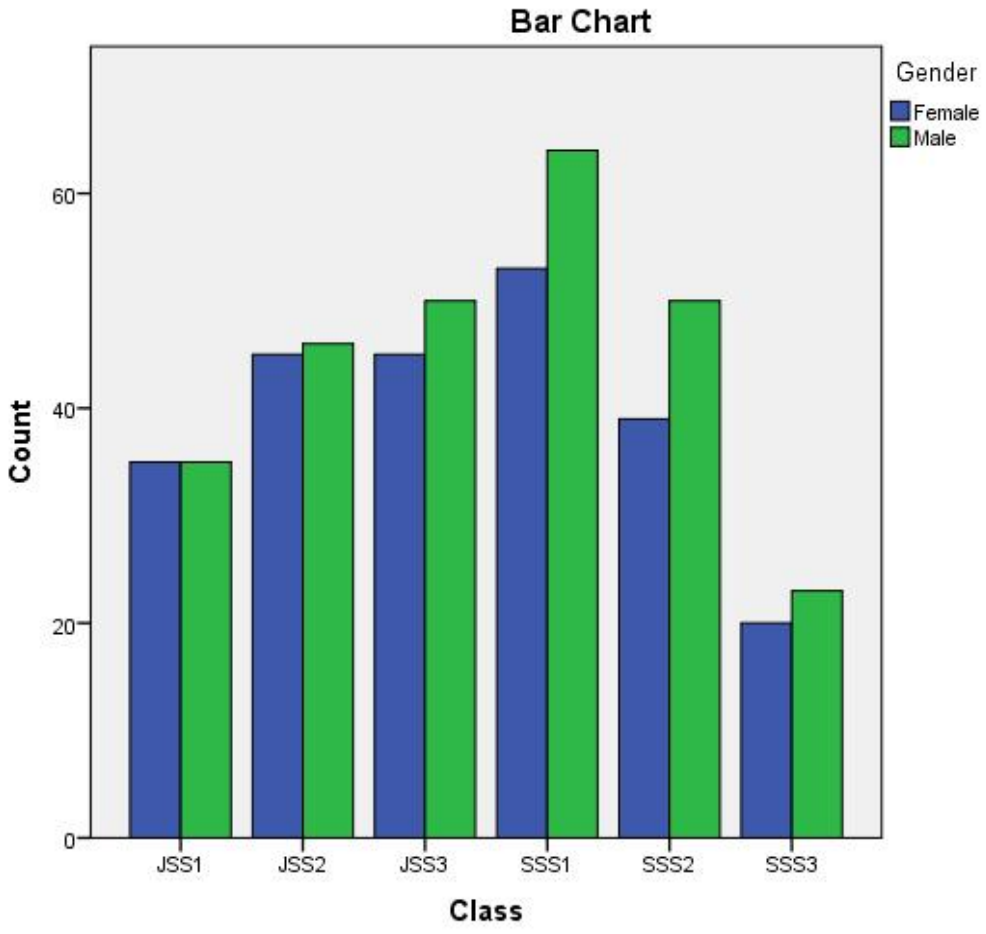


Fig4.1: A Bar Chart showing the Respondent class
Field Survey, 2022

According to the table above, male make up a higher percentage of the population than their female counterparts. Males outnumber females by a margin of 23.9 to 22.4 percentage points (%). This suggests that there were more men than women in the Ibadan Metropolitan area. This may be due to the fact that male secondary school students tend to be economic leaders and fathers who need to learn more about politics, the economics, and how to be a good father and husband to their wives and children in the future.

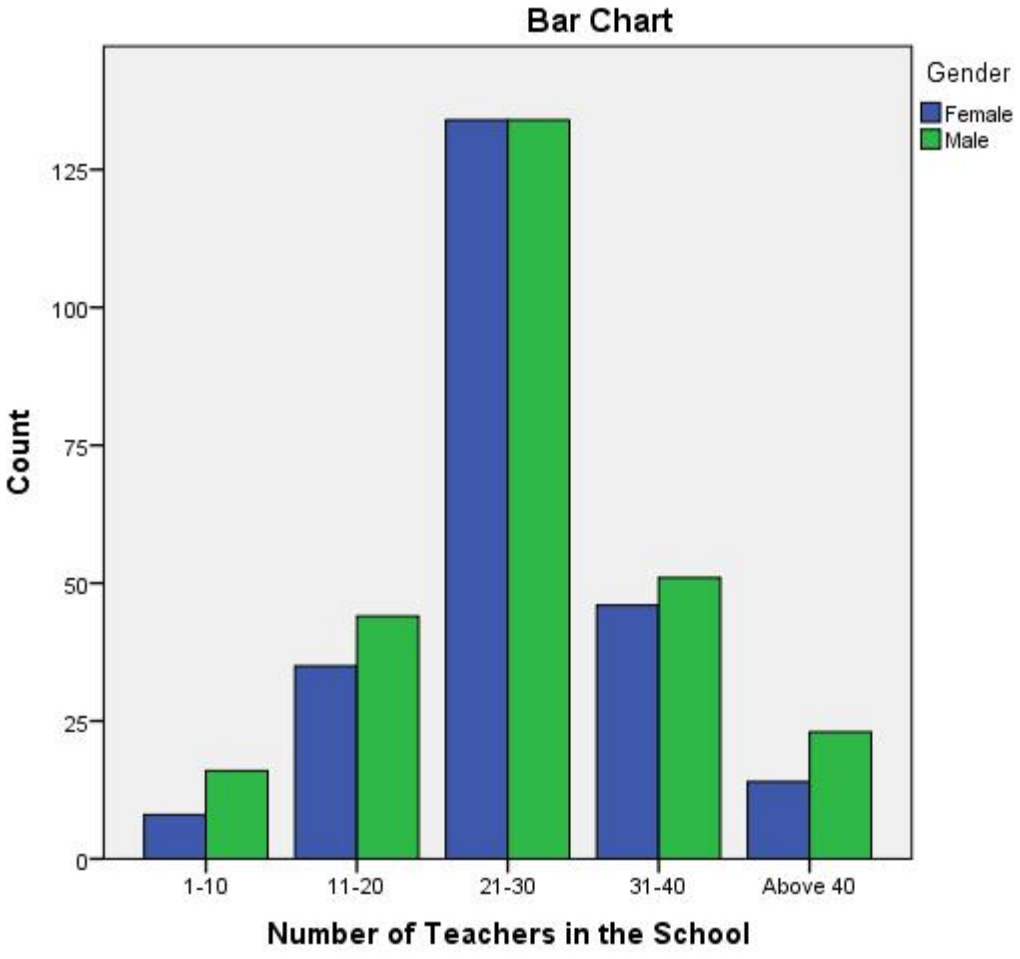


Fig 4.2: A Bar Chart showing the Number of Teachers in the School Field Survey, 2022

The most respondents are shown in the table above. According to Figure 4.2, age is broken down into six categories: 1-10, 11-20, 21-30, 31-40, and over 40. Of these, 21-30 has the highest percentage (56.5%), followed by 31-40 (19.4%), and 1-10 has the lowest percentage (3.4%). This suggests that the majority of secondary schools in the Ibadan metropolitan employ teachers between the ages of 21 and 30. The days of few secondary school instructors and a general lack of interest in teaching are long gone. It is anticipated that there will always be more secondary school teachers in the Ibadan Metropolis thanks to the current administration in Oyo state's improvements to the welfare of teachers and the quantity of instructors.

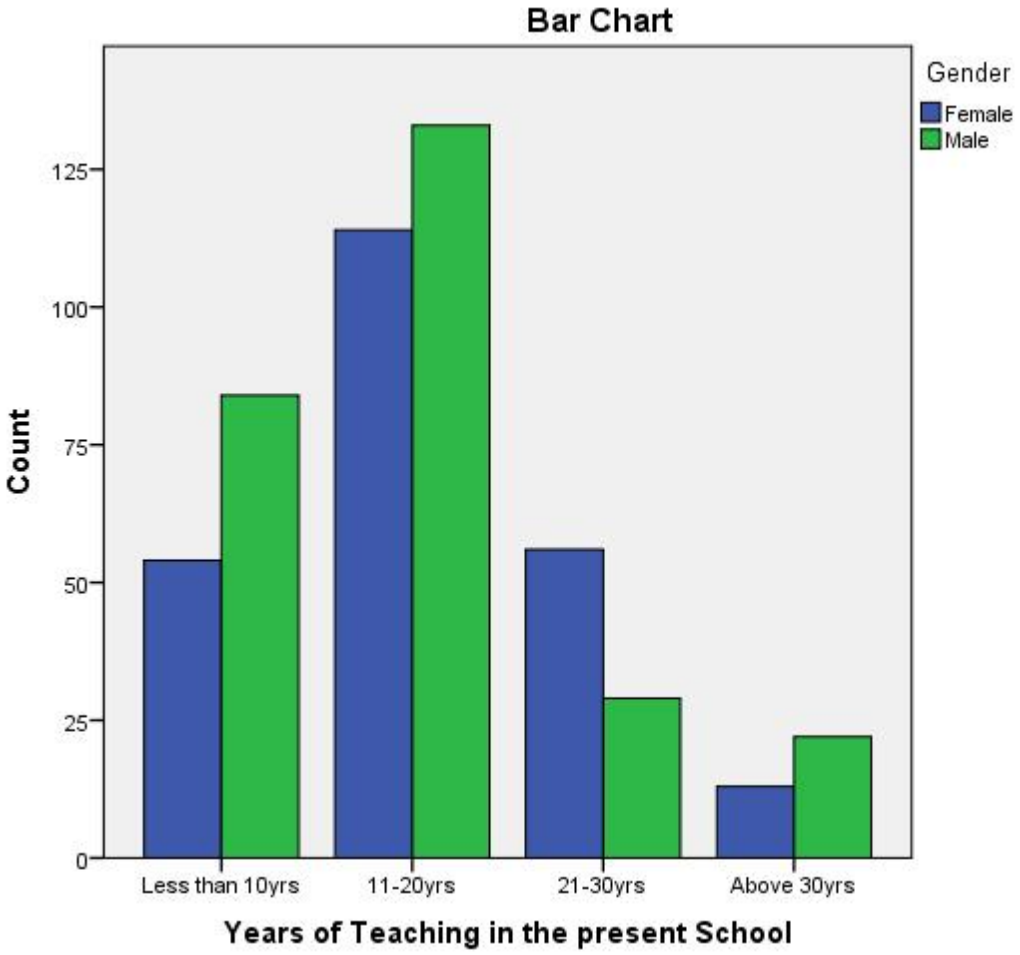


Fig 4.3: A Bar chart showing the years of Teaching in the present School

Field Survey,2022

Individual teachers have defined amounts of time spent teaching at the current school. From (fig. 4.3), the frequency for 11–20 years is 49.6%, followed by less than 10 years (31.3%) and above 30 years (8.2%). The following suggests that there is a chance that teachers in the Ibadan metropolitan may not wish to transfer to another school due to reasons such as transportation, family, and security. Teachers who have been in the profession for a long time and are above the age of forty make up the majority of this group by age. This may also imply that many teachers hold positions such as vice principals and heads of several departments. Additionally, it may be inferred that the years spent in the current school (more than 30 years) have the lowest 8.2% percentage. This may be the result of old age, retirement, moving, death, certificate fraud, and other factors.

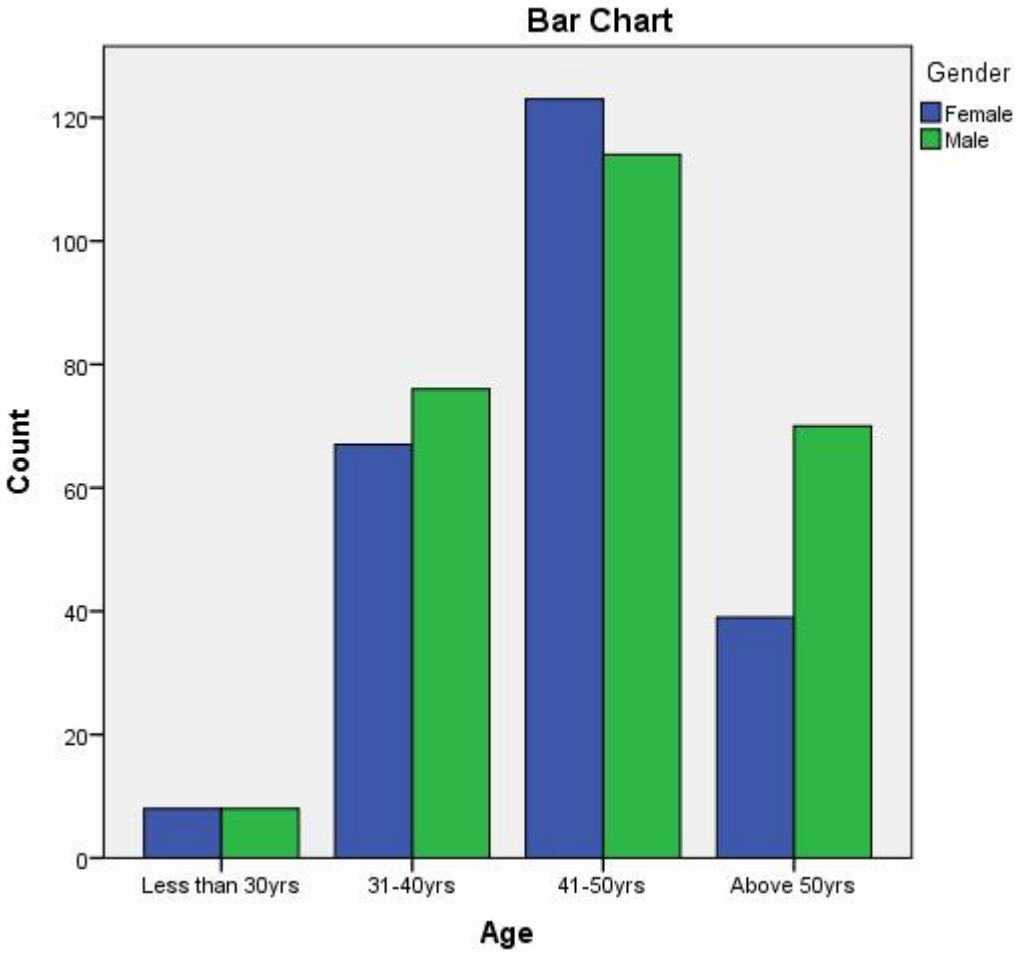


Fig 4.4 A Bar chart showing the Ages of Teachers in Ibadan Metropolis
Field Survey,2022

The In the metropolis of Ibadan, teachers in public secondary schools' range in age. From (fig. 4.4), less than 31–20 years has the second-highest frequency at 28.4%, followed by 41–50 years at 42.5%, and fewer than 30 years at 3.0%. As a result of the foregoing, it follows that secondary schools may not hire teachers based on factors like experience, age, and education. In general, teachers who have been in the profession for a long time and those hired when the Teaching Service Commission used grade 2:82, grade 2:83, and NCE to hire teachers are among those who fall into this category by age number. a person who is at least 40 years old. This could also imply that many of the instructors falling under this group are senior instructors with extensive backgrounds.

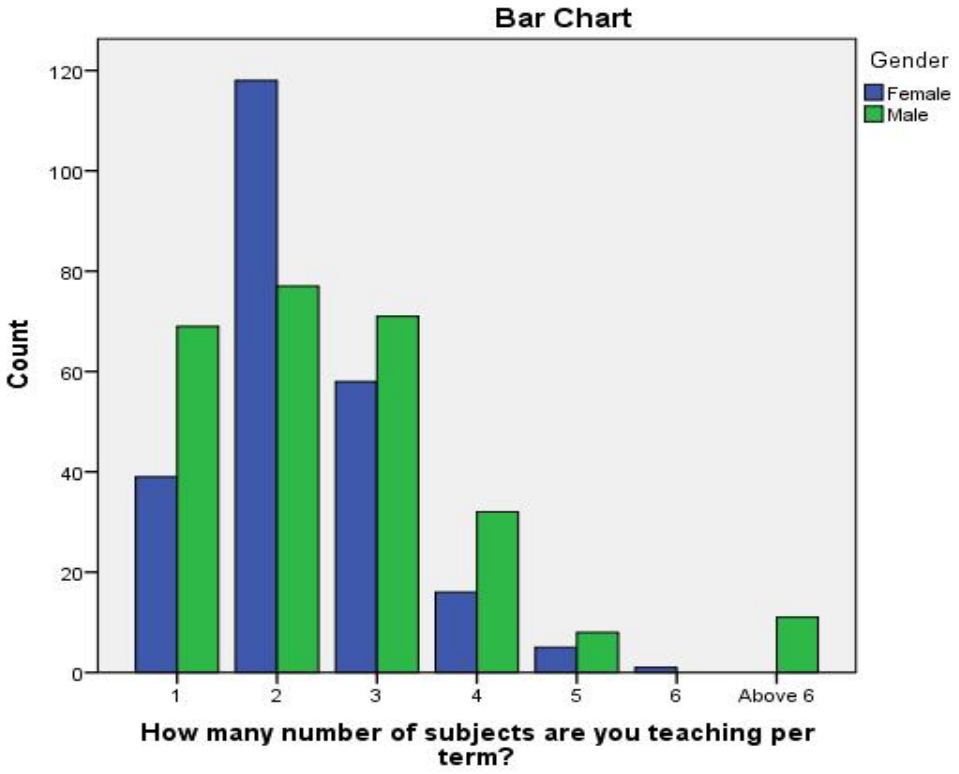


Fig 4.5: A Bar chart showing the Number of Subject taught by Teachers in Ibadan Metropolis per Term
Field Survey,2022

The most subjects that a secondary school teacher in Ibadan Metropolis teaches are shown in the table above. Figure 4.5 demonstrates that, with a percentage of 28.7%, two subjects are the most frequently taken per term, followed by three subjects (26.5%), and five subjects (3.0%). According to this, a public secondary school student is expected to take two topics per term. with the intention of not overwhelming a teacher with too many subjects to cover in order for them to be able to teach effectively and have an impact on the students' lives. When a secondary school teacher is not overburdened with material to teach, it is believed that their work performance would always improve.

4.1.2 Presentation of Research Question

The following are the keys used in the research questions. Very Often (VT), Seldom (S), Rarely (R), Never (N)

Research Question One: What is the identified level of public secondary school teachers' work performance (Creativity, attitude to teaching, and problem-solving ability) in the COVID-19 era in Ibadan metropolis?

Table 4.1: **Showing the identified level of public secondary school teachers work performance in the COVID-19 era in Ibadan Metropolis**.

S/N	Items	Very Often		Seldom		Rarely		Never		Mean	SD
		Freq	Per(%)	Freq	Per(%)	Freq	Per(%)	Freq	Per(%)		
1	teach students basics and leave them to find out more for themselves	275	54.2	194	38.4	28	5.5	8	1.6	3.46	0.584
2	improvise instructional materials to teach students	143	28.3	315	62.4	47	9.3	0	0.0	3.19	0.584
3	provide opportunities for my students to share their strong and weak points with the class	199	39.4	226	44.8	76	15.0	4	0.8	3.23	0.725
4	encourage my students to try out what they have learned from me in different situations	160	31.7	276	54.7	67	13.3	2	0.4	3.18	0.660
5	probe student's ideas to encourage them think and motivate them to learn	119	23.6	275	54.5	108	21.4	3	0.6	3.01	0.689
6	look forward to change	103	20.4	261	51.7	130	25.7	11	2.2	2.90	0.735
7	make use of different teaching techniques while teaching	145	28.7	280	55.4	57	11.3	23	4.6	3.08	0.759

8	improvise different instructional materials when not available	194	38.4	224	44.4	81	16.0	6	1.2	3.20	0.744
9	makes lessons more enjoyable and alleviates	143	28.3	268	53.1	92	18.2	2	0.4	3.09	0.688
10	try to achieve stated objectives of the lesson within the given time frame	144	28.5	245	48.5	109	21.6	7	1.4	3.04	0.746
11	feel less of myself when they couldn't provide solution to a given problem	165	32.7	213	42.2	91	18.0	36	7.1	3.00	0.891
12	am always ready to seek solutions to teaching-learning problems	168	33.3	239	47.3	79	15.6	19	3.8	3.10	0.794
13	try to ask for student feedback while teaching	152	30.1	297	58.8	48	9.5	8	1.6	3.17	0.656
14	am always ready to make use of the internet in seeking for more knowledge	118	23.4	286	56.6	98	19.4	3	0.6	3.03	0.672
15	make use of the internet to find out more about teaching-learning skills	207	41.0	209	41.4	80	15.8	9	1.8	3.22	0.771
	Weighted Mean									3.13	

Decision Rule: Weighted mean < 2.50 means **Low**, 2.50to 2.99 means **Moderate**, > 3.00 means **High**

Table 4.1 reveals that the level of public secondary school teachers work performance in the COVID-19 era is high (3.13). Also, the reveals that when public secondary school teachers are creative in their work, it allows them to teach students basics and leave them to find out more for themselves. It also went further by revealing to us that prompt students to share their strong and weak points with the class. The table also reveals that teachers attitude to teaching during COVID-19 era in Ibadan metropolis was high thereby enhancing public secondary school teachers work performance. In the same vein, when teachers make use of improvised instructional materials to teach students, it helps in improving the work performance of public secondary school teachers and that of student academic

performance. When teachers make use of different techniques while teaching, it is an avenue for the teacher work performance to be high.

It was also discovered from the table that that make use of internet to find out more about teaching-learning skills have high value to their problem-solving ability. The table also went further by revealing that teacher that couldn't provide solution to a given problem feel less of themselves thereby ensuring that they have the ability in problem-solving.

Table 4.1.1 Teachers Creativity to Work Performance in the COVID-19 era in Ibadan Metropolis

S/N	Items	Very Often		Seldom		Rarely		Never		Mean	SD
		Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)		
1	teach students basics and leave them to find out more for themselves	275	54.2	194	38.4	28	5.5	8	1.6	3.46	0.584
2	improvise instructional materials to teach students	143	28.3	315	62.4	47	9.3	0	0.0	3.19	0.584
3	provide opportunities for my students to share their strong and weak points with the class	199	39.4	226	44.8	76	15.0	4	0.8	3.23	0.725
4	encourage my students to try out what they have learned from me in different situations	160	31.7	276	54.7	67	13.3	2	0.4	3.18	0.660
5	probe student's ideas to encourage them think and motivate them to learn	119	23.6	275	54.5	108	21.4	3	0.6	3.01	0.689
	Weighted Mean									3.21	

Field Survey, 2022

Decision Rule: Weighted mean < 2.50 means **Low**, 2.50to 2.99 means **Moderate**, > 3.00 means **High**

Table 4.1.1 reveals that the level of public secondary school teacher work performance in respect to their creativity to work is high (3.21). Also, the table reveals that teacher teaches students basics and leave them to find more for themselves. Having the highest percentage of (54.2%). This means that public secondary school teachers take to the professional ethics of teaching by allowing students to also find more for themselves after which the teacher would have done his or her own part in the classroom by impacting knowledge into their lives. The level of public secondary school teachers work performance in respect to creativity is followed by the teacher allowing students to share their strong and weak points with the class having (39.4%). With this, it shows that public secondary school teachers create a friendly learning classroom for students to be able to share their strong and weak points thereby using that medium to encourage one another. Students sharing their strong and weak points with the class will permit the teacher to figure out students that need more attention, words of encouragement or affirmation so as to continually do well in his or academics. Public secondary school teachers encourage their students to try out what they have learnt in different situations and improvise instructional materials for student to learn at (31.7% and 28.3%) respectively. Teacher probe students' ideas to encourage them think and motivate them to learn, having (23.6%). This means that public secondary school teachers don't just teach students basics and leave them to find out more for themselves but also creative by improvising instructional materials to students to learn. Although, teachers carry out the aforementioned, it was also observed that, they probe students' ideas to encourage them to think and motivate them to learn with the lowest percentage (23.6%). This means, public secondary school teachers in Ibadan metropolis probe student's ideas in order to encourage and motivate them to learn.

From the above, the calculated weighted mean of public secondary school teachers work performance in respect to creativity is 3.21 greater than the mean of the Likert scale of 2.50. in order words,

calculated weighted mean > Likert scale mean. From the aforementioned, generally, the level of public secondary school teachers work performance to creativity is high except for when probing student's ideas to encourage and motivate them to learn having the least percentage of (23.6%). This result shows that public secondary school teachers work performance in respect to creativity is high.

Table 4.1.2 Teachers Attitude to Teaching Towards Work Performance in the COVID-19 era in Ibadan Metropolis

S/N	Items	Very Often		Seldom		Rarely		Never		Mean	SD
		Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)		
1	look forward to change	103	20.4	261	51.7	130	25.7	11	2.2	2.90	0.735
2	make use of different teaching techniques while teaching	145	28.7	280	55.4	57	11.3	23	4.6	3.08	0.759
3	improvise different instructional materials when not available	194	38.4	224	44.4	81	16.0	6	1.2	3.20	0.744
4	makes lessons more enjoyable and alleviates	143	28.3	268	53.1	92	18.2	2	0.4	3.09	0.688
5	try to achieve stated objectives of the lesson within the given time frame	144	28.5	245	48.5	109	21.6	7	1.4	3.04	0.746
	Weighted Mean									3.06	

Field Survey, 2022

Decision Rule: Weighted mean < 2.50 means **Low**, 2.50to 2.99 means **Moderate**, > 3.00 means **High**

Table 4.1.2 reveals that the level of public secondary school teacher work performance in respect to their attitude to teaching is high (3.06%). Also, the table reveals that teacher improvise instructional materials when not available. Having the highest percentage of (38.4%). This means that public secondary school teachers take to the professional ethics of teaching by providing instruction materials to teach student's when no available. The level of public secondary school teachers work performance in respect to attitude to teaching is followed by the teacher using different techniques to teach student's and making lesson more enjoyable and alleviates at (28.7% and 28.3%) respectively. This means that when teachers improvise instructional materials for students to learn, they (teach) tend to make the lesson meaningful, heart catching and enjoyable for students to learn. Teachers look forward to change that will make them grow in their profession and try to achieve stated objectives of the lesson within the given time frame at (20.4% and 28.5%) respectively. This implies that public secondary teachers tend to achieve stated objectives of the lesson within the time frame given and this help them in boosting their work performance. It was also discovered that secondary teachers work hard to achieve any given task within the time frame is because pf the way and manner the current Oyo State government is treating workers most especially teachers in the payment of their salary promptly and also given them thirteen-month salary.

From the above, the calculated weighted mean of public secondary school teachers work performance in respect to teachers' attitude to teaching is 3.06% greater than the mean of the Likert scale of 2.50. in order words, calculated weighted mean > Likert scale mean. From the aforementioned, generally, the level of public secondary school teachers work performance to their attitude to teaching is high except for when they (teacher) look forward to change having the least percentage of (20.4%). This result shows that public secondary school teachers work performance in respect to their attitude to teaching is high.

Table 4.1.3 Problem-solving ability Towards Work Performance in the COVID-19 era In Ibadan Metropolis

S/N	Items	Very Often		Seldom		Rarely		Never		Mean	SD
		Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)		
1	feel less of myself when they couldn't provide solution to a given problem	165	32.7	213	42.2	91	18.0	36	7.1	3.00	0.891
2	am always ready to seek solutions to teaching-learning problems	168	33.3	239	47.3	79	15.6	19	3.8	3.10	0.794
3	try to ask for student feedback while teaching	152	30.1	297	58.8	48	9.5	8	1.6	3.17	0.656
4	am always ready to make use of the internet in seeking for more knowledge	118	23.4	286	56.6	98	19.4	3	0.6	3.03	0.672
5	make use of the internet to find out more about teaching-learning skills	207	41.0	209	41.4	80	15.8	9	1.8	3.22	0.771

Weighted Mean	3.10

Field Survey, 2022

Decision Rule: Weighted mean < 2.50 means **Low**, 2.50to 2.99 means **Moderate**, > 3.00 means **High**

Table 4.1.3 illustrate that the level of public secondary school teacher work performance in respect to their problem-solving ability to teaching is high (3.10). Furthermore, the table reveals that teacher make use of the internet to find out more about teaching-learning skills. Having the highest percentage of (41.0%). This means that public secondary school teachers improve their problem-solving ability by searching the internet to find out more about teaching-learning skills. The level of public secondary school teachers work performance in respect to problem-solving ability is followed by the teacher always ready to seek solutions to teaching-learning problems with the percentage of (33.3%). This means that public secondary school teachers make use of the internet to equip themselves more thereby using the internet to seek for solutions related to teaching-learning abilities. The ability of some teachers not being able to make use of the internet make them feel less of themselves when they couldn't provide solution to a given problem thereby asking students for feedback while teaching (32.7% and 30.1%) respectively. Teachers use the internet to seek for more knowledge having the percentage of (23.4%). This implies that public secondary school teachers don't just use the internet but rather uses the internet to seek for knowledge that will make them grow and stay updated in their teaching profession. With this, it means that secondary school teachers use the internet.

From the above, the calculated weighted mean of public secondary school teachers work performance in respect to teachers' problem-solving ability is 3.10 greater than the mean of the Likert scale of 2.50. in order words, calculated weighted mean > Likert scale mean. From the aforementioned, generally, the level of public secondary school teachers work performance to their problem-solving ability to teaching is high except for when they (teacher) only use the internet to seek for more knowledge

having the least percentage of (23.4%). This result shows that public secondary school teachers work performance problem-solving ability to teaching is high.

Research Question Two: What is the most used platform to teach during COVID-19 era (during lockdown, after lockdown) in Ibadan Metropolis?

Table 4.2: Showing the most used platform to teach during COVID-19 era (during lockdown) in Ibadan Metropolis

Table4.2: Showing Most Used Platform to Teach during the lockdown in Ibadan Metropolis

S/N	Items	At all Times		Sometime		Rarely		Never		Mean	SD
		Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)		
1	Zoom	324	64.2	152	30.1	29	5.7	0	0.0	3.58	0.599
2	Google meet	190	37.6	272	53.9	37	7.3	6	1.2	3.28	0.648
3	Google class	207	41.0	215	42.6	82	16.2	1	0.2	3.24	0.722
4	Dropbox	126	25.0	228	45.1	136	26.9	15	3.0	2.92	0.795
5	Prezi	164	32.5	193	38.2	108	21.4	40	7.9	2.95	0.925
6	Umang mobile app	119	23.6	262	51.9	96	19.0	28	5.5	2.93	0.803
7	Youtube	191	37.8	246	48.7	67	13.3	1	0.2	3.24	0.67

											9
8	WhatsApp	204	40.4	266	52.7	35	6.9	0	0.0	3.33	0.602
9	Cisco	175	34.7	186	36.8	137	27.1	7	1.4	3.05	0.820
10	Webex	170	33.7	191	37.8	124	24.6	20	4.0	3.01	0.861

Field Survey, 2022

Table 4.2 gives a clear picture of the most used platform used by public secondary school teachers to teach during Covid-19 era in Ibadan Metropolis. The most used platform by public secondary school teachers in Ibadan Metropolis is Zoom. The table reveals that at all times, public secondary school teachers make use of Zoom to teach during Covid-19 in Ibadan Metropolis with the highest percentage of (64.2%) followed by Google class of (41.0%) and the least is Umang Mobile App having the percentage of (23.6%). From the above, there is tendency that most secondary school teachers make use of Zoom as the best platform they can easily operates within a short period of time. It was also noted that during the period of Covid-19, Zoom is the major platform that was created for teachings, hosting meetings, seminars among others. In order words, the most use platform to teach during Covid-19 by public secondary school teachers in Ibadan Metropolis is Zoom.

Table4.2.1: Showing Most Used Platform to Teach after the lockdown in Ibadan Metropolis

		At all Times		Sometime		Rarely		Never			
S/N	Items	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Mean	SD
1	Physical only	369	73.1	123	24.4	10	2.0	3	0.6	3.70	0.535
2	Online only	197	39.0	279	55.2	18	3.6	11	2.2	3.31	0.646
3	Hybrid (Physical &Online)	236	46.7	224	44.4	44	8.7	1	0.2	3.38	0.649
	Weighted Mean									3.46	

Field Survey, 2022

Table 4.2.1 gives an explanation of the most used platform by public secondary school teachers to teach after Covid-19 pandemic in Ibadan Metropolis. The most used platform by public secondary school teachers to teach after the pandemic in Ibadan Metropolis is Physical only. The table reveals that at all times, public secondary school teachers make use of physical only to teach after the pandemic lockdown in Ibadan Metropolis with the highest percentage of (73.1%) followed by Hybrid (Physical and Online) of (46.7%) and the least is Online Only having the percentage of (39.0%). From the above, there is tendency that most secondary school teachers make use of physical only to teach after the pandemic lockdown in Ibadan to teach with the view of having an interactive class with the students, seeing their facial expression while teaching as the best platform they can use to make teaching-learning more meaningful. It was also noted that during the period of Covid-19, Physical only is the major platform used in teaching so as to create a mutual relationship between the student's and the teachers.

Research Question Three: What is the most used device to teach during COVID-19 era (during lockdown, after lockdown) in Ibadan Metropolis?

Table 4.3: Showing the most used device to teach during COVID-19 era in Ibadan Metropolis

S/N	Items	At all Times Freq	At all Times Per (%)	Sometime Freq	Sometime Per (%)	Rarely Freq	Rarely Per (%)	Never Freq	Never Per (%)	Mean	SD

1	Smart Phones	301	59.6	167	33.1	35	6.9	2	0.4	3.52	0.643
2	CDs	155	30.7	230	45.5	113	22.4	7	1.4	3.06	0.764
3	DVDs	150	29.7	225	44.6	95	18.8	35	6.9	2.97	0.874
4	Biometric Scanner	187	37	222	44	80	15.8	16	3.2	3.15	0.797
5	Computers	204	40.4	254	50.3	45	8.9	2	0.4	3.31	0.645
6	Telephones	220	43.6	226	44.8	59	11.7	0	0.0	3.32	0.672
7	Digital camera	174	34.5	266	52.7	62	12.3	3	0.6	3.21	0.669
8	Whiteboard	211	41.8	230	45.5	62	12.3	2	0.4	3.29	0.689
9	Interactive board	169	33.5	286	56.6	50	9.9	0	0.0	3.24	0.616
10	Projector	275	54.5	186	36.8	42	8.3	2	0.4	3.45	0.662

Field Survey, 2022

Table 4.3, the highest most used device for teaching during Covid-19 in Ibadan Metropolis is Smart Phone with a percentage of (59.6%). Secondary school teachers in Ibadan metropolis at all times make use of Smart Phone to teaching during Covid-19 pandemic era in Ibadan Metropolis with the view that it is easier for them to operate and carry about. This implies that, secondary school teachers enjoy using their smart phones to teach during Covid-19 era. This is followed by projector with a percentage of (54.5%). The projector helps secondary school teachers project or display what they are teaching the students using the computer thereby having audio-visual class to aid teaching. The least device that is mostly used to teach during Covid-19 is DVDs with the percentage of (29.7%). This implies that, public secondary school teachers in Ibadan don't really make use of DVDs for teaching during Covid-19 era in Ibadan Metropolis. This implies DVDs are only used for playing Videos. In the other hand, Smart Phones are used to teach, make calls for students to join the class, just to mention a few and also in conformity to the outcome of the research question on the most used device to teach during Covid-19 pandemic by the secondary school teachers in Ibadan Metropolis. This means that using smart phone to teach by secondary school teachers can help boost teacher effectiveness, work performance and time factor. Above all, the most used device to teach during Covid-19 by secondary school teachers in Ibadan metropolis is Smart Phone.

Table 4.3.1: Showing the most used device to teach after COVID-19 era in Ibadan Metropolis

S/N	Items	At all Times Freq	At all Times Per (%)	Sometime Freq	Sometime Per (%)	Rarely Freq	Rarely Per (%)	Never Freq	Never Per (%)	Mean	SD
1	Interactive Board	207	41.0	177	35.0	117	23.2	4	0.8	3.16	0.805
2	Smart phones	141	27.9	308	61.0	35	6.9	21	4.2	3.13	0.707
3	Power points	183	36.2	239	47.3	73	14.5	10	2.0	3.18	0.745
4	Video clips	150	29.7	256	50.7	97	19.2	2	0.4	3.10	0.705
5	Audio recording	200	39.6	224	44.4	76	15.0	5	1.0	3.23	0.732
6	Tape recorder	171	33.9	151	29.9	172	34.1	11	2.2	2.95	0.875
7	Digital camera	137	27.1	271	53.7	81	16.0	16	3.2	3.05	0.746
8	Projector	172	34.1	272	53.9	60	11.9	1	0.2	3.22	0.649
9	Interactive board	139	27.5	337	66.7	29	5.7	0	0.0	3.22	0.535
10	White Board	260	52.1	213	42.2	26	5.1	3	0.6	3.46	0.623

Field Survey, 2022

Table 4.3.1, the highest most used device for teaching after Covid-19 in Ibadan Metropolis is Whiteboard with a percentage of (52.1%). Secondary school teachers in Ibadan metropolis at all times make use of whiteboard to teach during Covid-19 pandemic era in Ibadan Metropolis with the view that it is easier for them to write and illustrate with. This implies that, secondary school teachers enjoy using whiteboard to teach during Covid-19 era. This is followed by Interactive board with a percentage of (41.0%). The interactive board helps secondary school teachers to interact and impact knowledge into the life of the students. The least device that is mostly used to teach after Covid-19 is digital camera with the percentage of (27.1%). This implies that, public secondary school teachers in Ibadan make use of digital camera to teach during Covid-19 and not always in use after Covid-19 pandemic. This also implies that whiteboard is in conformity to the outcome of the research question on the most used device to teach after Covid-19 pandemic by secondary school teachers in Ibadan Metropolis. This means that using whiteboard to teach by secondary school teachers can help boost teacher effectiveness, work performance, teacher-student relationship and time factor. Above all, the most used device to teach after Covid-19 by secondary school teachers in Ibadan metropolis is Whiteboard.

Research Question Four: To what extent is public secondary school teachers digitalized?

Table 4.4: Showing the extent at which public secondary school teachers are digitalized

High Extent	Extent	Low Extent	Very Low Extent

S/N	items	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Mean	SD
1	am digitally inclined	332	65.7	127	25.1	43	8.5	3	0.6	3.56	0.673
2	appreciate that innovation is more than just creativity	226	44.8	259	51.3	20	4.0	0	0.0	3.41	0.567
3	place value on my communication and creativity skills	231	45.7	205	40.6	69	13.7	0	0.0	3.32	0.702
4	enjoys learning through new technologies and equipment	155	30.7	308	61.0	41	8.1	1	0.2	3.22	0.590
5	attend seminars and in-service training programmes to grow my teaching skills	209	41.4	256	50.7	40	7.9	0	0.0	3.33	0.618
6	create a high-performance environment where success is inevitable	129	25.5	334	66.1	42	8.3	0	0.0	3.17	0.556
7	awake possibilities in people to deliver extraordinary results	201	39.8	232	45.9	72	14.3	0	0.0	3.26	0.690
8	make use of ICT to store and record information	216	42.8	246	48.7	39	7.7	4	0.8	3.33	0.652
9	tend to overcome barriers to reach goals	258	51.1	191	37.8	53	10.5	3	0.6	3.39	0.697
	Weighted Mean									3.33	

Field Survey, 2022

Decision Rule: Weighted mean < 2.50 means **Low**, 2.50to 2.99 means **Moderate**, > 3.00 means **High**

Table 4.4 gives an answer to the above research question. From the above table, calculated weighted mean is 3.33 which is high. This implies that public secondary school teachers are digitalized. Digitalization is one of the major factors needed by secondary school teachers to grow in their profession and also needed in this fourth industrial revolution and being such, it has been powerful enough to attain its success on current educational improvement. A brief look at the happenings, that is, the era of Covid-19 pandemic (Nationwide lockdown) when schools were shut down and most school age children could not have access to education, rather, they resulted in watching home videos, playing video games, watching cartoons among others in Ibadan metropolis of Oyo State. The story wasn't so in other developed countries like the United State of America, Germany, Australia among others, where there is a paradigm shift of teachers from the traditional method (physical) of doing things to an advanced method (virtual platform). In other words, there is shift in education from the normal four walls of classroom to education in the air. This help to call for improvement and digitalization of public secondary school teachers in Ibadan metropolis. Digital teacher is someone who lead through the use of digital devices require greater effort from both the government and the administration. Hence, digital teacher must be versatile, creative, flexible and always prompt to make a change in the global world.

4.1.3 Presentation of Test of Hypotheses

The two known hypotheses were formulated in this study and were also tested at a 0.05 level of significance. Multiple linear regression was the statistical tool used to test the hypotheses.

Ho1: There will be no significant combined influence of digital teacher and information communication technology (ICT) use on work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis

Table 4.5: Showing the combined influence of Digital teacher and Information Communication Technology (ICT) use on Work Performance of secondary school Teachers during COVID-19 era in Ibadan Metropolis.

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	36492.808	2	18246.404	525.510	0.000[b]
Residual	17430.106	502	34.721		
Total	53922.914	504			

Field Survey, 2021

R= 0.823[a], R^2=0.677, Adjusted R^2= 0.675, where a= dependent variable and b= independent variables

Table 4.5 shows that the f-test significant (P -value < 0.05), thus, the null hypothesis is rejected. In other words, the table above shows that there is a combined influence of digital teacher and Information Communication Technology use on work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis.

From the above, R= 0.823, where 'R' is a Person's correlation coefficient which measures the direction and strength of a linear relationship between two different variables (dependent and independent variables) whose is +1 and - 1. This implies that there is a strong positive linear relationship between the two variables. Adjusted R^2 shows how well is the regression model fits the above model. From the table, Adjusted R^2 is 0.675. this means that approximately 68% of the public secondary school teachers in Ibadan Metropolis is determined by the combination of digital teacher, Information Communication and Technology use and work performance. From the findings in this study, teachers who invent digital devices and make use of them in their work tends to improve public

secondary school teachers work performance in Ibadan Metropolis. This also means that teachers who are effective and efficient will constantly provide room for growth, professional stability, feedbacks, and direction to students. A digital teacher is someone who strategically uses devices like computers, smart phones, and the internet to further educational goals. Public secondary school teachers in Ibadan Metropolis who make use of digital devices in their work are known to outshine other teachers in technology world. This is because teachers who are digitalized and uses technology in their teachings tends to have in-depth knowledge on the technology world thereby increasing educational goals of the state. They are seen as problem solvers through their creativity, attitude to teaching and problem-solving ability. Hence, as digital teacher improves in the use of technology, Ibadan metropolis teachers' work performance also improves.

Ho2: There will be no significant relative influence of digital teacher and information communication technology (ICT) utilization on work performance of secondary school teachers during COVID-19 in Ibadan Metropolis

Table 4.6 showing the relative Influence of digital teacher and information communication technology (ICT) utilization on work performance of secondary school teachers in the COVID-19 in Ibadan Metropolis

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(Constant)	40.511	4.577		8.851	0.000
Digital teacher	2.918	.100	.744	29.236	0.000
Information Communication Technology (ICT) used	2.055	.129	.405	15.915	0.000

Field Survey, 2021

Table 4.6 shows the relative influence of digital teacher, Information Communication Technology on secondary school teachers' work performance. From the above table, it was deducted that both digital teacher and use of Information Communication Technology has significant (P- value < 0.05) on the

hand public secondary school teachers in Ibadan metropolis. This explains the fact that digital teacher and Information Communication and Technology use has effect on public secondary school teachers work performance in Ibadan metropolis. It is also explained that, digital teacher and Information Communication and Technology use needs to be more equipped on public secondary school, teachers work performance in Ibadan metropolis. This means public secondary school teachers need to be more digitalized.

4.3 Discussion of Findings

Remembering that in chapter three of this study, a questionnaire was utilized to collect data, specifically on public secondary school teachers in the metropolis of Ibadan. The questionnaire was designed to determine the level of digitalization among public secondary school teachers, as well as the most popular platforms and teaching aids in the COVID-19 era in the Ibadan metropolis.

The gender demographic information for responders is shown in Fig 4.1 The male gender has the largest percentage (23.9%) compared to the female gender (22.4%), according to the bar graph. The number of teachers in the school is shown in Fig. 4.2, with 21-30 having the highest proportion (56.5%), followed by 31-40 with the percentage (19.4%), and 1-10 with the lowest percentage (3.4%). The number of years of teaching in the current school are shown in Fig 4.3. The biggest percentage of (48.1%) was found to be between the ages of 11 and 20. This means that for good work performance in the secondary schools, each of the public secondary schools in Ibadan is expected to have up to twenty teachers[1]. The respondent age distribution is also shown in Fig. 4.4. After completing the survey, it was discovered that the biggest percentage of respondents (51.9%) were aged 41 to 50. Ages 31 to 40 were next with (28.3%), while fewer than 30 years had the lowest percentage among them (3.4%). This means that many of the public secondary school teachers in the Ibadan metropolitan area between the ages of 41 and 50, and many of them are senior teachers who began their careers as teachers when they were quite young[2]. The number of disciplines that secondary

school teachers in the Ibadan metropolis have chosen to study is shown in Fig. 4.5. It was discovered that subject number two (2), or two subjects, had the highest percentage of (28.7%), followed by subject number three (3), who had the same percentage of (26.5%), and subject number six (6) had the lowest percentage of (0.4%). This suggests that public secondary school teachers in the Ibadan metropolis take two topics per term to lighten their workload and make room for the hiring of additional educators[2]. Digital teaching is a strategy for advancing educational goals by strategically utilizing technology like computers, smart phones, and the internet. Being a teacher is a profession. It is the act of passing on knowledge from the knowledgeable person to the ignorant person. It involves working with students (learners) to help them comprehend and decode the concept, apply their knowledge, and process it in order to produce a valuable outcome. Teachers are people who have the responsibility of educating secondary school students in public institutions so that they can contribute meaningfully to society. A teacher is someone who dedicates their time and effort to instructing students. One who implements curriculum in a learning context is a teacher[3]. The efficiency of a secondary school teacher affects the environment's strengths, weaknesses, and potential management gaps[3]. A person who has received professional development in teaching techniques can also be considered a teacher. The capacity of public secondary school instructors in the city of Ibadan to start teaching from known to unknown suggests that such a person is a certified teacher. This is consistent with research on the effects of digital teachers and creative teachers on innovation[2]. One of a teacher's professional responsibilities is to be able to employ educational techniques including technology, different methodologies, teamwork, fostering a positive classroom climate, and encouraging students to try new things as part of their learning. Teachers with passion and vision for enhancing quality learning outcomes are needed in educational institutions. This is followed by the bases of teachers teaching student and then allows them to find more for themselves in Ibadan metropolis with the percentage of (54.2%). This demonstrates the creativity of Ibadan metropolis's public secondary

school instructors. The academic success of their students and the creativity of their teachers are directly correlated. It has an impact on how well their pupils perform academically at public secondary schools, which are the next level of education following foundation classes (primary schools), as well as how smoothly the educational system functions as a whole. Using creativity in the classroom not only benefits kids' academic progress but also the teacher's own personal and professional growth. This further supports a study that found that instructors' work performance determined certain factors, such as inventiveness[1]. Students receive indirect instruction from teachers through their creativity. Even when it's challenging, it inspires children to be creative in the classroom and keeps them interested both inside and outside of the classroom. The approach and manner in which teachers encourage their pupils to discuss their areas of strength and weakness in class has (39.4%). Knowing that allowing students to speak about their areas of strength and weakness in class encourages creativity and plays a significant role in a teacher's effectiveness.

A nice attitude toward teaching is demanded of an idea teacher in order to foster a welcoming learning atmosphere for the students. With the rate of (38.4%), this behavior by the teachers enables the teacher to invent other educational materials when they are not readily available. This suggests that it will make it possible for the instructor to create a setting for the pupils that is equitable, fair, caring, and calm. It makes the teacher feel a part of something. It is also one of the teacher's responsibilities that affects how well they do at their jobs. This is consistent with the study, which shows that instructors' work effectiveness is determined by their capacity to employ instructional resources to foster a positive learning environment.[3]. This act has an impact on teachers' problem-solving abilities, leading them to use the internet to learn more about teaching and learning techniques in a percentage of 41.0%, with the least number of teachers using the internet to gain information in a percentage of 0%. (23.45). It was found that some teachers do not use the internet for information to learn more about their teaching-learning capabilities. This may be determined by the type of phones

they used, their access to internet resources, or their carefree attitude toward using the internet, among other factors. Every educator understands the value of being able to solve problems because it helps students' learning experiences be more concrete, which makes learning more engaging. Table (4.1) showed that, in contrast to the ordinal mean of 2.50, the weighted for instructors' work performance in terms of originality is 3.21, attitude toward teaching is 3.06, and problem-solving ability is 3.10. This table demonstrates that teachers perform well, with the exception of when they utilize the internet to look for information, for which the most likely causes have already been identified. In other words, the city of Ibadan has very effective public secondary school teachers. This could also be summed up by the study, which showed that teachers' work performance is based on factors like teaching students the fundamentals and letting them learn more on their own, creating alternative teaching materials when the ones they need are not available, and using the internet to learn more about their teaching-learning techniques.

According to the table (4.2), Zoom is the platform that public secondary school teachers in the Ibadan metropolis use the most to educate on, with 64.2% usage. During COVID-19, a significant platform called Zoom was specifically developed to allow people to conduct meetings, lectures, training sessions, and other activities. Due to the ease of use, the fact that the software was made for such usage, and a number of other factors, many teachers in the Ibadan metropolitan use Zoom to teach. Zoom is a platform for video conferencing that enables professors and students to meet online in real-time using a personal laptop or mobile device, with or without the use of video. Online lessons can be conducted by teachers via Zoom meetings, and such meetings can be recorded for later viewing by students. Zoom had the biggest proportion of the most popular platform, while Google Class came in second with 41.0%. With the aid of Google Class, teachers may manage several activities, access extensive content, encourage class discussion, organize their pupils, and educate in an environmentally friendly manner, among other things. A free platform for educators is Google

Classroom. It employs a scaled-down strategy to provide teachers with the tools they need to interact with students, plan lessons, activities, and resources, and maintain records. Umang (23.6%) is the platform that Ibadan public secondary school teachers utilized the least to teach on during COVID-19. The platform that public secondary school instructors in the Ibadan metropolis used the most following the COVID-19 era is shown in Table (4.2.1). After COVID-19, it was discovered that the platform used to educate the most was physical exclusively, with (73.1%), followed by hybrid (physical and online), with (46.7%), and the least was online only, with (39.0%). According to the aforementioned, there is a tendency for secondary school teachers to only use physical instruction when instructing students. This is because they believe that using the students' facial expressions while lecturing is the most effective method for enhancing the meaning of teaching and learning. In order to foster a rapport between the students and the teachers, it was also observed that following the Covid-19 era, only physical education is the primary platform employed in the classroom.

In response to research question three, the Ibadan metropolis secondary school teachers' most-used teaching aid during the COVID-19 era was disclosed in table 4.3. Smartphones were found to have the greatest percentage (59.6%). In order to make teaching and learning more successful during the Covid-19 pandemic in Ibadan Metropolis, it was observed that secondary school instructors used their smartphones for instruction the majority of the time. This was done for portability and ease of use. This suggests that in the Covid-19 period, secondary school instructors love utilizing their smartphones to educate. Projector follows this with a proportion of (54.5%). With the use of the projector, secondary school teachers can project or display what they are teaching the class using the computer. This creates an audio-visual environment that helps with instruction. The least popular teaching tool during COVID-19 is DVDs, which are used 29.7% of the time. This suggests that during the Covid-19 era in Ibadan Metropolis, public secondary school instructors in Ibadan do not truly use DVDs for instruction. This indicates that the only purpose of DVDs is to play videos. On the other

hand, smart phones are used to teach, to call students to come to class, to name a few things, and also in accordance with the findings of the study on the device that secondary school teachers in the Ibadan Metropolis found to be the most effective for teaching during the COVID-19 pandemic. Accordingly, using a smart phone while teaching at a secondary school can improve student learning, job performance, and time management. The primary tool utilized by secondary school teachers in the metropolis of Ibadan for instruction during COVID-19 is a smartphone. The majority of secondary school teachers, according to a study, find it simple to utilize their device to advance their own expertise and careers[5]. Smart phones are said to be one of the ways that teachers could readily access the internet and further their professional development. Additionally, it was discovered that whiteboards are the most popular teaching aid in the Ibadan metropolis among secondary school teachers in the post-COVID-19 era (52.1%) (Table 4.3.1). Whiteboards are the most popular teaching aid in the post-COVID-19 era in Ibadan Metropolis, with a percentage of (52.1%). After the Covid-19 pandemic, secondary school instructors in Ibadan metropolis always utilize a whiteboard to teach with the idea that it is simpler for them to write and illustrate with. This suggests that following the Covid-19 era, secondary school teachers prefer using whiteboards to educate. With a proportion of 41.0%, Interactive board comes in second. Teachers in secondary schools can communicate with pupils and impart knowledge by using the interactive board. Digital cameras, which are used to teach the most after Covid-19, account for (27.1%) of all devices. This suggests that Ibadan's public secondary school instructors did not always utilize digital cameras to teach after the Covid-19 pandemic. This means that the whiteboard is consistent with the findings of the study on the teaching tool that secondary school teachers in the Ibadan Metropolitan area of Nigeria most frequently utilized following the Covid-19 outbreak. This suggests that secondary school teachers who use whiteboards to educate can improve their efficiency, productivity, student-teacher interaction, and time factor.

After Covid-19, the whiteboard is the teaching tool that secondary school teachers in the Ibadan metropolis utilize the most.

Table 4.4 revealed that the school teachers in the metropolis of Ibadan are significantly digitalized. The conclusion is that teachers in public secondary schools employ technology to enhance their abilities to teach and learn, hence improving the quality of their job output. It was found that when using the internet, public secondary school teachers valued their originality. A teacher's ability to influence knowledge in the twenty-first century goes beyond their proficiency with interactive whiteboards and teaching materials to include their level of technological digitalization. Beyond people using their phones to make calls, send text messages, take photographs, and use WhatsApp, technology has advanced significantly. Teachers now set up software (educative software) for additional useful tools like Zoom, Google Class, Youtube, and Dropbox, among others. Thanks to technology, the entire school can involve its kids in a conference call. To support their teachers' work performance in the Ibadan Metropolitan Area, they can also arrange and fix symposiums digitally or remotely. According to a study on the role of digital leadership in developing business models, this is accurate. Digital-era innovation[6]. It was discovered that digitization is crucial in creating a connection between the development of business models and digital leadership. When applied properly by secondary school teachers in the city of Ibadan, digital teacher transformation always helps to increase teachers' work performance. It also jives with a recent piece suggesting that Nigeria, particularly the city of Ibadan, could see educational success in the digital age if teachers don't have unrealistic expectations about when educational objectives will be accomplished.

In addition, it supports a study that found that managing an employee's performance at work and suggesting potential solutions to problems at work demand more work from teachers or leaders who guide others through the use of digital devices[7]. Public secondary school teachers in the Ibadan metropolis must be more digitally savvy in order to increase their productivity. They must be dynamic

in nature and have the following qualities: innovation, using digital technology to forge strong domestic and international networks and facilitate collaborations, possessing digital expertise to set themselves apart from the competition and advance technology, strengthening the value of knowledge to individuals[8]. In addition to the aforementioned, Ibadan metropolis public secondary school teachers need people with dynamic capability, which can be accelerated when teachers concentrate on the shifting needs of society[9]. The country's educational system is evolving significantly, and the world is moving toward a digital age. The necessity for digitization in society necessitates that the Oyo State government and school administrators build dynamic capacities for enhancing instructors' work performance, which will also positively impact students' academic results. Being the level of education before tertiary education, public secondary schools have a responsibility to set the tone and standards for other educational institutions to follow. This will improve not only the state's educational system but also the nations as a whole.

In the COVID-19 era in the Ibadan Metropolis, the null hypothesis that there will be no substantial combined influence of digital teaching and information and communication technology (ICT) use on the work performance of secondary school teachers was rejected. The usage of information, communication, and technology by secondary school teachers in the Ibadan Metropolis during COVID-19 has a substantial impact on their work performance. This demonstrates how ICT may be used by school teachers in the city of Ibadan to affect how well they perform at work as they become more digitally literate. This is consistent with research showing that digitalization is a potent tool with the potential to affect teachers' work effectiveness in the now and the future10. This means that secondary school instructors can use digital learning strategies and utilize ICT to enhance student learning outcomes and job performance. Additionally, it backs up the Unified Acceptance Theory of Information, Communication, and Technology, which bases its premises on how systems interact,

change, and affect their environment[11]. To affect the work performance of public secondary school teachers in the Ibadan metropolitan, it is necessary for educators to become more digitally literate. Similar to traditional teachers, digital teachers can also effectively instruct their pupils using technology by holding class outside of the traditional classroom walls and involving the students in enhancing their learning outcomes. This is consistent with a study that found teachers share traits including creativity, a willingness to learn and adapt to change, and the ability to improve a successful educational system. Teachers also participate in global vision to drive change in the educational system by collaborating.

The null hypothesis, which claimed that the use of ICT and digital teaching would have no relative impact on secondary school teachers' productivity during the COVID-19 era in the Ibadan Metropolis, was likewise disproved. During the COVID-19 era in the Ibadan Metropolis, there is a sizable relative influence of digital teaching and the use of information, communication, and technology on the work performance of secondary school instructors. This suggests that the usage of information and communication technologies by teachers in public secondary schools has an impact on their work. The combined significant influence of digital instructors and teachers' work performance in the city of Ibadan is another factor. A digital teacher is one that instills knowledge into the pupils' lives through the use of technology. Digital teaching is a strategy for advancing educational goals by strategically utilizing technology like computers, smart phones, and the internet. Being a teacher is a profession. It is the act of passing on knowledge from the knowledgeable person to the ignorant person. It involves working with students (learners) to help them comprehend and decode the concept, apply their knowledge, and process it in order to produce a valuable outcome. A digital teacher is someone who practices and works in the virtual world using cutting-edge technology to enhance the success of the institution in a cutthroat industry[12]. Teachers at public secondary schools must utilize digital technology in order to adapt to the new era (the 21st century). Additionally, you will gain a

competitive edge on the job market and help others by improving their quality of life and contributing to their welfare and behavioral patterns. In order to boost their work performance, public secondary school instructors in the Ibadan metropolitan might create symposiums using cutting-edge technologies.

This implies that for efficient work performance in the city of Ibadan, teachers might integrate their knowledge with digital teaching techniques.

Endnotes

1. A. Onaolapo Akinlolu, G. Olajiga Damilola & M. Onaolapo Temitayo: Teachers Job Performance in Secondary Schools, Nigeria: The Effect of Family Satisfaction and Job Satisfaction, ***International Journal of Business & Managementt,*** Vol7 (3), (2019), pp65-69. ISSN 2321–8916, DOI:10.24940/theijbm/2019/v7/i3/BM1903-011

2. El Mustapha Baytar, Lynda Ouchaouka, & Nadia Saqri: Secondary school teachers' uses of ICT, Conference: The 3rd International Workshop of Innovation and Technologies (IWIT), 2022. DOI:10.1016/j.procs.2022.07.090

3. Oussama Dardary, Malika Tridane, & Said Belaaouad: Constraints Related to the Integration of Informationand Communication Technologies in the Teaching of the Physical Sciences at the Level of the Moroccan Educational System. ***Indian Journal of Science and Technology.*** *(PDF) Technologies in The Teaching of The Physical Sciences at The Level of The Moroccan Educational System*. Vol11(44), (2018), pp1-15. Available from: https://www.researchgate.net/publication/329213201_Technologies_in_The_Teaching_of_The_Physical_Sciences_at_The_Level_of_The_Moroccan_Educational_System.

4. Yusuf Daudi N Josta Lameck Nzilano: Information Communication and Technology Integration in Teaching and Learning Perception N Practices of Secondary School Students in Tanzania. ***Ubiversity Of Dares Salaam Library Journal***. Vol14 (2), (2019), pp38-52.

5. A. P. Gilakjani: A Review of the literature on the integration of Technology into the Learning and Teaching of English Language ***Skills. International Journal of English Linguistics***. Vol7 (5), (2017), pp95-106.

6. M. T. Al-Hariri & A. A. Al-Hattami: Impact of students' use of technology on their learning Achievements in physiology courses at the University of Dammam. ***Journal of Taibah University Medical Sciences***, Vol12 (1), 2017, pp82-85.

7. Wilson Mugizi, Christopher Mwujuka Amwine: Information Communicaton and Technology use and Job Performance of Teachers at a Private International School in Uganda. ISSN Online: 2151-4771, ISSN Print: 2151-4775,2020, pp166-181. https://www.scrip.org/journal/ce

8. D. Blazar & M. A. Kraft: Teacher and Teaching Effects on Students' Attitudes and Behaviours. Educational Evaluation and Policy Analysis, 39,146-170. https://doi.org/10.3102/0162373716670269

9. Arief Tukiman Hendrawwijaya, Muhammad Irfan Hilmi, Fuad Hasan, Niswatul Imsiyah & Deditiani Tri Indrianti; Determinants of Teacher Performance with Job Satisfaction Mediation. ***International Journal of Instruction***, received: 03/10/2019, Revision: 08/03/2020, Accepted: 22/03/2020, OnlineFirst: 24/05/2020, Vol13 (3), 2020, 845-860.

10. Akosile & W. Olatokun, "Factors influencing knowledge sharing Among Academics in Bowen University, Nigeria. ***Journal. Librariansh. Inf. Sci***., Vol.52, No.2, 2019, pp. 410–427

11. F.R. Olakulehin: Information Communication Technology in Teachers Training and Professional Development in Nigeria, ***Turkish Journal of Distance Education***, Vol 8(1), (2019), pp133-142.

12. L.A. Ogunsola: Information and Communication Technology and the Effects of Globalization: Twenty –First Century "Digital Slavery" for Developing Countries-Myth or Reality? ***Electronic Journal of Academic and Special Librarianship***, Vol 6(1-2), (2015), pp1-10.

Chapter Five

Conclusion

This chapter shall be discussed on the following sub-headings

5.1 Summary of the Findings

The study looked at how public secondary school teachers in Ibadan, the capital of Oyo state, used digital teaching, ICT, and other forms of technology to do their jobs. The filled-out questionnaires came from the chosen sampled schools. Additionally, it displays the sampled and completed demographic information of the respondents, such as class, gender, number of teachers at the school, years spent teaching there, age, the number of subjects each teacher has studied, and the total number of students in the class. The male gender has the largest proportion (23.9%), compared to the female gender's percentage (22.4%), according to fig. 4.1. This suggests that male secondary school instructors are superior to female secondary school teachers. This is the case because male teachers, in particular, are capable of handling public secondary school kids very well in terms of morals, discipline, corrections, training, and other areas. According to Figure 4.2, there are 50.0% more public

secondary school teachers in the Ibadan metropolitan in the age group of 21 to 30, followed by 19.0% in the group of 31 to 40, and 6.0% in the group of 1 to 10. This suggests that the majority of secondary public schools in the Ibadan metropolitan employ between 21 and 30 teachers. Additionally, each teacher has a different amount of experience under their belt. According to the graph (fig. 4.3), teaching experience between the ages of 11 and 20 years in the current school has the frequency (49.6%), followed by experience between the ages of 10 and 9, which has the lowest frequency (8.2%). The implication of the above is that teachers who belong to the category of teaching in a school for 11 to 20 years are senior teachers, heads of various departments, vice principals, and also teachers who find it challenging to travel outside of their comfort bubble to another school for reasons related to their families, security, transportation, and other factors.

Table 4.4 shows that the percentage of public secondary school teachers in the Ibadan metropolitan who are between the ages of 41 and 50 is the largest (42.5%), followed by that of teachers who are between the ages of 31 and 40 (28.4%), and that of teachers who are younger than 30 (3.0%). This suggests that many of the younger generations of secondary school teachers in the city of Ibadan are not entirely interested in the profession. People who are interested in teaching and have been employed as instructors for more than fifteen years tend to be between the ages of 41 and 50. Additionally, it means that young people must be hired for the profession of teaching. Public secondary school teachers in the Ibadan metropolitan are properly treated and managed in terms of the number of subjects they take each term, according to graph 4.5 Two (2) subjects per term have the highest proportion (49.8%), followed by one subject to conduct the study, it was discovered.

The COVID-19 era in the city of Ibadan uses indicators from 4able 4.1 to evaluate the productivity of public secondary school instructors. These indicators include creativity, attitude toward teaching, and problem-solving skills. According to the aforementioned factors, it was found that instructors' work

performance is at a high level. Due to the way the present government in Oyo State has been handled things relating to teachers, including fast wage payment, a suitable learning environment, and compensation of thirteen months' salary among others, teachers' work performance in the Ibadan metropolis may be high. Teachers must commit their minds to the task at hand and be motivated and passionate about it in order to be productive and efficient, even though their work cannot be reduced to basic logical thinking.

The research issue is addressed in Table 4.2: Relative Influence of Digital Teacher and Information Communication Technology (ICT) Use on Work Performance of Secondary School Teachers During COVID-19 in Ibadan Metropolis. According to the table, Zoom is the most popular teaching platform for COVID-19. The Umang Mobile App has the lowest percentage of devices used to teach during COVID-19, according to the data. To help students become well-versed in their subject matter, teachers must experiment with novel teaching methods in the classroom. This might also assist them in proposing answers to any issues seen in educational environments. Table 4.2.1 shows that following the COVID-19 era in the city of Ibadan, teachers in public secondary schools in Ibadan solely employ physical methods to instill knowledge into their students' lives. The chart indicates that hybrid (Physical and Online Only) is the least popular platform for instruction after COVID-19. After the COVID-19 era, it was thought that teachers exclusively used physical methods of instruction because they needed to see the students' faces as the teaching-learning process unfolded and because using actual objects helped them learn how to solve real-world issues in the classroom.

Table 4.3 showed that during the COVID-19 phase in the city of Ibadan, teachers at public secondary schools used their smartphones to teach their pupils more frequently. Using sell phones as a teaching tool during COVID-19 has many advantages, including enhanced learning results, more student engagement, and an easier capacity to keep students informed about tasks. To guarantee that these

gadgets are used in the classroom effectively, teachers must make advance plans as with all equipment. The data also showed that DVDs were the least popular teaching tool in the Ibadan metropolitan throughout the COVID era. This indicates that teachers in public secondary schools are not effectively use DVDs to educate in the COVID-19 era, and this may be because they prefer to use smart phones to engage their pupils over DVDs.

The utilization of whiteboards by instructors in Ibadan metropolitan after the COVID-19 era was also indicated in table 4.3.1. Whiteboards are an excellent teaching tool because they enable students to collaborate more successfully, reinforce ideas with pictures and diagrams, and make presentations for lectures or class debates. In general, whiteboards enable professors to successfully include pupils through hands-on experience, and they can aid in conceptual visualization. Table 4.4 overrepresented the degree of digitalization among public secondary school instructors. Digitalization is a crucial instrument for enhancing and boosting instructors' productivity and performance at work. Since we live in a global village, educators must adopt digital learning strategies. Teachers at public secondary schools need to engage in global vision more in order to generate change, make connections with others, and lastly utilize digital technology to build robust local and international networks. In order to meet the deadlines, set by the school, it is crucial for instructors in public secondary schools to develop their skills as well as become more digitally literate.

In addition, hypothesis one (Ho1), which opposes that the usage of ICT and digital teaching will not significantly affect secondary school teachers' ability to execute their jobs in the COVID period in the city of Ibadan, was denied. This indicates that teachers in public secondary schools are subject to the combined effects of digital teaching and job performance. Simply said, the usage of ICT and the work output of digital teachers will have a significant positive impact on the work output of public secondary school instructors and contribute to the academic excellence of public secondary school

students. The second hypothesis (Ho2) was also disproved, indicating that the use of ICT and digital teaching had a large relative impact on secondary school teachers' ability to do their jobs in the COVID-19 era in the city of Ibadan. This indicates that the impact of the digital teacher and work performance on secondary school teachers in the city of Ibadan is large and successful.

5.2 Conclusion

According to the study's findings, there are more male secondary school teachers in the public system than female secondary school teachers. Male secondary school teachers as the highest number of teachers in public secondary schools that falls within the range, the majority of secondary schools in the Ibadan metropolis have between 21 and 30 teachers. Teachers in Ibadan's public secondary schools do well at their jobs thanks to their ingenuity, positive attitudes toward their students, and ability to solve problems, with the exception of when they utilize the internet to look for information. Teachers use the internet less to seek out additional knowledge to advance their teaching-learning abilities and more to communicate and watch movies.

Again, this survey showed that during the COVID-19 timeframe, Zoom was the most popular teaching platform among Ibadan public secondary school instructors. Zoom annotations on a shared screen. Teachers may ask students to show their work to the class as a whole for a live evaluation. The most popular way to do this on Zoom is by screen sharing. The teacher receives a PDF or image of the pupils' completed solutions via the other video conferencing sites. The instructor then screens, distributes, and annotates that piece of work in an online class. This procedure can be time-consuming, and you might squander time fiddling with the technical controls. Zoom fortunately makes it possible for teachers to make direct annotations on students' shared screens. This feature is useful since it allows professors to respond to students' shared work by interjecting and setting up the screen. This study went even further by revealing that the best platform for teaching employed by public

secondary school teachers in the Ibadan metropolitan after the COVID-19 era was just physical instruction. Students who take physical education classes can focus better and maintain focus in the classroom. fewer disruptive behaviors like fidgeting in class, more desire and involvement in the learning process, improved academic achievement (better grades and test scores), and more regular physical exercise, among other things. This survey also found that among instructors at public secondary schools in Ibadan, smartphones were the most commonly used teaching tool during the COVID-19 phase. The smartphone is a device for practical tools and ownership of learning among others. It is kept on the person at all times, making it available from anywhere and at any time. The survey also revealed that in the city of Ibadan, the whiteboard was the technology that was utilized the most following the COVID-19 era. Whiteboards have a number of benefits for teaching, including greater student engagement, learning zone differentiation, the development of fine motor skills, and flexibility. The survey has shown the truth about the level of digitalization among public secondary school teachers in Oyo state's Ibadan metropolis in the modern day. Additionally, it demonstrates how highly digitalized secondary school teachers are. Assuming there is combined influence of digital teacher, Information Communication and Technology on public secondary school teachers work performance in Ibadan metropolis of Oyo State, it is possible to combine and apply the variables (digital teacher, Information Communication and Technology use) on public secondary school teachers work performance. According to the study, there is a relative relationship between digital teaching, ICT, and teachers' work performance in Oyo State's Ibadan city. The performance of public secondary school instructors across the state would be enhanced by the digitalization of education.

In conclusion, this study also demonstrates the enormous impact that digital teaching, information communication, and technology have on public secondary school teachers' work performance, particularly in terms of their problem-solving skills, creativity, and attitude toward instruction.

5.3 Recommendations

Based on the findings of this study, the following recommendations were made.

1. Public secondary school teachers should improvise instructional materials at all times to teach students during teaching-learning activities to improve students learning outcomes.
2. Public secondary school teachers should always look for change in their teaching thereby improving their attitude to teaching.
3. Public secondary school teachers should be diversified in using different techniques to improve their teaching profession.
4. Government needs to reevaluate rules and regulations made to govern the teaching profession and equipping the educational sector with standard technology, especially at the secondary schools to boost the teaching-learning process in Ibadan metropolis of Oyo State. They create a standard way for school teachers on the effective use of technology.
5. Public secondary school teachers should develop themselves on the use of software programs, applications among others.
6. Public secondary school teachers should adapt the use of technology in their teaching-learning activities.

5.4 Contribution to Knowledge

This study is in response to digital teacher, Information Communication and Technology use, and public secondary schoolteacher work performance in the COVID-19 era in Ibadan metropolis. Against this background, this study provided empirical evince on the digital teacher, ICT use and secondary school teachers work performance (creativity, attitude to teaching, and problem-solving

ability). Thus, providing institutional and national level policy framework with the aim of improving secondary school teachers work performance in schools.

It also bridges methodological gap towards the robustness of the existing literature. The theoretical contributions that this study has made to literature include:

1. This study contributed to existing literature on digital teacher, information communication and technology use, regarding the determinants of public secondary school teachers work performance.
2. It has identified and suggested areas for further study, in enhancing public secondary school teachers work performance locally and internationally.
3. This study has gathered and analysed data that can serve as foundation for longitudinal studies on the study area, and that will enhance robust future researches.
4. Alongside other existing literature, this work provided indicators on how best to address the issue regarding public secondary school teachers work performance in Ibadan metropolis.

The methodological contributions that this study has made to existing knowledge include:

1. This study also applied a robust, statistical, analytical and deductive techniques to establish the interrelatedness of digital teacher, ICT use and work performance of public secondary school teachers.
2. The study has also showed that digital teacher has no significant between ICT and teachers work performance.
3. Additionally, teachers at public secondary schools can advance their careers by using additional useful programs, gadgets, and platforms and thereby becoming more digitalized

5.5. Areas for Further Research

There are limitations to this study as it will be with any research. The acknowledged limitations in this study have given direction for further studies as numerated below:

1. The study was limited in that it covered only a few numbers of public secondary schools in Ibadan metropolis, considering the number of public secondary schools in Ibadan metropolis. It would have been more representative if it covered more public and private secondary schools in Ibadan metropolis, hence the researcher suggest that a future study should cover more secondary schools.
2. The study targeted only public secondary school teachers in Ibadan metropolis in the selected local governments without consideration for principals. Future research can extend the scope to include principals.
3. The study focused on some selected constructs to measure the determinants of digital teacher (Level of technology, Practical professional development, Learning Culture), ICT use (Use of ICT in teaching-learning, digital content provision), Work performance (Creativity, attitude to teaching, problem-solving ability), there could be other contributing factors to their departure and their preferred destinations. This could be looked into by future researchers.
4. The study adopted questionnaire method in data collection. Hence, interview method is suggested for future engagement in the method of data collection and to understand the trends regarding the propensity of public secondary school teachers work performance.
5. More work can be done looking at the geographical location since the study only focused on Public secondary school teachers in Ibadan metropolis, so other work can be carried out using the whole of Oyo State, a particular local government in Oyo state, and also Ogun state among others
6. Finally, it is suggested that the study be projected to cover other sectors, including agricultural sector, health, tourism among others.

Bibliography

Journal

Ahmad. A. R, Keerio. N, Jameel. A. S, M. & Karem. A. "The Relationship between National Culture and Succession Planning in Malaysian Public Universities, **J. Educ. e-Learning Res**., vol. 7, (3), 2020, pp.242–249.

Akosile Adedolapo & Olakotun Wole. "Factors influencing knowledge sharing Among Academics in Bowen University, Nigeria. **Journal. Librarianship and Information Science**, Vol.52, (2), 2019, pp. 410–427

Akinsolu. A. Teachers and Students' Academic Performance in Nigerian Secondary Schools: Implications for Planning. **Florida Journal of Educational Administration & Policy.** Vol3 (2) 2010, pp 86-103.

Asmarani. A, Sukarno, & EL Widdah. M. The Relationship of Professional Competence with Teacher Work Productivity in Madrasah Aliyah. Nidhomul Haq : **Journal Manajemen Pendidikan** Islam, Vol6 (2), 2021, pp220–235. https://doi.org/https://doi.org/10.31538/ndh.v6i2.1365

Adrian McDonagh, Patrick Camilleri, & Oliver McGarr: Introducing the PEAT model to frame professional digital competence in teacher education. **Nordic Journal of Comparative and International Education *(NJCIE)***. Vol. 5 (3), 2021, pp5–17

Aslan. A, & Zhu. C: Investigating variables predicting Turkish pre-service teachers' integration

of ICT into teaching practices. **British Journal of Educational Technology**, Vol48 (2), 2017, pp552-570

Arief Tukiman Hendrawwijaya, Muhammad Irfan Hilmi, Fuad Hasan, Niswatul Imsiyah & Deditiani Tri Indrianti; Determinants of Teacher Performance with Job Satisfaction Mediation. **International Journal of Instruction**, received: 03/10/2019, Revision: 08/03/2020, Accepted: 22/03/2020, Online First: 24/05/2020, Vol13 (3), 2020, 845-860.

Aserin. C. Beyond Covid-19 Supernova. Is another Education Coming? **Journal of Professional Capital and Community.** https://dpi.org/10.1106/jpcc-05-2020-0019. Vol5 (3/4), 2020, pp381-390

Aldama. C. D. Cognitive Enhancement or Cognitive Diminishing? Digital Technologies and Challenges for Education from a Situated Perspective. Limite **Interdiscip. Journal Philos.**Psychol.15:21. (2020). (Google Scholar) (CrossRef)

Antonopoulou. H, Halkiopoulos. C, Barlou. O, & Beligiannis. G.N. Leadership Types and Digital Leadership in Higher Education: Behavioural Data Analysis from University of Patras in Greece. **Int J. Learn. Teach Edu. Res**. Vol19 (4), 2020, pp110-129. Google Scholar) (CrossRef)

Allen. Jeanne, Rowan. Leonie, & Singh. Parlo. Teaching and Teacher Education in the Time of Covid-19. **Asia-Pacific Journal of Teacher Education.** https://doi.org/10.1080/1359866x.2020.1752051. Vol46 (3), 2020, 233-236

Antonopoulou. Hera, Constantinos Halkiopoulos, Olympia Barlou & Grigoris N. Transformational Leadership and Digital Skills in Higher Education Institutes: During the COVID-19 Pandemic. **Emerging Science Journal**. Vol5 (1), 2021, pp1-15

Al-Husseini. S, & Elbeltagi. I, "The role of knowledge sharing in Enhancing Innovation; A comparative Study of Public and Private Higher Education Institutions in Iraq," Innovation. Education Technology. **International journal**., Vol55, (1), 2018, pp.23–33

Al-Hariri. M. T. & Al-Hattami. A. A. Impact of students' use of technology on their learning Achievements in physiology courses at the University of Dammam. **Journal of Taibah University Medical Sciences**, Vol12 (1), 2017, pp82-85

Almatrooshi. M, J. A. A., G. Khalifa S.A, Ameen A, S. Hossain. M. A, & Morsy. The Role of Knowledge Oriented Leadership and Knowledge Sharing to Manage the Performance of Ministry of Interior in UAE. **International Journal on Recent Trends in Business and Tourism,** Vol4 (2), 2020, pp 9–17. https://ejournal.lucp.net/index.php/ijrtbt/article/view/1007

Aderinsola Eunice. K, I. Abigail Olubukola, & Agunbiade Folasade, Janet George & Kayode Blessing. 'Information and Communication Technology for Effectiveness and Job Performance of Staff in the Universities in Nigeria'. **Texila International Journal of**

Academic Research *Special Edition*. DOI: 10.21522/TIJAR.2014.SE.19.02. Art004 ISSN: 2520-3088 Dec 2019. pp 1-9

Anne Anthony Edem, Judith Nse & Faustina Chioma Haco-Obasi. Awareness and Use of the Internet by Secondary School Teachers in Owerri Municipal: Implications for School Libraries in Imo State. I**nternational Journal of Applied Technologies in Library and Information Management**. Vol5 (1), 2019, pp48-56

Alina Cretu & Roxana Lucia. Leadership in the Digital Era. **Valahian Journal of Economic Studies.** Vol10 (1), 2017, pp65-72

Amaury Nora & Blanca Nora. Technology and Higher Education: The Impact of E-Learning Approaches on Student Academic Achievement, Perception and Persistence. **Journal of College Student Retention Research Theory & Practice.** Vol10 (1), 2021, pp 3-19. https://doi.org/10.2190/CS.10.1.b

Anamarija, Jenic Lea, Lamovsek Amadeja & Stemberger Jakob: How digital changes the workplace. **Dynamic Relationships Management Journal**, Vol8, (1), 2019, https://doi.org/10.17708/DRM

Besser. A, Lotem. S, & Zeigle-Hill. V. Psychological Stress and Vocational Symptoms Among University Professors in Israel: Implications of the Shift to Online Synchronous Teaching DuringCovid-19 Pandemic. **Journal of Voice Official**. Vol36 (2), So892-1997, 30199. doi: 10.1016/j.jvoice.2020.05.028

Beth. A, Buchholz, Jason DeHart, Gary Moorman. Digital Citizenship During a Global Pandemic: Moving Beyond Digital Literacy. **Journal of Adolescent & Adult Literacy**. Vol 64 (1), 2020, pp 11-17. Doi:10.1002/jaal.1076

Bertrand. S, & Porcher. K. Teacher Educators as Disruptors Redesigning Courses in Teacher Preparation Programs to Prepare White Preservice Teachers. **Journal of Culture and Values in Education**, Vol3 (1),2020, PP 72-88. https://doi.org/10.46303/jcve.03.01.5

Bone. Aan.August, Rachman. Aziz, & Mashudi. Imam: The Teacher Performance Appraisal System in Improving Teachers Performance in Limboto District. Governance: **Jurnal Ilmu Administrasi Publik**., Vol4 (1), 2021, pp30–40. https://journals.ubmg.ac.id/index.php/JIAP/article/view/189

Benard Nashon. O. & Jane Njoroje. J." Effect of Leadership Styles on Employee Performance: Case of Technical University of Kenya, **An International Journal of Education and Research,** vol 17, (6), 2019, pp55-68.

Bright. O. & Alptekin. E.A. 'Leadership 4.0: Digital Leaders in the Age of Industry 4.0. **International Journal of Organizational Teacher**. Vol7 (4), 2018, pp4004-412 https://www.AIMIJOURNAL.com.

Budiharso. Teguh, & Tarman. Bulent. Improving Quality Education through Better Working

Conditions of Academic Institutes. **Journal of Ethnic and Cultural Studies, Vol**7 (1), 2020, pp99–115. https://doi.org/10.29333/ejecs/306

Bayo Mohammed, Kwetishe Joro & Ochedikwu Jonah: Gender Issue and Information Technology for Development prospect and Challenges for Women in Nigeria, **Nigerian Journal of Computer Literacy**, Vol 5 (1), 2015, pp 45-64

Donthu. N, & Gustafesson. A. Effects of Covid-19 on Business and Research. **Journal of Business Research**., Vol117 (2). 2020, pp284-289. .https;//doi.org/10.34105/.2020.05.006

Eric. C, Amadi1 & Prinye Alaputa. 'Information And Communication Technology Tools and Teachers' Job Performance in Public Secondary Schools in Port Harcourt Metropolis of Rivers State'. **International Journal of Innovative Social & Science Education Research**. www.seahipaj.org ISSN: 2360-8978, Vol9 (3), July-Sept., 2021, PP 86-94

Ezenma Chimezie Bernard: Status of Information and Communication Technology (ICT) Training and Support for Science and Technology Teacher Educators in Colleges of Education in Southwest, **Nigeria. International Journal of Trend in Scientific Research and Development (IJTSRD),** Vol3 (3), 2019, pp939-946

Fakeye. D: Assessment of English Language Teachers' Knowledge and Use of Information Communication Technology (ICT) in Ibadan Southwest Local Government of Oyo State. ***American*** **Eurasian Journal of Scientific Research**, Vol 5 (4), 2010, pp270-276, ISSN 1818-6785

Farooq. Rayees. A conceptual model of knowledge sharing. **Int. Journal. Innovation. Science**., Vol10, (2),2018, pp. 238–260

Gilakjani Abbas. P. Gilakjani: A Review of the literature on the integration of Technology into the Learning and Teaching of English Language Skills. **International Journal of English Linguistics**. Vol7 (5), 2017, pp95-106

Granic. Andrina, & Marangunic. N. Technology acceptance model in educational context: A systematic literature review. **British Journal of Educational Technology**, Vol50 (4), 2019, pp2572–2593. https://doi.org/10.1111/bjet.12864

Garcia-P enalvo. F.J, Corell. A, Abella-Garcia. V, & Grande-de-Prado. M. Recommendations for Mandatory Online Assessment in Higher Education during the Covid-19 Pandemic. In Radical Solutions for Education in a Crisis Context. **Advanced Education Journal**. Vol7, (2), 2021, pp85-98.

Gudmundsdottir. G.B, & Hatlevik O.E. Newly Qualified Teachers' Professional Digital Competence: Implications for Teacher Education. **European Journal of Teacher Education**, Vol41 (1), 2017, pp1-7. https://doi.org/10.1080/02619768.2017.1416085

Hasin. Idarwana, & Nasir, M. K. M. N. The Effectiveness of the Use of Information and

Communication Technology (ICT) in Rural Secondary Schools in Malaysia. **Journal of Education and e-Learning Research,** Vol8 (1), 2021, pp59-64. Available at: 10.20448/journal.509.2021.81.59.64.

Hillary Wordu, Opuda. A & Alabere I. J. Constraints to Utilization of Information Communication Technologies in Secondary Schools in Ogu/Bolo Local Government Area Rivers State. **International Journal of Advanced Research and Learning.** Vol1 (1), 2022, pp1-17

House. R.J, & Aditya. R. N: The Social Scientific Study of Teacher. **Journal of Management,** Vol 23 (3), 2016, pp73-85

Haase. K, Cosco, Kervin. T, Riadi. L, I., & O'Connel. Older Adults' Experience of Technology use for Socialization during the Covid-19 Pandemic: A regionally Representative Cross-sectional Survey (preprint). **JMIR Aging**. 2021. https://doi. Org/10.2196/26010

Iivari. N, Sharma. S, & Venta-Olkonen. L. Digital Transformation of Everyday Life-How Covid-19 pandemic transformed the Basic Education of the Young Generation and Why Information Management Research Should Care? **International journal of Inform**. Manag. Vol55 (2), 2020, pp1-10, 102183. doi:10.1016/j.ijinfomgt.2020.102183

Jameel. A. S, Karem. M. A, & Mahmood & N. Z, "A Review of the Impact of ICT on Business Firms," **Int. Journal. Latest Eng.** Manag. Res., vol2 (1), 2017. pp. 15–19.

Kevin Chinweikpe Wami, Kevin Chinweikpe & Kevin Susan. Constraints to the Use of Information and Communication and Technology in Nigerian Secondary Schools in the 21st Century. **International Journal of Advance Research and Innovative Ideas in Education.** Vol8 (4), 2022, pp2479-2485.

Koohang. A, Paliazkiewice. J, Klein. D. & Nord J.H. Nord. The Importance of Active Learning Elements in the Design of Online Courses. **Online Journal of Applied Knowledge Management**. Vol4 (1), 2016, pp17-26

Kayode Aderinsola Eunice. 'Impact of Computer-Based Information Technology on Job Performance of Secretarial Staff in Nigerian'. **South American Journal of Academic Research**. Special Edition May 2016, pp1-6.

Karakose. T. Emergency Remote Teaching Due to Covid-19 Pandemic and Potential Risks for Socioeconomically Disadvantaged Students in Higher Education. **Educational Process International Journal**. Vol10 (3)2021, pp53-61. Google Scholar)

Karakose. T, & Demirkol. M. Exploring the Emerging Covid-19 Research Trends and Current Status in the Field of Education: A bibliometric analysis and knowledge mapping. **Educational process International Journal.** Vol10, (2),2021, pp7-27.

Karakose. T. The impact of the Covid-19 Epidemic on Higher Education: Opportunities and Implications for Policy and Practice. **Educational Process. International journal** 2021, 10. 7-12. Google Scholar) (CrossRef)

Leonardus Mihardjo, Sasmoko, Dirdaus Alamsjah, & Elidjen Djap. Digital Leadership Impact on Developing Dynamic Capability and Strategic Alliance Based on Market Orientation. **Polish Journal of Management Studies.** Vol19 (2), 2019, pp285-297

Mrah Qtaishat, Al-Ahliyya, Ahmad Areiqat, Al-Ahliyya Amman, University Rasha, Rasha Qawasmeh & Ahmad Alheet. The Impact of Social Structure in Jordanian Universities' Organizatioal Innovation Accomplishment**. Journal of Legal Ethical and Regulatory Issues**, Vol24 (2), 20221, pp1-9.

Mgboro C. U, Otubo F.A, & Uda H.U. Enhancing Teacher Creativity using Digital Technology. **Journal of Educational and Practice**. Vol.10 (27), 2019, pp16-21

Matheas Shemelis. B. 'Students' Conception of Learning Environment, their Approach to Learning and its Implication on Quality Education, http://www.academic **journals.org/ERR**, Doi 10:5897/ERR2017.3258, ISSN 1990-3839, Vol12 (14), July 2017, pp 695-703.

Muhammed Adnan Shereen, Suliman Khan, Abeer Kazmi, Nadia Bashir, Rabeea Siddique. Covid-19 Infection: Origin, Transmission, and Characteristics of Human Corononaviruses. **Journal of Advanced Research**. Vol24 (3), july 2020, pp, 91-98

M. Jannah, L.D Prasojo., & M. A Jerusalem. Elementary School Teachers' Perceptions of Digital Technology-based Learning in the 21st Century: Promoting digital technology as the proponent learning tools. Al Ibtida: **Jurnal Pendidikan Guru MI**, Vol7 (1), 2020, pp1-18. Available at: https://doi.org/10.24235/al.ibtida.snj.v7i1.6088.

Mohd Norakmar Omar, Siti Noor, & Abd Latit Kasim. The Influence of Mobile Technology Adoption among Secondary School Teachers Using the UTATUZ Model. **International Journal of Recent Technology and Engineering**. Vol8 (4), 2019, pp3827-3831

Masrur. Digital Teacher to Improve the Pedagogical Competence of University English Lecturers in Samarinda. **Journal of Social Studies Education Research**. Vol12 (4), 2021, pp 424-446

Mok. M, Mo. Ching. & Moore. PJ, Teachers and Self-Efficacy. **An International Journal of Experimental Educational Psychology Journal** Vol39 (1), 2019. 39, 1-3. Google Scholar) (CrossRef)

Meng. Y, Tan. J, & Li. J. Abusive Supervision by Academic Supervisors and Postgraduate Research Students' Creativity: The Mediating Role of Teacher–member Exchange and Intrinsic Motivation. **International Journal of Leadership in Education**, Vol20 (5), 2017, pp605–617

Morales. D, Ruggiano. C, Carter. C, Pfeifer. K. Pfeifer, & Green. K. Green. Disrupting to Sustain: Teacher Preparation Through Innovative Teaching and Learning Practices. **Journal of Culture and Values in Education,** Vol3 (1),2020, pp 1-20. https://doi.org/10.46303/jcve.03.01.1

Nzarirwehi Jackson & Atuhumuze Faith. 'In-Service Teachers' Training and Professional Development of Primary School Teachers in Uganda, **The International Academic Forum (IAFOR) Journal of Education.** Vol7 (1), 2019. https://doi.org/10.22492/ije.7.1.02, 1st JUNE.

Oseni. Oni, Kelly Odaro-Ekhaguebo, & Emmanuel Akpoduado: Assessment of Communication Information and Technology (ICT) Proficiency of Secondary School Teachers. **Journal Pedagogical Research**, Vol2 (1), 2018, Pp46-54

Onaolapo Akinlolu, Damilola Olajiga. G & M. Temitayo Onaolapo: Teachers Job Performance in Secondary Schools, Nigeria: The Effect of Family Satisfaction and Job Satisfaction. **The International Journal of Business and Management,** Vol7 (3), 2019, pp65-69.

Obadimeji. C. C, & Oredein. A. O. 'Digital Leadership and Communication Styles on Public Primary School Teachers' Job Performance in Nigeria: Revolution or Evolution. **Journal of Social Sciences,** Vol11 (1), 2005, pp1-11.

Ogunsola. L. A, & Aboyade. W.A: Information Communication Technology in Nigeria; Revolution or Evolution**. Journal of Social Science** Vol 11 (1), 2005, pp11-17

Ogunsola. L.A: Information and Communication Technology and the Effects of Globalization: Twenty –First Century "Digital Slavery" for Developing Countries-Myth or Reality? **Electronic Journal of Academic and Special Librarianship**, Vol 6 (1-2), (2005), pp1-10

Olakulehin. Felix. K: Information Communication Technologies in Teachers Training and Professional Development in Nigeria, **Turkish Journal of Distance Education**, Vol 8 (1), 2007, pp133-142

Olayanju V. T. The Challenges of New Technologies on Secretarial Profession. **Nigerian Journal of Business Education (NIGJBED*),*** Vol3(2), 2016, pp77-85

Oussama Dardary, Malika Tridane, & Said Belaaouad: Constraints Related to the Integration of Information and Communication Technologies in the Teaching of the Physical Sciences in Morocco. **Journal of Data Processing** Vol9 **(4),** 2019, pp117-128.

Oussama Dardary, Malika Tridane, S. Belaaouad, **Indian Journal of Science and Technology.** Technologies in The Teaching of The Physical Sciences at The Level of The Moroccan Educational System. Vol11 (44), (2018), pp1-15. Available

from:https://www.researchgate.net/publication/329213201_Technologies_in_The_Teaching_of_The_Physical_Sciences_at_The_Level_of_The_Moroccan_Educational_System

Pauci. A. Lane. H, & Redfield. R. Covid-19 Navigating the Uncharted. **New England Journal of Medicine.** Vol382 (13), 2020, pp1268-1269. https://doi.org.10.1056.4202537

Ratheeswari. K. 'Information Communication Technology in Education'. https://dx.doi.org/10.21839/jaar.2018.v3S1.169. **Journal of Applied and Advanced Research**, Vol3 (1), 2018 pp45-47

Sainger. G. Leadership in Digital Age: A Study on the Role of Leader in this Era of Digital Transformation**. International Journal on Leadership, New Delhi**. Vol. 6, (1), 2018, pp1-6

Starkey. L. A Review of Research Exploring Teacher Preparation for the Digital Age. **Cambridge Journal of Education.** Vol50 (1), 2019, pp35-56, https://doi.org/10.1080/0305764X.2019.1625867

Shiqian. L. W. Factors Affecting the Job Performance of Employees at Work Place in the Higher Education Sector of China, **International Journal of Scientific and Research Publications**, Vol8 (1), 2018, ISSN 2250-3153

Sobakh. N. Professional Teachers' Perspective toward an Effective Teaching Technique, **Journal of Learning and Development**, ISSN 2164-4063, Vol7 (4), 2017. http://ijld.macrothink.org/53.

Schaber. P, Wilcox. K. Wilcox, Whiteside. A. Whiteside, Marsh. L. Marsh, & Brooks. D: Designing Learning Environments to Foster Affective Learning: Comparison of Classroom to Blended Learning. **International Journal for the Schorlship of Teaching and Learning.** Vol4 (2). 2010. https://doi.org/10.20429/ijsotl.2019.0040212.

Van Niekerk. E. J, & Van Wyk. M. M. Staff's perceptions of vision and long-term principal Leadership in South African schools: An exploratory study. **Mediterranean Journal of Social Sciences,** Vol5 (4),2014, pp 406–414. Available at: https://doi.org/10.5901/mjss.2014.v5n4p406.

Yusuf. M.O: Information and Communication Technologies and Education; Analyzing the Nigerian National Policy for Information Technology, **International Educational Journal**, Vol 6 (3), 2005, pp 316-321

Yusuf Daudi N Josta Lameck Nzilano: Information Communication and Technology Integration in Teaching and Learning Perception and Practices of Secondary School Students in Tanzania. **University Of Dares Salaam Library Journal**. Vol14 (2), 2019, pp38-52.

Yao-Ting Sunga & Tzu-Chien Liva. 'The Effects of Integrating Mobile Devices with Teaching and Learning on Students' Learning Performance. **A meta-direct Journal**, Vol 94, March, 2016, pp252-257

Ya Tang, Chen. P, K, Law, Wu, Y, LauJ., Guan. Comparative Analysis of Student's live Online Learning Readiness During Covid-19 Pandemic in the Higher Education Sector. Computer & Education, Vol7 (2),2021, pp104211. https://doi. Org/10.1016/ **computeredu Journal**.2021.104211

Zhong. L. Indicators of Digital Teacher in the Context of K-12 **Education. Journal. Educ**. Technol. Dev. Exch. 2017, 10, 27-40. Google Scholar) (CrossRef)

Paper Publications

Alheet. A. F, Adwan. A. Al, Areiqat. A. y, Zamil. A.M, & Saleh. M.A. The Effect of Teacher Styles on Employees' Innovative Work Behavior. Management Science Letters, Vol4 (11), 2021, pp239–246. https://doi.org/10.5267/j.msl.2020.8.010

Al-Emran. M, Mezhuyev. V, & Kamaludin. A. Towards a Conceptual Model for Examining the Impact of knowledge management factors on Mobile Learning Acceptance," Technol. Soc., Vol.61, 2020, p. 101247..

Aksal. F. A, & F. A. Are headmasters' digital teachers in school culture? Education and Science, Vol40 (182), 2016, pp 77–86. Available at: https://doi.org/10.15390/EB.2015.4534

Adedoyin. O.B, & Soykan. E. Covid-19 Pandemic and Online Learning: The challenges and Opportunities. Interact Learn. Environ. 2020 Google Scholar) (CrossRef)

Adem Yilmaz: The Effect of Technology Integration in Education on Prospective Teachers' Critical and Creative Thinking, Multidimensional 21st Century Skills and Academic Achievements. Participatory Educational Research. Vol8 (2), 2021, pp163-199

Bazelais. P, Doleck. T, & Lemay. D.J. Investigating the Predictive Power of TAM; A Case study of CEGEP Students' Intentions to use Online Learning Technologies. Education and Information Technologies. Vol23 (1), 2018, pp99-111. https://doi.org/10.1007/s10639 - 017-9587.0.

Blazar. D. & Kraft. M. A: Teacher and Teaching Effects on Students' Attitudes and Behaviours. Educational Evaluation and Policy Analysis, Vol39, (1) 2017, pp146-170. https://doi.org/10.3102/0162373716670269

Baticulon R, Sy, Carlo. J, Alberto. N, Baron. M, Mabulay. R, Rizada. L, Reyes. B, Jinno. Jenkin, Lloyd Gabriel, Robert Erl, Maria Beatriz. Barriers to Online Learning in the Time of Covid-19: A National Survey of Medical Students in the Philippines. Medical Science Educator. Vol31(7), 2021, pp 615-626. https://doi:org/10.1007/240670-021-01231

Beckman. K, T. Apps., S. Bennett, & Lockyer. L. Conceptualizing Technology Practice in Education Using Bourdieu's Sociology. Learning, Media and Technology, Vol43 (2), 2018, pp197-210.https://doi.org/http://www.doi.org/10.1080/17439884.2018.1462205

Bubb. S, & Jones. M. A. Learning from the Covid-19 Home-schooling Experience: Listening to

Pupils, Parents/cares and Teachers. Vol23 (3), 2020. Improve.sch.23, 209-222. doi: 10.1177/1365480220958797. (Google Scholar) (CrossRef)

Comi. S. L, Argentin. G, Gui. M, Origo. F. & Pagani. L. Is it the way they use it? Teachers, ICT and students' achievement. Econ.Edu. Vol56, 2017, pp,24-39. doi: 10.1016/j.econedurev.11.007. (Google Scholar) (CrossRef)

Colao. A, Pisciteli. P, Pulimeno. M, Colazzo. S, Miani. A, & Giannini. S. Rethinking the role of the school after Covid-19. Lancet Public Health 5:e370. doi:10.1016/s2468-2667(20)30124-9 (2020). (Google Scholar) (CrossRef)

Christopher Deluca, Benjamin Bolden & Jessica Chan. Systematic Professional Learning Through Collaborative Inquiry: Examining Teachers' Perspectives. Teaching and Teacher Education. Doi:10.1016/j.tate.2017.05.014.

Cahyadi. A, & Magda. R: Digital Leadership in the Economics of the G20 Countries: A secondary Research Economics Vol9 (3), 2021. Google Scholar) (CrossRef)

Couros. G. Digital Leadership Defined, Corwin Press: Thousand Oaks, CA, USA, 2013; Available online: http: georgecouros. Ca/blog/archives/3584.

Cupit. I. N. Life is but a digital memory: A review of Remember Me: Memory and Forgetting in the Digital Age by Davide Sisto. (Trans. Alice Kirgariff). Cambridge, UK: Polity Press, 2021. 160 pp. (ISBN: 13: 978-1-509-54503-2). Reviewed by Illene Noppe Cupit

Cette. G, Lopez. J, Presidente. G, & Spiezia. V. Measuring Indirect Investment in Information Communication Technology in OECD Countries. Econ**.** Innov. New Technol. Vol28 (3), 2018, pp, 1-17. (Google Scholar) (CrossRef

Cachon-Zagalaz. J, Sanchez-zafra, Sanabrias-Moreno. Gonzalez. D, G, Lara-Sanchez. G, A. J, M. & L.Zagalaz-Sanchez: Systematic Review of the Literature about the Effects of the Covid-19 Pandemic on the lives of School Children. Front. 2020.Psychol. 11:2457. doi:10.3389/fpsyg.2020.569348

Crawford. J, Butler-Henderson. K, Rudolph. J, Malkawi. B, Glowatz. M, Nurton. R. Covid-19: 20 Countries higher Education Intra-period Digital Pedagogy Response. J.Appl.Learn.Teach. Vol3, (1), 2020, doi:10.37074/jalt.2020.3.1.7

Chen. Q, Liang. M., y. Li, Guo. J, D. Fei, L, Jianjian Wang, Zhanzhou Zhang, Yiwen Cai, Mental Health care for medical staff in China during the Covid-19 outbreak. Lancet Psychiatry Vol7 (4),2020, pp15-16. doi: 10.1016/S2215-0366(20)301681

Daniel. S. Education and the Covid-19 Pandemic. PROSPECT, Vol49 (12), 2020, pp 91-96. https://doi.org/10.24059/olj.v2li4.966.

Donmez-Turan, Does Unified Theory of Acceptance and use of Technology Reduce Resistance and Anxiety of Individuals Towards a New System? Vol.49 (5), 2020, pp. 1381-1405

Damijana Kerzic, Aleksander Aristovnik, Dejan Ravseji, Nin Tomazevic & Lan Umek. Impacts of the COVID-19 Pandemic on Life of Higher Education Students: A Global Perspective. Vol12 (20). Received: 19 August 2020, accepted: 6 October 2020, Published October 2020.

Das. K. The Role and Impact of ICT in Improving the Quality of Education: An Overview. 2019

Engen. B. K. Understanding social and cultural aspects of teachers' digital competencies. Comunicar, Vol27 (61), pp9-19. https://doi.org/10.3916/C61-2019-01

Emejulu. A, & Mcgregor. C. Towards a radical digital citizenship in digital education. Critical Studies in Education, Vol60(2),2019, pp131-147. https://doi.org/10.1080/17508487.2016.1234494

Ezgi Pelin YILDIZ. Teacher Education in the Digital Transformation Process in North Cyprus: A Situation Analysis Study. International Education Studies; Vol. 15, (1); 2022

Elena-Lulianalon & Criveanu Maria. Organizational Performance, A Concept that Seeks to find itself. Annals of the Constantin Brancusi, University of Targujiu, Economy series issues 4, 2016.

Egemen, Hanmoglu. The Impact Technology Has Had on High School Education Over the Years. Received: November 14, 2018. Accepted: December 7, 2018, online published 17, 2018. doi:10.5430/wje.v8n6p96. URL:hhttps://doi.org/10.5430/wje.v8n6p96

Ellis. M.L, Y.H. Lu, & Fine-Cole. B. Digital Learning for North Carolina Educational Teachers. Tech Trends, 5,2021, 696-712. (Google Scholar) (CrossRef)

Ferdig. R. E, Baumgartner. E, Kaplan-Rakowski R, Hartshorne R, & Mouza. C. Teaching, Technology, and Teacher Education During the Covid-19 pandemic: Stories from the Field. Waynesville, NC: Association for the Advancement of Computing in Education (AACE). (2020). (Google Scholar) (CrossRef)

Gonzalez. T, De la Rubia, Hinez, K. Comas-Lopez, M., Subirats, Port. L. Influence of Covid-19 Confinement on Students' Performance in Higher Education. PLOS ONE, Article e0239490, Vol15 (10), 2020. https://doi.org/10.1371/journal.pone.0239490

Idoiaga. N, Berasategi. N, Eiguren. A. & Picaza. M. Exploring children's social and emotional representations of the Covid0-19 pandemic. Front. Psychol. 11:1952. 2020, doi: 10,3389/fpsyg.2020.01952.

Gosti. M, Ferro. N, & Silvello. G. 'Digital Libraries: From Digital Resources to Challenges in Scientific Data Sharing and Re-use. In: Flesca, S., Greco, S., Masciari, E., Saccà, D. (Eds.) Comprehensive Guide Through the Italian Database Research Over the Last 25 Years. 2018, pp. 27-41. Germany: Springer International Publishing

Kocoglu. E, & Tekdal. Analysis of Distance Education Activities Conducted During Covid-19 pandemic. Educ. Vol15 (9), 2020, pp536-543. Res. Rev. 15.536-543. doi:10.5897/ERR2020.4033. (Google Scholar) (CrossRef)

Karakose. T. Yirci. R, & Papadakis. S. Exploring the Interrelationship Between Covid-19 Phobia, Work-Family Conflict, Family-Work Conflict, and Life Satisfaction among School Administrators for Advancing Sustainable Management.Vol13 (15) 2021, 12, 8654. Google Scholar) (CrossRef)

Kerzic. D, Alex JK, Pamela Balbontin Alvarado, R, Cheraghi. M, Cheraghi, Aleksander Aristovnik, Olivia Mejia-Rodriguez, Ozlem Yorulmaz, Nina Tomazevic, Chinaza Uleanya, Silvana Guadlupe & Dobrowolska. M: Academic Student Satisfaction and Perceived Performance in the E-Learning Environment During Covid-19 Pandemic: Evidence Across Ten Countries. PLoS ONE 16(10): e0258807. https://doi.org/10.1371/journal.pone.0258807. Received: July 21, 2021; Accepted: October 5, 2021; published: October 20,2021

Mutongoza. B. H, Olawale. B.E, & Mzilikazi. B. Chronicling School Principals' Experiences on School Management in the Context of COVID -19 Stringency. Research in Social Sciences and Technology, Vol6 (3),2021, pp146–162. https://ressat.org/index.php/ressat/article/view/566

Navaridas-Nalda. F, Clavel-San Emeterio. R, & Arias-Oliva. The Strategic Influence of School Principal Leadership in the Digital Transformation of Schools. Comput. Hum. Behav. Vol112, 2020, 112, 106481. Google Scholar) (CrossRef)

Nagy. J, Olah. J, Erdei. E, Mate. D, & Popp. J. The Role and Impact of Industry 4.0 and the Internet of things on the Business Strategy of the Value Chain, The case of Hungary.Vol10 (10), 2018. 10-3491. Google Scholar) (CrossRef)

OECD. How Prepared are Teachers and Schools to face the Changes to Learning Caused by the Coronavirus Pandemic? Teaching in focus 32, Paris: OECD Publishing. 2020, doi: 10.1787/2fe27ad7-en. (Google Scholar) (CrossRef)

Pokhrel. S. Pokhrel, & Chhetri. R. A literature Review on Impact of Covid-19 Pandemic on Teaching and Learning. Higher Education for the Future. Vol8 (3), 2021, pp133-141. https://doi.org/10.1177/2347631120983481.

Spante. M, S. Sofkova Hashemi, M. Lundin, & A. Algers. Digital competence and digital literacy in higher education research: Systematic review of concept use. Cogent Education, Vol5(1), 2018, pp 1-21. https://doi.org/10.1080/2331186X.2018.1519143

Sanjay. S. Digital Disruption is Redefining the Customer Experience: The Digital Transformation Approach of the Communications Service Providers. Telecom Business Review, New Delhi. Vol10, (1), 2017, pp41-52

Tarhini, A., Hone, K., Liu, X., & Tarhini, T. Examining the moderating effect of individual-level

cultural values on users' acceptance of e-learning in developing countries: A structural equation modeling of an extended technology acceptance model. Interactive Learning Environments, Vol25(3), 2017, pp306–328. https://doi.org/10.1080/10494820.2015.1122635

Turgut Karakose, Hakan Polat & Stamations Papadakis. Examining Teachers' Perspective on School Principals' Digital Leadership Roles and Technology Capabilities during the Covid-19 Pandemic Vol13, (13), 2021, pp1-20, doi:/10.3390/su132313448

Urbach. N. & Rogkinger. M. 'Introduction to Digitalization Cases: How Organization Re-think their Business for the Digital Age, in Digital Cases, 2018. Springer International Publishing, Cham pp1-12.

Wilson Mugizi, Christopher Mwujuka Amwine: Information Communication and Technology use and Job Performance of Teachers at a Private International School in Uganda. ISSN Online: 2151-4771, ISSN Print: 2151-4775,2020, pp166-181. https://www.scrip.org/journal/ce

Conference

Aldawood. H, Alhejaili. A, Alabadi. M, Alharbi. O, & Skinner. G. Integrating Digital Leadership in an Educational Supervision Context: A critical appraisal. In 2019 international conference in Engineering Applications: IFFF: Piscataway, NL USA2019; PP1-7. Google Scholar) (CrossRef)

Cox. M.J, Preston. C.S. &Cox. K.: Teachers as Innovators in Learning: What Motivates Teachers to Use ICT? paper presented at the British Education Reference Association Conference, Brighton, September, (2018), pp 34-37

Jameel. A. S. "Challenges facing students toward ICT library Adoption," in International Conference on Accounting, Business, Economics and Politics, No.3, 2018, pp. 231–237.

Oredein A: Lecture delivered on Advanced Teacher in Formal Organization, 23rd, April 2021 (Unpublished)

Ying Fang, Yonghong Jade Xu, Benjamin Nye, Arthur Graesser. Online Learning Persistence and Academic Achievement. The 10th International Conference on Educational Data Mining, at Wuhan China. 2017.

Zupancic. R Verbeke. J, Achten H, & Hemeoja. A. Digital Teacher, conference proceedings, 34th eCAADe Conference. University of Ovlu Finland, Vol 1, August 2016, pp22-26.

Online

Global Campaign for Education. Civil Society Organizations Call on States and the International Community to Ensure the Right to Education for All during the #COVID19 Crisis. 2020. Available online: https://www.campaignforeducation.org/en/2020/04/24/civil-society-

organisations-call-on-states-and-theinternational-community-to-ensure-the-right-to-education-for-all-during-the-covid19-crisis.

Garther. Leadership in the Digital Age. Hartner Inc. Retrieved from https://www.garther.com 2018

International Society for Technology in Education (ISTE). International technology standards for administrators. Retrieved from: https://my.iste.org/s/login/?ec=302&inst=1U&startURL=%2Fidp%2Flogin%3Fapp%3D0sp1U000000KzRe%26RelayState%3Dhttps%253A%252F%252Fwww.iste.org%252Fsaml_login%26binding%3DHttpPost%26inresponseto%3D_b2343d5d57e597ada894 38745fc7de1a95a694c11f. 2021.

Jones. E. T. Key Factors that Influence Job Performance: The Performance Pathway Model, www.trainingindustry.com. 2019

Kerrigan. D. Leadership and Decision-Making: The Vroom-Yatton Model, www.fireengineering.com. 2015.

Kane. G.C, Palmer D, A. Nguyen Phillips, Kiron. D, Buckley. N. Strategy, Not Technology, Drives Digital Transformation; MIT Sloan Management Review and Deloitte University Press: London, UK, 2015; Available online: http://sloanreview.mit.edu/projects/strategy-not-technology-drives-digital-transfornation.

Nantermu P. Successful Digitalization of Business Model, www.aoe.com (Google Scholar), retrieved June 2020.

O. McGarr, & A. McDonagh. Digital Competence in Teacher Education. Output of the Erasmus funded Developing Student Teachers' Digital Competence (DICTE) project. 2019. https://dicte.oslomet.no/nordiccie.org

Redecker. C. European framework for the digital competence of educators (DigCompEdu). Joint Research Centre Science for Policy Report. EU: Luxembourg Publications Office. 2017. https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/european-framework-digital-competence-educators-digcompedu.

Schleicher. A. The Impact of Covid-19 on Education Insights from Education at a Glance. Retrieved from oecd.org website https://www.oecd.org/education/the-impact-of-covid-19-on-education-insight-education-at-a-glance-2020.pdf..

Sheninger. E. Pillars of Digital Leadership, International Center for Leader in Education. Rexford, NY, USA, 2014, Available Online: http://teachermedia.net/pdf/leadingintheDigitalAge_11.14.pdf

Sladdin. J. Coronavirus: Risk in Online Delivery of Education; Pinsent Masons, 2020; Available Online: https://www.pinsentmasons.com/out-law/analysis/coronavirus-education-online-delivery-risk Google Scholar) (CrossRef)

Spela Bagon, Mateja Gacnik & Andreja Isteni" Starcic: Information Communication Technology Use among Students in Inclusive Classrooms. https://doi.org/10.3991/ijet.v13i06.8051

Unesco. Ict Competency Framework for Teachers. Unesco. 2018. http://unesdoc.unesco.org/images/0026/002657/265721e.pdf

Appendix i

Teacher's Questionnaire

Dear esteemed repondent, this instrument is designed to collect information for research purpose only. Please note that any information given shall be treated with utmost confidentiality, hence, your candid response to all items in the instrument is highly solicited.

Yours Sincerely,

The Researcher

Section A

Please read each statement and indicate the option you have chosen by ticking (√) in appropriate box.

00123

Class Taken: _____

Gender: Male ( ) Female ( )

Number of Teachers in the School: 1-10 ( ) 11-20 ( ) 21-30 ( ) 31-40 ( ) Above 40 ( )

Years of Teaching in the present School: Less than 10yrs ( ) 11-20yrs ( ) 21-30yrs ( ) Above 30yrs ( )

Age: Less than 30 yrs ( ) 31-40yrs ( ) 41-50yrs ( ) Above 50yrs ( )

How many number of subjects are you teaching per term? 1 ( ) 2( ) 3 ( ) 4 ( ) 5 ( ) 6 ( ) Above 6 ( )

Number of Students in a Class _____

Section B

This section contains items to collect information from respondents on the identical factors that can influence secondary school teachers' work performance (Creativity, attitude to teaching, and problem solving).

Please respond to the statement in the tables below using the following scale

Very Often **(VO),** Seldom **(S),** Rarely **(R),** Never **(N)**

S/N	During Lockdown 'I'	Very Often	Seldom	Rarely	Never
1	teach students basics and leave them to find out more for themselves				

2	improvise instructional materials to teach students				
3	provide opportunities for my students to share their strong and weak points with the class				
4	encourage my students to try out what they have learned from me in different situations				
5	probe student's ideas to encourage them think and motivate them to learn				
6	look forward to change				
7	make use of different teaching techniques while teaching				
8	improvise different instructional materials when not available				
9	makes lessons more enjoyable and alleviates				
10	try to achieve stated objectives of the lesson within the given time frame				
11	feel less of myself when they couldn't provide solution to a given problem				
12	am always ready to seek solutions to teaching-learning problems				
13	try to ask for student feedback while teaching				
14	am always ready to make use of the internet in seeking for more knowledge				
15	make use of the internet to find out more about teaching-learning skills				

Section C

This section contains items that can be used to measure the mostly used device to teach in secondary school. At all Times **(AAT),** Sometimes (ST**),** Rarely (R)**,** Never **(N)**

During Lockdown

S/N	Checklist	At all Times	Sometimes	Rarely	Never
1	world wide web sites				
2	CDs				
3	DVDs				

4	biometric Scanner				
5	Computers				
6	Telephones				
7	digital camera				
8	Whiteboard				
9	interactive board				
10	Projector				

After Lockdown

S/N	Checklist	At all Times	Sometimes	Rarely	Never
1	flash drive				
2	smart phones				
3	power points				
4	video clips				
5	audio recording				
6	`tape recorder				
7	digital camera				
8	Whiteboard				
9	interactive board				
10	Projector				

Section D

This section contains items that can be used to measure the mostly used platform to teach in secondary school. At all Times **(AAT),** Sometimes (ST**),** Rarely (R)**,** Never **(N)**

During Lockdown

S/N	Checklist	At all Times	Sometimes	Rarely	Never
1	Zoom				
2	Google meet				
3	Google class				
4	Dropbox				
5	Prezi				
6	Umang mobile app				
7	Youtube				
8	WhatsApp				
9	Cisco				
10	Webex				

After Lockdown

S/N	Checklist	At all Times	Sometimes	Rarely	Never
1	Physical only				
2	Online only				
3	Hybrid (Physical & Online)				

Section E

This section contains items that can be used to measure the extent to which public secondary school teachers are digitalized. High Extent **(HE),** Extent (**E),** Low Extent (**LE),** Very Low Extent **(VLE)**

S/N	'I'	High Extent	Extent	Low Extent	Very Low Extent
1	am digitally inclined				
2	appreciate that innovation is more than just creativity				
3	place value on my communication and creativity skills				
4	enjoys learning through new technologies and equipment				
5	attend seminars and in-service training programmes to grow my teaching skills				
6	create a high-performance environment where success is inevitable				
7	awake possibilities in people to deliver extraordinary results				
8	make use of ICT to store and record information				
9	tend to overcome barriers to reach goals				

Please respond to the statement in the tables below using the following scale. Strongly Agree **(SA),** Agree (**A),** Disagree (**DA),** Strongly Disagree **(SDA)**

S/N	Items	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Making use of digital content provision in teaching-learning process proffer solutions while teaching				
2	I make use of ICT to disseminate and create information during Covid-19				
3	I make use of ICT to store and record student's information during Covid-19 in my school				
4	I enjoy learning through new technologies and equipment				

5	Attending seminars and in-service training programs helps me to grow my teaching skills				
6	I enjoy making use of internet services enhance my teaching skills				
7	Helping students learn effectively is what motivates me to implement creative teaching				
8	Making use of student's remarks helps to grow my teaching profession				
9	Interacting with my students enables me to get closer to them the more				
10	Making use of ICT helps me to widen my knowledge				
11	I enjoy making use of ICT devices to teach my student				
12	Making use of ICT platforms to teach my students helps me to development myself the more				
13	I'm an expert when making use of ICT				
14	I use computer as part of my teaching learning process				
15	Using a computer for teaching-learning is very important to me				
16	using ICT for teaching-learning saves time				
17	I make use of ICT tools to create a better atmosphere in the classroom				
18	I teach students basics and leave them to find out more for themselves				
19	I make use of improvised materials to teach students				
20	I provide opportunities for my students to share their strong and weak points with the class				
21	I enjoy encouraging my students to try out what they have learned from in different situations				
22	I enjoy to probe my student ideas so as to encourage and motivate them to think the more				
23	Change is what i always look for when teaching				
24	I make use of different teaching techniques while teaching				

25	I feel less of myself when I couldn't provide solution to a given problem				
26	Am always ready to seek solutions to teaching-learning problems				

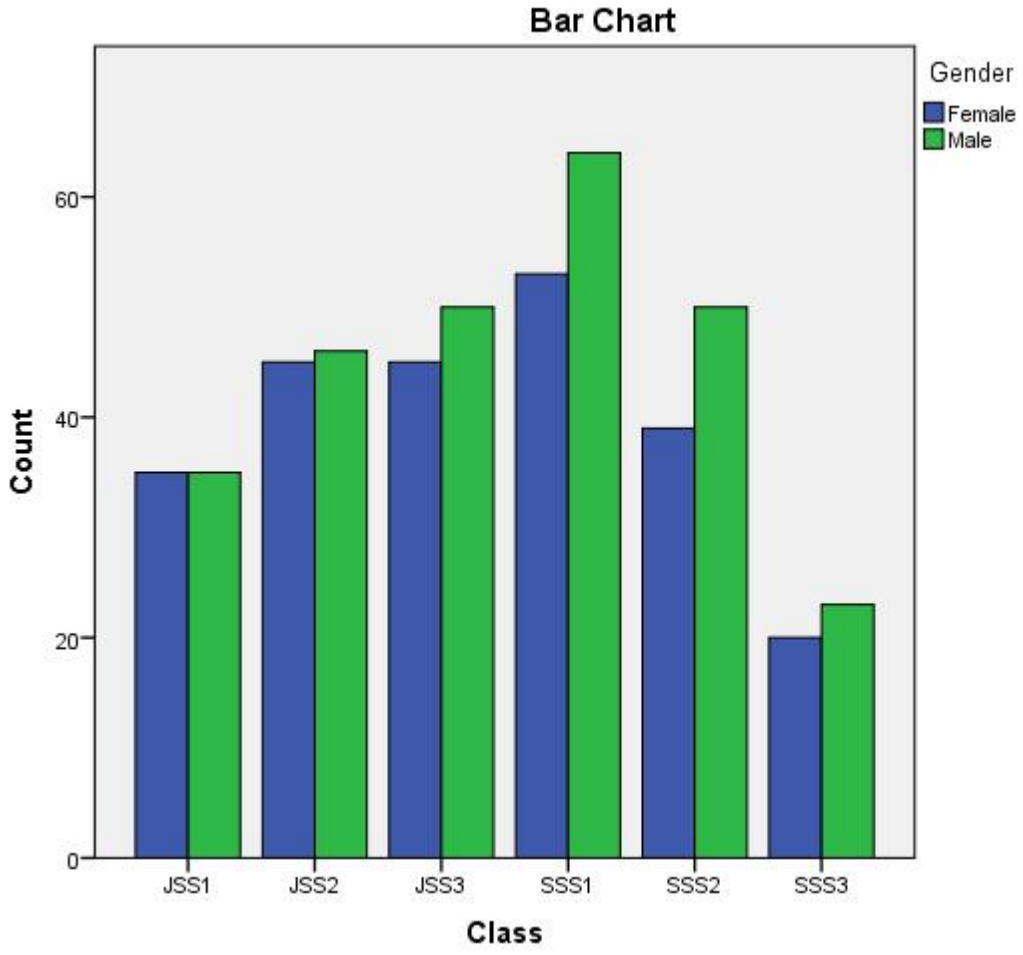
Appendix ii

Demographic Bio data for Research Questionnaire

Class * Gender Crosstabulation

		Gender		
		Female (%)	Male(%)	Total
Class	JSS1	35(14.8%)	35(13.1%)	70
	JSS2	45(19.0%)	46(17.2%)	91
	JSS3	45(19.0%)	50(18.7%)	95
	SSS1	53(22.4%)	64(23.9%)	117

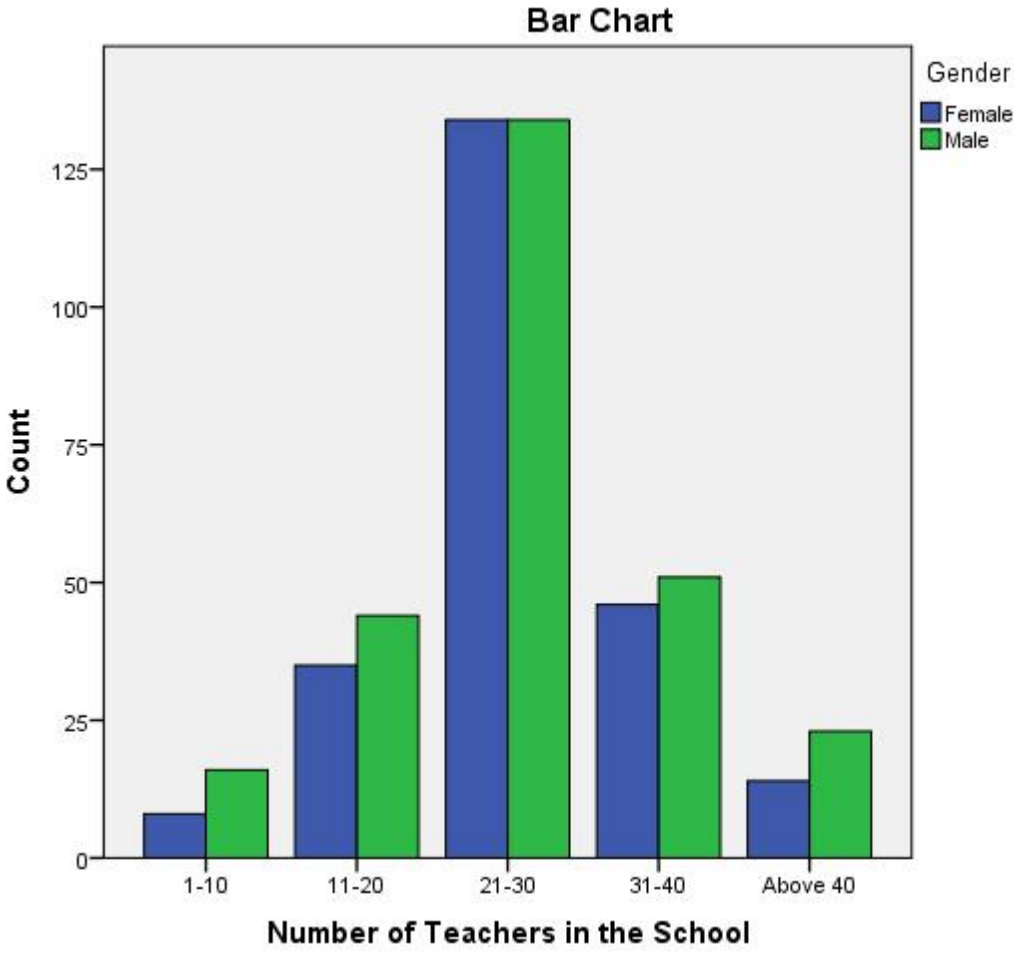
	SSS2	39(16.5%)	50(18.7%)	89
	SSS3	20(8.4%)	23(8.6%)	43
Total		237(100%)	268(100.0%)	505



Number of Teachers in the School * Gender Crosstabulation

		Gender		
		Female (%)	Male(%)	Total
Number of Teachers in the	1-10	8(3.4%)	16(6.0%)	24
	11-20	35(14.8%)	44(16.4%)	79
	21-30	134(56.5%)	134(50.0%)	268
	31-40	46(19.4%)	51(19.0%)	97

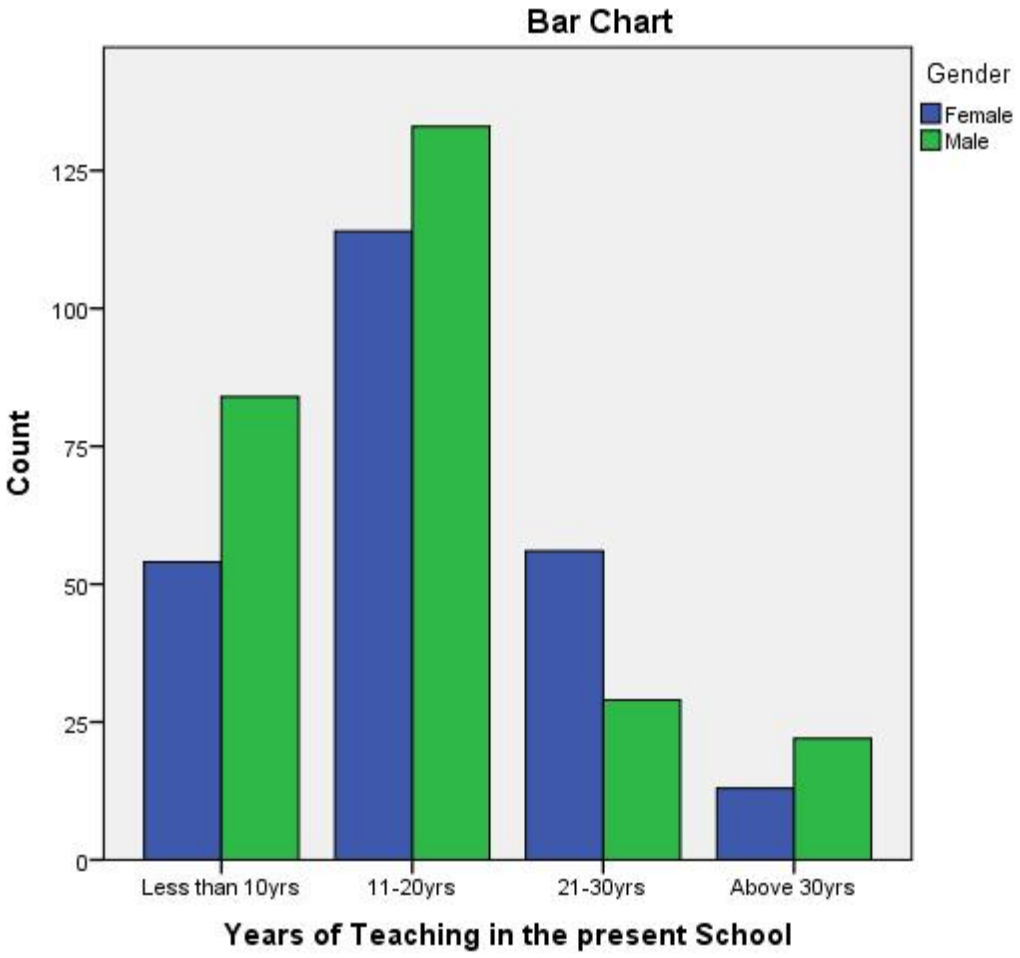
School	Above 40	14(5.9%)	23(8.6%)	37
Total		237(100.0%)	268(100.0%)	505



Years of Teaching in the present School * Gender Crosstabulation

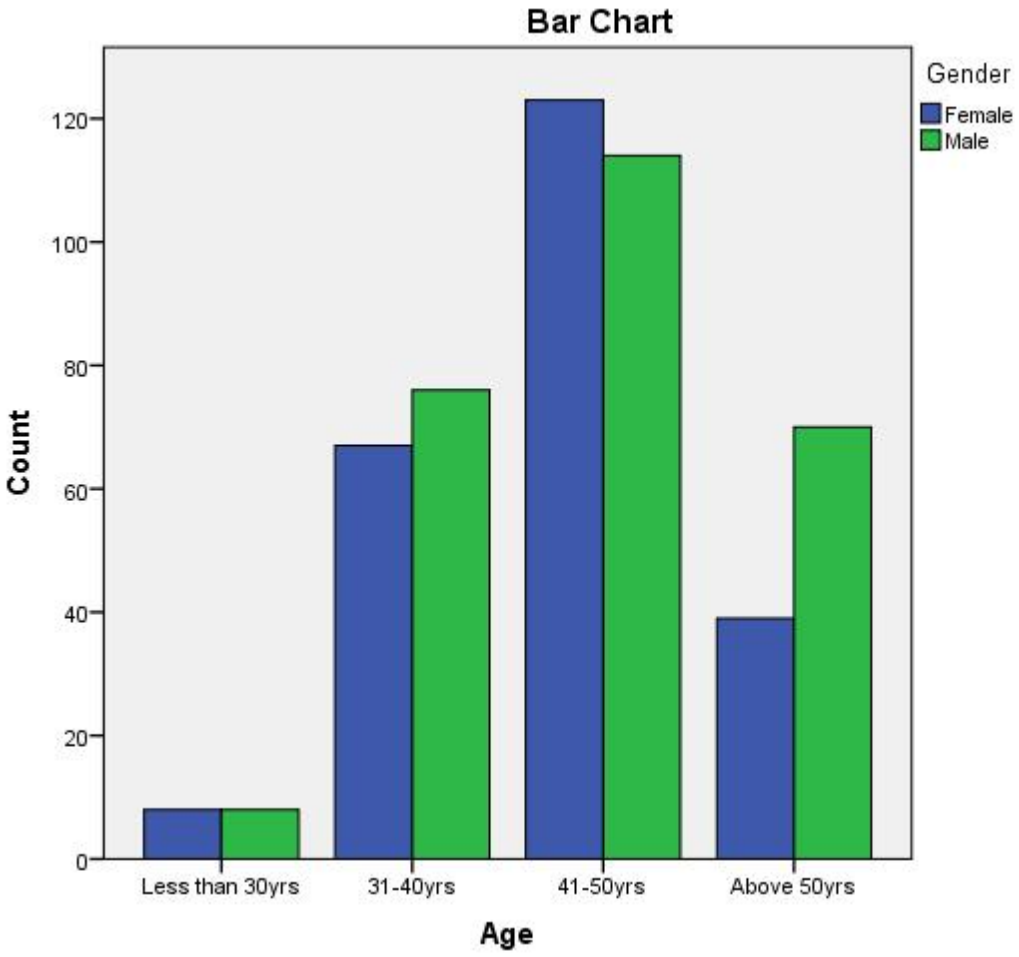
	Gender		
	Female (%)	Male(%)	Total

Years of Teaching in the present School	Less than 10yrs	54(22.8%)	84(31.3%)	138
	11-20yrs	114(48.1%)	133(49.6%)	247
	21-30yrs	56(23.6%)	29(10.8%)	85
	Above 30yrs	13(5.5%)	22(8.2%)	35
Total		237(100.0%)	268(100.0)	505



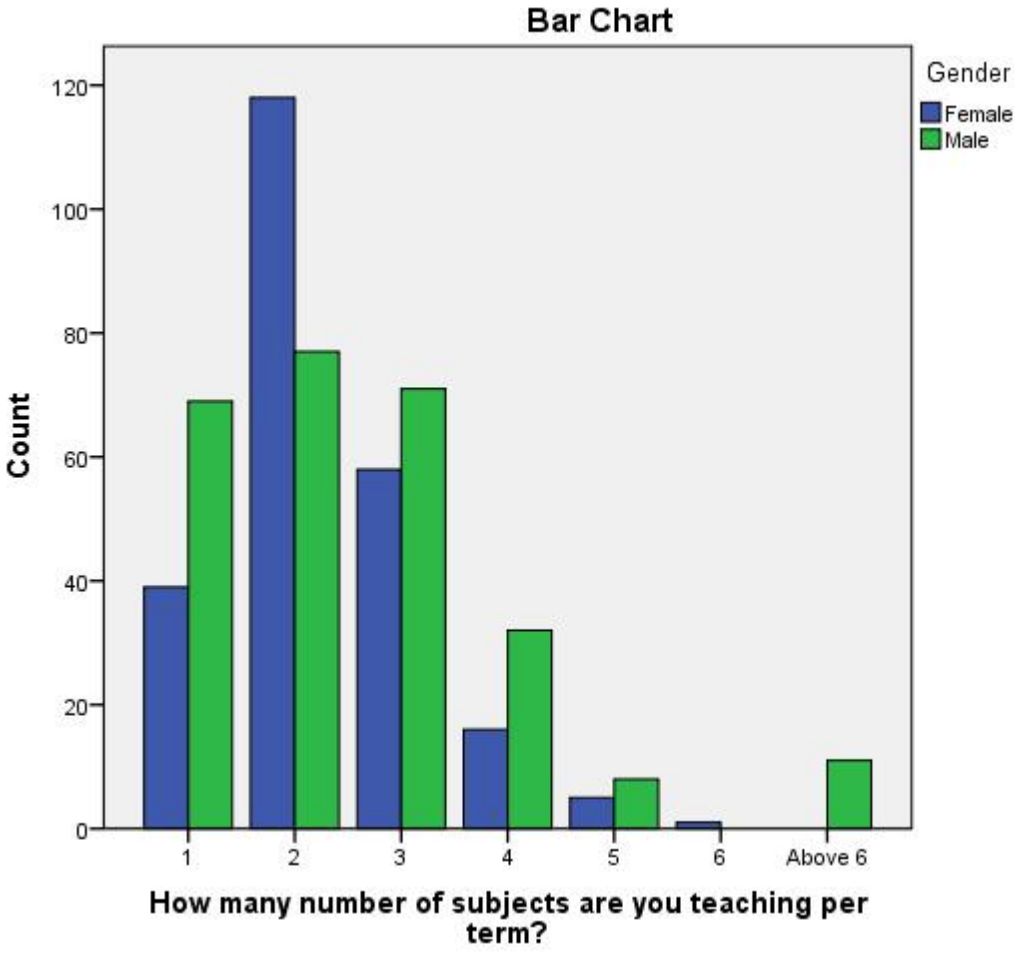
Age * Gender Crosstabulation

		Gender		
		Female (%)	Male(%)	Total
Age	Less than 30yrs	8(3.4%)	8(3.0%)	16
	31-40yrs	67(28.3%)	76(28.4%)	143
	41-50yrs	123(51.9)	114(42.5%)	237
	Above 50yrs	39(16.5%)	70(26.1%)	109
Total		237(100.0%)	268(100.0%)	505



How many numbers of subjects are you teaching per term? * Gender Crosstabulation

		Gender		
		Female (%)	Male(%)	Total
How many number of subjects are you teaching per term?	1	39(16.5%)	69(25.7%)	108
	2	118(49.8%)	77(28.7%)	195
	3	58(24.5%)	71(26.5%)	129
	4	16(6.8%)	32(11.9%)	48
	5	5(2.1%)	8(3.0%)	13
	6	1(0.4%)	0(0.0%)	1
	Above 6	0(0.0%)	11(4.1%)	11
Total		237(100.0%)	268(100.0%)	505



Research Questions

RQ1 What is the identified level of secondary school teachers' work performance (Creativity, attitude to teaching, and problem solving) in the COVID-19 era in Ibadan Metropolis?

Creativity

S/N	items	Very Often		Seldom		Rarely		Never		Mean	SD
		Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)		
1	teach students basics and leave them to find out more for themselves	275	54.2	194	38.4	28	5.5	8	1.6	3.46	0.584
2	improvise instructional materials to teach students	143	28.3	315	62.4	47	9.3	0	0.0	3.19	0.584
3	provide opportunities for my students to share their strong and weak points with the class	199	39.4	226	44.8	76	15.0	4	0.8	3.23	0.725
4	encourage my students to try out what they have learned from me in different situations	160	31.7	276	54.7	67	13.3	2	0.4	3.18	0.660
5	probe student's ideas to encourage them think and motivate them to learn	119	23.6	275	54.5	108	21.4	3	0.6	3.01	0.689
	Weighted Mean									3.21	

Attitude to Teaching

S/N	items	Very Often		Seldom		Rarely		Never		Mean	SD
		Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)		
1	look forward to change	103	20.4	261	51.7	130	25.7	11	2.2	2.90	0.735
2	make use of different teaching techniques while teaching	145	28.7	280	55.4	57	11.3	23	4.6	3.08	0.759
3	improvise different instructional materials when not available	194	38.4	224	44.4	81	16.0	6	1.2	3.20	0.744
4	makes lessons more enjoyable and alleviates	143	28.3	268	53.1	92	18.2	2	0.4	3.09	0.688
5	try to achieve stated objectives of the lesson within the given time frame	144	28.5	245	48.5	109	21.6	7	1.4	3.04	0.746
	Weighted Mean									3.06	

Problem-solving ability

S/N	items	Very Often		Seldom		Rarely		Never		Mean	SD
		Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)		
1	feel less of myself when they couldn't provide solution to a given problem	165	32.7	213	42.2	91	18.0	36	7.1	3.00	0.891
2	am always ready to seek solutions to teaching-learning problems	168	33.3	239	47.3	79	15.6	19	3.8	3.10	0.794
3	try to ask for student feedback while teaching	152	30.1	297	58.8	48	9.5	8	1.6	3.17	0.656

4	am always ready to make use of the internet in seeking for more knowledge	118	23.4	286	56.6	98	19.4	3	0.6	3.03	0.672
5	make use of the internet to find out more about teaching-learning skills	207	41.0	209	41.4	80	15.8	9	1.8	3.22	0.771
	Weighted Mean									3.10	

RQ2 What is the most used platform to teach during COVID-19 era (during lockdown, after lockdown) in Ibadan Metropolis?

During lockdown

		At all Times		Sometime		Rarely		Never			
S/N	items	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Mean	SD
1	Zoom	324	64.2	152	30.1	29	5.7	0	0.0	3.58	0.599
2	Google meet	190	37.6	272	53.9	37	7.3	6	1.2	3.28	0.648
3	Google class	207	41.0	215	42.6	82	16.2	1	0.2	3.24	0.722
4	Dropbox	126	25.0	228	45.1	136	26.9	15	3.0	2.92	0.795
5	Prezi	164	32.5	193	38.2	108	21.4	40	7.9	2.95	0.925
6	Umang mobile app	119	23.6	262	51.9	96	19.0	28	5.5	2.93	0.803
7	Youtube	191	37.8	246	48.7	67	13.3	1	0.2	3.24	0.679
8	WhatsApp	204	40.4	266	52.7	35	6.9	0	0.0	3.33	0.602
9	Cisco	175	34.7	186	36.8	137	27.1	7	1.4	3.05	0.820
10	Webex	170	33.7	191	37.8	124	24.6	20	4.0	3.01	0.861
	Weighted Mean									3.16	

After lockdown

		At all Times		Sometime		Rarely		Never			
S/N	items	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Mean	SD
1	Physical only	369	73.1	123	24.4	10	2.0	3	0.6	3.70	0.535
2	Online only	197	39.0	279	55.2	18	3.6	11	2.2	3.31	0.646
3	Hybrid (Physical & Online)	236	46.7	224	44.4	44	8.7	1	0.2	3.38	0.649
	Weighted Mean									3.46	

RQ3 What is the most used device to teach during COVID-19 era (during lockdown, after lockdown) in Ibadan Metropolis?

During lockdown

S/N	items	At all Times Freq	At all Times Per (%)	Sometime Freq	Sometime Per (%)	Rarely Freq	Rarely Per (%)	Never Freq	Never Per (%)	Mean	SD
1	Smart Phone	301	59.6	167	33.1	35	6.9	2	0.4	3.52	0.643
2	CDs	155	30.7	230	45.5	113	22.4	7	1.4	3.06	0.764
3	DVDs	150	29.7	225	44.6	95	18.8	35	6.9	2.97	0.874
4	biometric Scanner	187	37	222	44	80	15.8	16	3.2	3.15	0.797
5	Computers	204	40.4	254	50.3	45	8.9	2	0.4	3.31	0.645
6	Telephones	220	43.6	226	44.8	59	11.7	0	0.0	3.32	0.672
7	digital camera	174	34.5	266	52.7	62	12.3	3	0.6	3.21	0.669
8	Whiteboard	211	41.8	230	45.5	62	12.3	2	0.4	3.29	0.689
9	interactive board	169	33.5	286	56.6	50	9.9	0	0.0	3.24	0.616
10	Projector	275	54.5	186	36.8	42	8.3	2	0.4	3.45	0.662

After lockdown

S/N	items	At all Times Freq	At all Times Per (%)	Sometime Freq	Sometime Per (%)	Rarely Freq	Rarely Per (%)	Never Freq	Never Per (%)	Mean	SD
1	Interactive Board	207	41.0	177	35.0	117	23.2	4	0.8	3.16	0.805
2	smart phones	141	27.9	308	61.0	35	6.9	21	4.2	3.13	0.707
3	power points	183	36.2	239	47.3	73	14.5	10	2.0	3.18	0.745
4	video clips	150	29.7	256	50.7	97	19.2	2	0.4	3.10	0.705
5	audio recording	200	39.6	224	44.4	76	15.0	5	1.0	3.23	0.732
6	`tape recorder	171	33.9	151	29.9	172	34.1	11	2.2	2.95	0.875
7	digital camera	137	27.1	271	53.7	81	16.0	16	3.2	3.05	0.746
8	Projector	172	34.1	272	53.9	60	11.9	1	0.2	3.22	0.649
9	interactive board	139	27.5	337	66.7	29	5.7	0	0.0	3.22	0.535
10	White Board	260	52.1	213	42.2	26	5.1	3	0.6	3.46	0.623
	Weighted Mean									3.17	

RQ4 To what extent is public secondary school teachers digitalized?

S/N	items	High Extent Freq	High Extent Per (%)	Extent Freq	Extent Per (%)	Low Extent Freq	Low Extent Per (%)	Very Low Extent Freq	Very Low Extent Per (%)	Mean	SD
1	am digitally inclined	332	65.7	127	25.1	43	8.5	3	0.6	3.56	0.673
2	appreciate that innovation is more than just creativity	226	44.8	259	51.3	20	4.0	0	0.0	3.41	0.567
3	place value on my communication and creativity skills	231	45.7	205	40.6	69	13.7	0	0.0	3.32	0.702
4	enjoys learning through new technologies and equipment	155	30.7	308	61.0	41	8.1	1	0.2	3.22	0.590
5	attend seminars and in-service training programmes to grow my teaching skills	209	41.4	256	50.7	40	7.9	0	0.0	3.33	0.618
6	create a high-performance environment where success is inevitable	129	25.5	334	66.1	42	8.3	0	0.0	3.17	0.556

7	awake possibilities in people to deliver extraordinary results	201	39.8	232	45.9	72	14.3	0	0.0	3.26	0.690
8	make use of ICT to store and record information	216	42.8	246	48.7	39	7.7	4	0.8	3.33	0.652
9	tend to overcome barriers to reach goals	258	51.1	191	37.8	53	10.5	3	0.6	3.39	0.697
	Weighted Mean									3.33	

Hypotheses

Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	0.823[a]	0.677	0.675	5.89248

a. Predictors: (Constant), Information Communication Technology (ICT) used, Digital teacher

ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	36492.808	2	18246.404	525.510	0.000[b]
Residual	17430.106	502	34.721		
Total	53922.914	504			

a. Dependent Variable: Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis

b. Predictors: (Constant), Information Communication Technology (ICT) used, Digital teacher

Coefficients[a]

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
(Constant)	40.511	4.577		8.851	0.000
Digital teacher	2.918	.100	.744	29.236	0.000
Information Communication Technology (ICT) used	2.055	.129	.405	15.915	0.000

a. Dependent Variable: Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis

Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	0.841[a]	0.707	0.707	5.04393

a. Predictors: (Constant), Digital teacher

ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	30941.957	1	30941.957	1216.214	.000[b]
Residual	12796.933	503	25.441		
Total	43738.890	504			

a. Dependent Variable: Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis

b. Predictors: (Constant), Digital teacher

Coefficients[a]

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	42.450	2.462		17.240	.000
Digital teacher	2.917	.084	.841	34.874	.000

a. Dependent Variable: Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis

Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.866[a]	.750	.749	4.76847

a. Predictors: (Constant), Information Communication Technology (ICT) used

ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	34308.186	1	34308.186	1508.826	.000[b]
Residual	11437.381	503	22.738		
Total	45745.567	504			

a. Dependent Variable: Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis

b. Predictors: (Constant), Information Communication Technology (ICT) used

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	31.172	2.385		13.071	.000
Information Communication Technology (ICT) used	3.149	.081	.866	38.844	.000

a. Dependent Variable: Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.853[a]	.727	.726	6.87594

a. Predictors: (Constant), Digital teacher and Information Communication Technology (ICT) used

ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	63327.123	1	63327.123	1339.446	.000[b]
Residual	23781.133	503	47.279		
Total	87108.256	504			

a. Dependent Variable: Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis

b. Predictors: (Constant), Digital teacher and Information Communication Technology (ICT) used

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	71.569	4.923		14.537	.000
Digital teacher and Information Communication Technology (ICT) used	3.068	.084	.853	36.598	.000

a. Dependent Variable: Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis

Correlations

Correlations

	Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis	Digital teacher	Information Communication Technology (ICT) used
Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis	1	.717**	.355**
Digital teacher	.717**	1	-.066
Information Communication Technology (ICT) used	.355**	-.066	1

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

	Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis	Digital teacher
Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis	1	.841**
Digital teacher	.841**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

	Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis	Information Communication Technology (ICT) used
Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis	1	.866**
Information Communication Technology (ICT) used	.866**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

	Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis	Digital teacher and Information Communication Technology (ICT) used
Work performance of secondary school teachers during COVID-19 era in Ibadan Metropolis	1	.853**

Digital teacher and Information Communication Technology (ICT) used	.853**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Reliability Statistics

Cronbach's Alpha	No of Items
.794	47

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected item-Total Correlation	Cronbach's Alpha if Item Deleted
BQ2	148.90	123.867	.211	.791
BQ5	149.03	123.815	.165	.793
BQ6	149.11	123.060	.204	.791
BQ7	148.92	123.916	.156	.793
BQ15	148.85	121.335	.285	.789
CD1	148.49	123.793	.203	.791
CD2	148.94	120.069	.382	.796
CD3	149.01	118.117	.443	.783
CD4	148.87	120.150	.370	.786
CD7	148.81	122.791	.256	.790
CD8	148.78	123.191	.213	.791
CD9	148.78	124.673	.136	.793
CD10	148.57	123.665	.204	.791
CA1	148.82	119.346	.411	.785
CA2	148.91	121.896	.290	.792
CA3	148.81	123.651	.187	.783
CA4	148.96	118.680	.486	.791

CA5	148.77	123.051	.208	.780
CA6	149.04	116.590	.517	.787
CA7	148.97	120.051	.348	.789
CA8	148.84	122.393	.286	.823
CA10	148.42	116.602	.094	.792
DD1	148.44	124.236	.179	.785
DD4	149.10	119.755	.397	.785
DD5	149.04	120.172	.294	.788
DD6	149.07	118.375	.465	.783
DD7	148.76	124.440	.144	.793
DD9	148.98	120.050	.353	.787
DD10	148.99	118.670	.410	.784
DA1	148.33	123.730	.268	.790
DA2	148.72	124.394	.151	.793
DA3	148.62	122.013	.342	.788
El1	148.46	123.289	.221	.791
El9	148.61	122.608	.264	.790
E1	148.50	123.022	.246	.790
E2	148.64	122.679	.288	.789
E3	148.77	122.705	.250	.790
E6	148.82	123.044	.236	.791
E7	148.87	124.451	.147	.793
E8	148.86	122.560	.254	.790
E10	148.91	124.048	.163	.793
E13	148.86	122.951	.222	.791
E15	148.83	124.564	.129	.793
E16	148.87	122.954	.230	.791
E17	149.72	123.880	.178	.792
E19	148.75	124.099	.183	.792
E22	148.71	123.559	.206	.791

Bio- data

1. **Personal Data**
   Full Name: Moyosore Oluwatobi BECKLEY
   Home Address: Oyedeji Oyediran Street, Bodija Estate, Ibadan Oyo State.
   E-mail Address: moyosorebeckley@gmail.com
   Phone Number: 08137840705
2. **Date and Place of Birth:** 10th June, 1993, Abeokuta, Ogun State
3. **Nationality:** Nigeria
4. **Name and Address of Next of Kin**: Oluwaseun Julius Beckley, Okonranmi Estate, Off Airport Road Benin City, Edo State.

B. Educational Background

Educational Institutions attended with dates and Qualifications obtained

Educational Institutions	Qualifications Obtained	Date
1. Lead City University, Ibadan, Oyo State	M.Ed (in view)	(2020- till date)
2. Lead City Universisty, Ibadan, Oyo State	B.Ed	2019
3. Federal College of Education, Osiele, Abeokuta	NCE	2014
4. Ibafo Community High School, Ibafo, Ogun State	WASCE	2010
5. C.A.C Primary School, Lantoro, Abeokuta Ogun State	first school leaving Certificate	2005

C. Working Experience with Dates:

1.	Dovem Model school	2014
2.	Teaching Practice at St' Annes Girls school	2017
3.	Graduate Assistant Lecturer	(2021-till date)

D. Awards and Fellowship (If any):

1.	Best Graduate Students in Educational Management	2019
2.	Best Student in Teaching Practice	2019
3.	Award of Academic Excellence	2019
4.	Award of Excellence	2019

F. Membership of Academic Professional Bodies:

Teachers Registration Council of Nigeria (TRCN)

G. Publications:

1. Monilola Oyetade, Moyosore Beckley & Afolakemi Oredein. Peer Group Influence as a Correlate of Secondary School Students Academic Achievement in Oluyole Local Government Area, Ibadan, Oyo State. **Journal of Capital Development in Behavioural Sciences**. Vol8 (2), 2020

2. Digital Leadership Factors Competence: Implications for School Teachers' Work Performance in Nigeria. Moyosore Beckley and Afolakemi Oredein. A paper presented during the 5th Faculty of Arts and Education International Conference on Sustainable Development, 2022.

3. Moyosore Beckley. Principals' Leadership Styles and Teachers Work Performance: Conceptual and Empirical Reviews. Book of Reading in honor of Professor Donald Abidemi Odeleye. 2022

4. Babatunde Adeyemi, Senimetu Ileuma & Moyosore Beckley. Influence of Institutional Type and Academic Specialization on the Employability Skills of Undergraduate Students in Southwestern Nigeria. **International Journal of Research and Innovation in Social Science**. Vol6 (5), 2022, pp607-613.

I. Notable Scholarly or Professional Accomplishments: Nil

I. Major Conference or Workshop Attended:

1. Faculty of Arts and Education International Conference on Sustainable Development. Theme: Pragmatic Human Capital for Sustainable Development. 2022
2. Nigerian Association of Pastoral Counselling (NAPCOUN). Theme: Pastoral Conference and National Issues. 2022

3. **Signature** _____ **Date** _____

University Compliance Certification

This is to certify that this thesis by Moyosore Oluwatobi BECKLEY in the Department of Arts and Social Science Education (Educational Management Unit), Faculty of Arts and Education, Lead City University, Ibadan, is in Full compliance with the approved University Format and Style.

_____ _____

Signature Date