Teachers and Learners' Perspectives on E-Learning Preparedness in Selected Urban Schools of Lusaka, Zambia

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ABSTRACT	Published Online: August 20, 2025

The study focused on the experiences of teachers and pupils on e-learning preparedness in selected urban schools of Lusaka anchored on interpretive phenomenological perspective. The aim of the study was to explore the experiences of teachers and pupils on e-learning and establish the measures put in place on e-learning preparedness in the selected schools of Lusaka urban. The sample comprised 25 participants, i.e.,10 pupils, 9 ICT teachers, 2 Head Teachers and 2 specialists from the Curriculum Development Centre (CDC). The study employed purposive sampling, specifically homogenous sampling to select head teachers, pupils, and curriculum experts. Data were collected using interview guide, focus group discussion and observation checklist on the preparedness of e-learning in selected schools of Lusaka, district in Zambia. Data were analyzed using thematic analysis where major themes were drawn and coded. Based on the study findings it is evident that teachers' experiences and challenges of e-learning preparedness were due to the lack of ICT infrastructure, lack of trained ICT teachers, poor network connectivity, lack of acceptance to new technology, electricity load shedding and the lack of parental involvement in e-learning programmes. Further, on usage, the study revealed that pupils did not know how to use the e- learning platforms. Both teachers and pupils exhibited inadequate skills and knowledge of eLearning software. The study recommended that e-learning preparedness should include training of trainers of ICT, building ICT infrastructure, and ensuring that ICT is a compulsory subject from primary to secondary schools. Additionally, Continuous Professional Development (CPD) for all teachers on e-learning assessment and feedback should be encouraged in all schools. Appropriate digital literacy and pedagogical approaches should be employed in schools to enhance e-learning.

KEYWORDS: Teacher perspectives, learner perspectives, ICT infrastructure, e-learning preparedness, pedagogical approaches.

BACKGROUND TO THE STUDY

The study interrogated experiences of teachers and pupils on e-learning preparedness in selected urban schools of Lusaka District, Zambia. In 2013 the Ministry of Education in Zambia (MoE, 2013) reviewed the National School Curriculum introducing ICT as an examinable subject at the Junior Secondary School level. This development was, however, received with mixed feelings among different stakeholders across the nation (Kalimaposo, Moono, Daka, Mulubale, Kaumba and Mphande, 2023). It was observed that the teaching of ICT in schools faced numerous challenges

such as lack of trained teachers, inadequate computer hardware and software and irregular power supply just to mention a few. It cannot be gainsaid that the advent of ICT has made teaching and learning easier beyond the traditional face-to-face interaction between the teacher and the learner. This kind of learning basically involves the transfer of skills and knowledge through electronic devices aimed at improving the teaching process. In homes, schools and industries, computers are steadily replacing human presence. As a result, many countries of the world, Zambia inclusive have embraced the use and integration of ICT in education (Phiri, 2016). It is argued that ICT has the potential to improve all aspects of social, economic and cultural life. Considering the importance of ICT, the Government of Zambia in 2007 formulated and adopted the National ICT policy with an emphasis on the integration of ICT in education (UNESCO, 2013). In 2013 the Ministry of Education reviewed the National School Curriculum to

launch ICT as an examinable curriculum subject at junior secondary school level.

During teaching and learning of ICT, the availability of facilities plays a vital role since ICT is a practical subject that should be learned hands-on. Several researchers have identified the computer to be the most common ICT facility available in learning centres. Mulima (2014) argues that secondary schools in Zambia have a variety of ICT facilities both hard and software though they are insufficient. Similarly, Ang'ondi (2013) notes that computers, laptops, LCD projectors and printers are the most common ICT tools available in schools. However, the facilities are not enough to cater for both teachers and learners. This study reports that teachers take their own personal computers to schools to assist learners. These findings are similar to Mulima (2014) and Lufungulo (2015) who posits that computers and laptops are among the most common ICT facilities in schools but the challenge is that they are inadequate.

A study in Zambia on primary school teachers' attitudes towards ICT integration in social studies in Lusaka and Katete districts by Lufungulo (2015) found that scarcity of ICT equipment and lack of internet in primary schools was a major problem. The other challenge observed is the lack of electricity in schools, especially in rural areas. Hennessy et al. (2010) argue that lack of electricity was a major problem that hampered the integration of ICT in most developing countries. Through ICT applications, e-learning, blended learning and open & distance learning are achieved. ICT provides a motivating learning environment where learners are given an opportunity to engage with instruction. Through ICT learners are prepared for future tasks in which the job market demands a computer-literate workforce. Technology in education further prepares learners for a workplace where ICTs, particularly computers, and internet technologies are more pronounced in this global market. ICT also stands out as a tool necessary for economic and social development. It plays a crosscutting role in developmental issues and once properly applied could lead to broader achievement of national development goals. ICT is a potent force in driving economic, social, political and educational reforms. Therefore, developing countries such as Zambia cannot afford to stay passive in ICT if they are to compete and strive in the global knowledge economy.

Teachers' ICT capabilities and disposition are vital in the process of ICT integration, this implies that teachers play a vital role in the integration of ICTs in all levels of education as agents and catalysts of curriculum change and the instructional process (Omoiyi & Quadri, 2013; Kalimaposo, et al., 2025). Although most of these endeavours have not equally emphasized on the role of the teacher in the instructional process such as planning, lesson delivery, evaluation and reporting with the help of ICTs, other studies indicate a number of teacher-related factors being possible reasons for use of computers in pedagogy. Some of these teacher-related factors are gender, age, teacher experience with computers, teacher self-efficacy, attitudes towards computers, pedagogical beliefs and perceived social influence (Kurgat, 2011; Rastogi & Malhotra, 2013). The study of self-efficacy stem from the work of Albert Bandura and has been defined as an individual's confidence in his or her ability to do things that he/she strives to do or in performing a specified behavior (Gilakjani, 2013; Kalimaposo & Kaumba, 2023). Similarly, self-efficacy is considered as one's judgement of their capabilities to organize and execute courses of action that are required to attain a desired type of performance. It should be noted that self-efficacy does not focus on the skills one possesses but on the judgements of what one can do with skills. In other words, self-efficacy is the perceived ease or difficulty of acting or displaying target behavior. Self-efficacy develops as a result of emotional, cognitive, motivational processes, behavioural indicators or social environment in which people live and work.

The rapid growth of knowledge and information has made it possible to learn quickly. Unfortunately, there are challenges to fast learning and responding to them requires a new way of thinking about how we can acquire information and ICT skills, as well as how to build learning opportunities that can keep up with the knowledge economy. According to United Nation-UN Sustainable Development Goal number four promotes access to quality education. This implies that by 2030, sustainable education should be attained worldwide or achieved. However, there have been a lot of disruptions to the education system such as cholera, COVID19 and other unforeseen emergencies that have negatively affected the education sector. According to Phiri (2022) and Kalimaposo, et al (2024).

The introduction of digital technologies has created numerous opportunities for the development of various business sectors including commercial trade, health and education and has had a huge effect on the way information is communicated to everyone (Mukosa & Mweemba, 2019). Moreover, in 2020, the Ministry of Education launched the e-Learning platform and smart revision portal for Zambian primary and secondary school learners. This is a digitalized virtual classroom where students can access lessons using mobile phones and other internet devices (Ministry of General Education (MoGE), 2020). With the increasing need for learning institutions like schools to incorporate innovative methods of instruction (Toquero, 2020), transition to E-learning has emerged as an unavoidable option in the current COVID-19 era and beyond. Institutions that use e-Learning for teaching and learning face a number of challenges. Some of the challenges that have been identified as a barrier to many Zambians benefiting fully from the advantages offered by e-Learning methods. Further, this is compounded by the low numbers of people with Internet access, availability and affordability of computer hardware and the cost of acquiring training (Konayuma,

2007). In addition, the penetration levels of ICTs in Zambia's education institutions remain low, with those schools that are equipped mostly utilizing second-hand and refurbished computers. In order for e-learning to be successfully implemented or adopted in the education sector at primary and secondary education, it is cardinal to have in place the requisite resources that make it possible for access to the internet to be available on a regular, efficient and timely basis. Countries such as the United States, China and United Kingdom (UK) have thrived in terms of e- learning at higher education and lower education levels, and this success has been attributed to the availability of modern or state of the art ICT infrastructure and professionals with the requisite skills and knowledge.

Government of the Republic of Zambia through the Ministry of Education (MoE) has a task to ensure that education being given or delivered to citizens is of high quality, effective and efficient, and this means overcoming challenges associated with access to education. Unfortunately, this task has not been achieved. In Zambia, issues pertaining to challenges related to access to the internet have been well documented and discussed. Literature review in Zambia indicates that the cost of internet, lack of devices for internet access and also the poor quality of internet services in Zambia are major challenges in implementing e-Learning in learning institutions (Mukosa & Mweemba, 2019). Additionally, Zambia is in the top eight of the countries with higher costs of technology and this could mean that delivering e-learning faces challenges in that the price of internet creates a digital divide and reduces expansion of online learning programs.

STATEMENT OF THE PROBLEM

E-learning preparedness in most public schools in Zambia seems to be unsatisfactory due to lack of facilities in schools and unqualified teachers to teach ICTs effectively. In 2013, the Ministry of Education in Zambia reviewed the National School Curriculum and introduced ICT as a compulsory curriculum subject at the junior secondary school level in Zambia. This development was however received with mixed feelings among different stakeholders across the nation. It has been observed that large numbers of teachers have not acquired the requisite competencies for e-learning, this has been compounded by negative attitudes by pupils and lack of access to electricity especially in the rural parts of Zambia (Kalimaposo, et al., 2023). The Zambia Information Communication Technology Authority (ZICTA, 2018) National Survey on access and use of ICT revealed that 73.6% owned mobile phones, 29.6% had smart phones, thus implying that most of the people possess basic phones, which are non- internet based. Further, access and use stand at 14.7% in urban areas and 2.7% in rural areas. This signifies that there is a huge disparity in access. During the COVID-19 pandemic, the situation in Zambia saw the closure of schools forcing about 4.4 million pupils out of school, due to lack of

ICT infrastructure, and unsatisfactory ICT skills. It is against this backdrop that this study was set out to explore teachers and learners' perspectives on e-learning preparedness in selected urban schools of Lusaka, Zambia.

Purpose of the study

This study explored teachers and learners' perspectives on e-learning preparedness in selected urban schools of Lusaka, Zambia.

Research questions

1.   What are the perspectives of teachers and pupils on e- learning preparedness in

        selected schools of Lusaka Districts?

2.   What measures have been put in place to support e-learning preparedness in selected schools in Lusaka?

LITERATURE REVIEW

The success of any information system depends on the usage of the system by users (Almaiah, 2018). Thus, in the context of e-learning system, teachers and learner's acceptance of e-learning is considered as one of the main criteria for the success of e- learning. The ICT policy in education was launched by the Ministry of Education to guide the education sector in the adoption of ICTs across all levels of education and training. The policy highlighted the integration of ICTs into the curriculum of teaching at all levels of education including the establishment of e-educational networks to share educational resources and the promotion of e-learning at all levels.

Teacher efficacy

The teacher's general sense of efficacy has been referred to as 'teacher efficacy' (Goddard et al., 2004). According to Dunn and Rakes (2011) teacher efficacy is the self-reflective judgement made by a teacher about their capability concerning teaching-learning practices. Teacher efficacy is therefore a characteristic that provides the teacher with indispensable impetus to persist and persevere in the presence of adversity, failure being imminent if such confidence is diminished. Sang, et al. (2010) contend that teacher efficacy is a crucial factor in accounting for individual differences among teacher's instructional effectiveness. Similarly, instructional decision-making is influenced by teacher efficacy (Dunn & Rakes, 2011). Moreover, Dunn and Rakes (2011) conjecture that teachers with more positive teacher efficacy are more apt to implement learner-centred practices and endure when faced with students' early resistance to learner-centred practices. Studies have established a positive correlation between teacher efficacy and ICT integration in the classroom (Sang, et al., 2010; Mphande, et al., 2024). In addition, these studies show that teacher's sense of efficacy is a significant predictor of productive teaching practices.

Teacher computer self-efficacy

Computer self-efficacy is one form of self-efficacy that is context specific to the use of computers by teachers in their pedagogical practices. Computer self-efficacy refers to a judgement of one's capability to use a computer (Compeau & Higgins, 1995). Teacher's computer self-efficacy is the teacher's judgement on the extent to which they are confident about successfully implementing computer-based instructional tasks that lead to student learning through productive classroom management and instructional practices. Albion (2001) and Player-Koro (2012) argue that studies suggest that teachers' beliefs about their self-efficacy in using technology for teaching are directly related to their actual experience and practice with technology. Moreover, Compeau and Hggins (1995) found that an individual's use of technology was affected by their self-efficacy and that participants with higher self-efficacy used computers more often and experienced less computer-related anxiety.

Teacher attitude towards computers

The successful use of computers in schools in school programs such as such as for instructional process, administration and classroom fundamentally depend on teacher's computer attitude, their willingness and support of the technology. A number of authors argue that user's attitude is the key determinant in the adoption of technology to one's practice. In educational contexts, teachers as users of these technologies and refers teacher's general feeling of favourableness or unfavourableness towards computer use. Computer attitude have been perceived to comprise of dichotomous categories. Hogarty, Lang and Kromrey (2003) classify computer attitude as either technology aversion which refers to a tendency to avoid computers or technology affinity which refers to the tendency to like computers. Hung and Hsu (2007) classified computer attitude as either computer liking which refers to the affection for computers or computer anxiety which is a tendency to fear computers drawing a parallel to Hogarty et al. (2005); Mphande, Kalimaposo, Phiri, Tembo & Mwale (2024). In this context, computer liking results into increased computer usage while computer anxiety results in decreased usage. It should be noted that defining computer attitude seems to converge to looking at teachers' computer attitude as teachers' reactions to either accept or reject computers in their practice. Teacher's decision or volition to accept or to reject the use of computer emanates from a personal judgement as a response to computers albeit that this judgement may be a function of both intrinsic or extrinsic factors. These factors moderate or mediate teachers' computer attitude on computer use. Consequently, teachers computer attitude has a bearing on ICT integration efforts in schools as either enablers or barriers towards computer usage (Abukhzam & Lee, 2010; Kalimaposo, et al., 2023).

Teacher's perceived social influence

Social influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system, for example, the use of computer technology. Individuals may be influenced by the opinions of others with who they interact. This would mean that social influence is a perception adopted after considering varied opinions from significant others. According to Smith, Louis and Shultz (2011); Mubita, Mundende, Milupi & Kalimaposo (2023) social influence occurs when an individual's thought, feelings and actions are affected by other people. In this study, social influence is an attribute of the teacher's social or human environment; it is how one's perception of significant others' opinions determine the extent of one's behavior in the use of computers. When 'others' opinions are favourable and are perceived as such, then there is a tendency of strong positive social influence which leads to the performance of relevant behavior and vice versa. Social influence was found to correlate with teacher's computer use (Marcinkiewicz, 1994). Similarly, Ma, Andersson and Streith (2005); Mundende, et al., (2023) found that for student-teachers, social influence has significant effect on their intention to use computers.

Teacher pedagogical beliefs

Beliefs in this context refer to personal road-maps in helping individuals to define and understand themselves and the world around them especially in the use of technology (Pajares, 1992). Teo, Chai, Hung and Lee (2008) regard beliefs about teaching as the preferred ways of teaching by teachers and this answers the question, 'how do teachers teach?' Voogt (2010) and Kalimaposo, Chidakwa, Mubita, Mulubale & Kaumba (2023) operationalized teacher beliefs as the importance teachers attached to curriculum goals, traditionally important or lifelong in connection with teachers' pedagogical practices. Subsequently, this view is a value-based definition that essentially presupposes a dichotomous classification of teacher pedagogical beliefs. Studies such as Valcke, (2008) & Simamuna & Kalimaposo (2016) have identified pedagogical beliefs consistent with two main philosophical positions, namely traditional beliefs associated with empiricist philosophy and constructivist beliefs consistent with constructivist philosophy. Traditional also known as didactic, behaviourist or transmissionist pedagogy is based on the belief that all knowledge comes from experience (empiricist philosophy). The learner's mind passively receives the experiences imparted by a teacher and it is only active in knowledge construction posteriori, processing what is already acquired to memory, i.e., top-down process. Teachers with this belief see themselves as the ultimate sources of knowledge and teacher-centred teaching strategies with direct explanation (Kalimaposo & Kaumba, 2023). On the other hand, constructivist pedagogy is based on the belief that the learner's mind is an active contributor to

the construction of knowledge a priori, i.e., a bottom -up process. Therefore, for constructivists, learning is perceived as an active construction and reconstruction of knowledge, and teaching as a process of guiding and facilitating learners in the process of knowledge construction (Lim & Chan, 2007).

Integration of ICT in teaching and learning in Kenya

A review of literature on ICT integration in teaching and learning in Kenya showed that there was limited knowledge in this area. Karsenti et al. (2011) reported that integration of ICT was relatively low in African countries compared to other countries globally. Teaching was mostly done using the same old techniques that put the teacher at the centre of the learning process. Similarly, Owour and Kaburu (2014) found that although ICT was taught as a subject, integration into classroom to enhance e-learning was very slow. This study established that the focus was on ICT as a subject, rather than enhancement of curriculum effects on teaching and learning in schools. They also found out that there were no strategies in schools set to explore affordable ICT solutions. Kidombo, Gakuo and Kindachu (2011) established that integration of ICT in teaching and learning in Kenyan secondary schools depended on factors such as school leadership, professional training of teachers in ICT, school manager's level of ICT skills competence and presence of ICT policy. They also found that Kenya lacked adequate connectivity and network infrastructure. In rural and low-income areas, there was low penetration of the national physical telecommunications infrastructure. This implies restricted access by schools to high-speed email and internet connectivity. Gichimu (2016) studied factors affecting ICT integration in teaching and learning in public secondary schools of Githunguri sub-county, Kenya. The study found that ICT integration in teaching and learning was limited. In many schools, computer use was limited to typing of examinations, analysis of examination results, accessing of emails and preparation of lesson plans, but not for use in teaching and learning. In schools offering computer studies, emphasis was on learners to acquire basic computer skills rather than using the computer as a tool to enhance teaching. In the teaching and learning of mathematics in secondary schools in Nairobi County, Amuko (2015) explored pedagogical practices in the integration of ICT. Findings revealed that there were low levels of ICT integration and that mathematics teachers were not well prepared to integrate ICT in the teaching of mathematics. The study further revealed that teachers faced major challenges such as expectation to develop their technological skills and knowledge as well as ICT use in their teaching without support. This resulted in poor attitude towards ICT that led to low levels of ICT integration in instruction.

Regional Perspective on Factors Influencing E-learning Preparedness

In Nigeria, Eze et al (2020) study explored factors influencing the use of e-learning by students in private HEIs in Nigeria using Technology-Organisation-Environment (TOE) framework. Data was collected using semi-structured interviews with fifteen (15) students from L-University drawn purposefully from the Landmark directory and a hybrid thematic analysis to analyze the data. Findings revealed that technology-related factors (ease of use, speed accessibility and service delivery), organisation-related factors (training support and diversity), environment-related factors (attitudes of the users) and impact-related factors (learning experience, skill development, academic performance, and degree of engagement) influenced the students' adoption of e-learning facilities.

In Kenya, Tsindoli & Opati (2018) study assessed teacher preparedness for the implementation of e-learning programmes in Emuhaya Sub-county in Kenya. The target population of the study was 664 class teachers from 83 public primary schools, each school providing eight teachers. Simple random sampling method was used to select 25 public primary schools from 83 schools in the sub- county. The sample size comprised 200 class teachers as respondents selected from middle and upper primary. Questionnaires were administered to class teachers and their responses presented in frequencies and percentages for the purpose of data analysis. The findings of the study revealed that teachers are not well prepared to implement e-learning programme therefore a lot of resistance to the programme. Teachers require sufficient time to prepare for integration into the new system of instruction. In order to address the problem teachers, need encouragement through pre-service and in-service training. The respondents encounter challenges such as computer illiteracy and phobia, lack of computers and e-learning classrooms, lack of electricity, financing of e–learning programmes, sensitization of stakeholders, accessibility and time for training, old age and attitude.

In South Africa, Coopasami et al (2017) [34] study assessed students' readiness to make the shift from traditional learning to the technological culture of e-Learning at a university in Durban. A quasi-experimental study design was employed to assess such readiness in first year nursing students before and after an appropriate educational intervention. A modified Chapnick Readiness Score was used to measure their psychological, equipment and technological readiness for the change in learning method. It was found that, while students' psychological readiness for e-Learning was high, they lacked technological and equipment readiness. Although e-Learning could be used in nursing education, technological and equipment readiness require attention before it can be implemented effectively in this institution. In Egypt, Ali (2016) study was aimed to assess readiness of nursing students for e- learning in El Dawadmee Applied Medical

Science, Shaqraa University. Cross sectional, descriptive research design was used to investigate readiness of nursing students for e-Learning among a purposive sample of 113 female nursing students. The data were collected by using two tools. The first was concerned with collecting data related to sample characteristics; the second was a self-administered questionnaire, concerned with assessing the students' readiness for the e-Learning. The study found that the majority of nursing students revealed total high score level of e-Learning readiness. Technology Acceptance's average score was the highest and the Motivation average score was the lowest. Further, the study found that nursing students of different academic level (3rd to 8th level) showed statistically indifferent average score of e-Learning readiness while, those with different preference to study through e-learning, showed statistically different average score of e-Learning readiness.

In Tanzania, Kisanga & Ireson (2015) barriers and strategies on adoption of e-learning in Tanzanian higher learning institutions, data was gathered from a series of semi-structured interviews with e-learning experts from two Higher Learning Institutions in Tanzania. The findings revealed five (5) major barriers were identified towards adoption of e-learning in Tanzanian higher learning institutions, these were: Poor infrastructure; financial constraints; inadequate support; lack of e-learning knowledge and teachers' resistance to change.

Mingaine (2013) study explored challenges in the Implementation of ICT in Public Secondary Schools in Kenya. A descriptive survey research design was adopted. Out of 350 public secondary schools in Meru County, 105 (30%) were sampled for the study. A total of 315 respondents were sampled through stratified and simple random sampling. Questionnaires were used as main instruments for data collection. Validity of the questionnaires was ensured through judgment of experts, while reliability was established through test and re-tests method during pilot study. Out of 315 questionnaires distributed, 220 (69.8%) were properly filled and returned. Data analysis employed both inferential and descriptive statistical techniques after which the results were presented in tables supported by some discussions. The result of the study indicated that limited supply of qualified teachers and high cost of infrastructure were impediments to implementation of ICT.

In Kenya, Ouma et al (2013) study investigated the preparedness of ten schools which benefited from ICT development funds within Rachuonyo South and Rachuonyo North districts. The survey examined the level of technical competency and computer literacy among teachers and students, their attitude and perception towards the use of e-learning. Descriptive research was used to obtain information concerning the level of e-learning implementation readiness and to describe the scenarios with respect to conditions in schools. Teachers' and students' computer literacy as well their perceptions and attitude towards technology were significant measures of e-learning implementation readiness. These research findings show that teachers and students are ready to embrace e-learning technology, but there is needed to enhance their technical capacity through training for successful e-learning adoption. Though most students accept e-learning, they lack basic computer skills required of them to effectively use e- learning platform. The study revealed a positive correlation between computer literacy and e-learning acceptance.

National Perspective on Factors Influencing E-learning Preparedness

Miyanda (2020) studied the effect of a web-based e- learning in Zambia for primary and secondary schools. The survey questionnaire was administered to pupils in urban and rural primary and secondary schools in Solwezi District. Data were analyzed using descriptive statistics with the aid of the statistical package. The piloted data were analyzed to calculate its reliability and special attention was given to relevance of survey questionnaire and clarity of instructions for this research. Results of the study showed that pupils have access to E-learning and their exposure to a great extent. The study revealed that majority of the respondents had mobile phones which had internet facility on them to access the on line lessons and had knowledge of the existence of a web-based e learning using phones and spent between thirty minutes to three hours per day. In addition, the study revealed that the use of e-learning had affected academic performance of the pupils negatively and that there was direct relationship between the use of new technology and the performance. Studies done by Mweshi et al, (2022) in Lusaka indicated that the challenge was experienced because of the varying degree of preparedness of the institutions, Staff, and students. Transitioning was a challenge because some of the lecturers and students did not have any background/adequate training in ICT or knowledge on how to use the different platforms or tools associated with eLearning. It is worth noting that despite its popularity, the curricula being transited to create e-learning instructions have not been altered and their design is also the same as that used in face-to-face settings. Mere regurgitation of materials extracted from books and classroom courses is a major error of e-learning curricula design. Irrespective of the divide on which seasoned educators are found, there is unanimous agreement on the huge differences that exist between e-learning and conventional classroom learning. In other words, there is a need for curriculum re-design specifically to accommodate online environments. The transition will require institutions to evaluate, redesign or adapt current curricula and develop methods that position the students as moderators of learning aided by tutors. This will require developing teaching materials and presentations in a digitally and student-friendly way that attempts to preserve the social context of a

classroom as this is critical to effective learning (Mweshi et al, 2022)

METHODOLOGY

The study was rooted in the interpretive paradigm. Interpretive research paradigm involves a qualitative approach to inquiry that seeks to understand and interpret the meanings individuals ascribe to their lived experiences, interactions and social phenomena (Denzin & Lincoln, 2018; Kalimaposo, 2010). Central to interpretive research is the notion of reflexivity which involves the researcher's awareness of biases, assumptions and perspectives and how these may influence the research process and findings. Studies in interpretive paradigm strive to engage in a continuous process of self-reflection and critical examination of their role in shaping the research process and interpreting data. The interpretive research paradigm is particularly well-suited for investigating social phenomena, cultural practices and subjective experiences where meanings are socially constructed and context-dependent (Denzin & Lincoln, 2018). By embracing a holistic and inductive approach to inquiry, interpretive researchers seek to generate rich, nuanced understandings of the phenomena under study, contributing to theory building and informing practical interventions (Creswell & Poth, 2018). Thus, the interpretive research paradigm offers a valuable framework for exploring the multifaceted nature of human experience and social reality through the lens of subjective interpretation, reflexity and contextual understanding.

This study involved a total sample size of 23 participants, viz, 10 pupils, 9 teachers, 2 head teachers and 2 specialists from the Curriculum Development Centre (CDC). The researcher used purposive sampling. According to Cohen, Manion & Morrison (2018); Fisher (2005) in purposive sampling the researcher uses his or her own judgment to choose participants in the sample. Purposive or judgmental sampling is a strategy in which particular settings, persons or events are selected deliberately in order to provide important information that cannot be obtained from other choices. Further, Cohen, et al. (2015) asserts that the power of purposive sampling lies in selecting information from richer sources such as experts in the fields of study and the ability to allow for in-depth analysis of qualitative data in order to determine central themes. Therefore, all participants were purposively selected because of their ability to provide information on their experiences of e-learning preparedness. Data were collected using interview guide and focus group discussion guide and data were thematically analyzed.

THE FINDINGS OF THE STUDY

The study was set out to explore the experiences of teachers and pupils on e- learning preparedness in selected urban schools of Lusaka, Zambia. The following themes and sub-themes emerged from the study.

Themes	Sub-themes
1. Lack of preparedness	• Unpreparedness on the part of the school, pupils and teachers. • Schools not ready to open during pandemics such as Cholera and COVID-19 • Low digital literacy among pupils & teachers • Poor internet connectivity
2. Insufficient ICT infrastructure	• Lack of computer lab. • Financial constraints to purchase ICT equipment. • ICT not given priority by school administrators & teachers • Lack of internet access
3. Poor connectivity	• Limited access to internet • Inadequate funds allocated for bundles • Disruption of internet connectivity. • Insufficient training of ICT teachers
4. Inadequate training of teachers on e-learning	• Resistance to e-learning platforms by teachers & pupils • CPDs on e-learning not a priority in schools
5. Load shedding	• Frequent load shedding disrupts lessons • Power frustrations during lessons • Lack of other sources of energy such as Solar

Teachers' experiences on e-learning preparedness in schools seem to suggest that teachers were not prepared to teach outside the traditional methods as seen during pandemics such as Cholera and COVID-19. During the lockdown, pupils were not learning as there was no alternative way of teaching pupils. Teachers had heard about e-learning but could not implement it due to lack of facilities in schools. Pupils also could not have participated due to lack of ICT gadgets. Asked about the use of e-learning in schools, teacher 1 from School A commented…*'During COVID-19, it was difficult for*

pupils to learn in schools because we didn't have alternative ways of teaching. We could have tried e-learning but we don't have the infrastructure and the required facilities such as computers and other gadgets. Our schools can only function when pupils report to schools physically (face-to-face learning). But e-learning is really good if the schools were provided with the required facilities.' (Teacher 1 from School A, 2024).

Teacher 5, from School A said *'Based on my personal experience, one of the primary challenges in preparing for e-learning implementation in Zambia is the digital divide. Many regions, especially rural areas, lack access to reliable internet connectivity and technological infrastructure and schools are not equipped with the 21st century e- learning'* (Teacher 5, School A, 2024).

Commenting on the same, head teacher from School B said… '*I don't think our teachers are competent enough to teach e-learning at this school. Further, the older generation of teachers doesn't seem to see the benefits of e- learning. We see it as costly and non-interactive with pupils. We also lack acceptance or preparedness of technology and the worst of all, we lack the knowledge on how to use the electronic gadgets to access e learning."* (Secondary School Head Teacher 1, School B, 2024).

During focus group discussions with pupils, some pupils bemoaned lack of access to internet and suitable devices for attending online classes. For instance, some pupils cannot afford smartphones or laptops. Additionally, power cuts pose a significant obstacle as e-learning requires access to devices with strong batteries or uninterrupted power supply. Some laptops are desktops, meaning they only function when plugged into electricity, leading to missed meetings during power outages. (Grade 11 pupils FGD. School B, 2024).

The second research question aimed at establishing the measures put in place on e-learning preparedness in selected schools of Lusaka.

On the views of teachers, pupils and head teachers on the measures put in place on e-learning preparedness in selected schools of Lusaka. The measures ensure quality education for all and promotes preparedness. The participants highlighted the following; building of ICT infrastructure, training of teachers for ICT teachers countrywide, Continuous Professional Development – CPD for all teachers on the usage of e-learning platforms, digital platforms- choosing suitable e-learning platforms in schools, content development, enhancing Continuous Professional Development of teachers on e-learning pedagogy. The following table shows the themes and subthemes that emerged from the data.

Themes	Sub-themes
1. Building of infrastructure	• Internet connectivity – back up plans • Installing important educational software • Cyber security measures • Digital technology literacy
2. Training of teachers on e-learning/ICT	• Use of ICTs • Training teachers & learners • Enhancing Continuous Professional Development (CPD) for teachers • E-learning assessment
3. Parental / Guardian involvement	• Orientation/training with parents/guardians on e-learning platforms
4. Continuous Professional Development	• Technology integration skills • E-learning teaching techniques • Feedback on e-learning assessments • Cyber security awareness • Communication skills • Leadership & advocacy • Change management

In an interview with a Head teacher from School A, he mentioned the strategies of promoting e-learning in schools. '*Strategies on e-learning preparedness like I said earlier is around infrastructure assessment. So you evaluate the existing technological infrastructure to ensure it supports e-learning and assess factors such as the bandwidth for internet*

and device capabilities for technical issues. And I think more importantly the training for teachers in digital equipment on in e-learning itself to ensure that they're comfortable with the platform and related tools that are required. (Head Teacher, School A, 2024)

In another face-to-face interview with another Head teacher he explained:

The Ministry of Education should beef-up the number e-learning facilities, like ICT buildings, the government should increase the funding to procure e-learning facilities, introduction of cell phones which are restricted in most schools. Another strategy is to make ICT a compulsory subject from primary to secondary schools. (Head Teacher, School B, 2024).

Views of Teachers

In a face-to face interview a teacher from School A said:

It's essential to address technical issues, like connectivity problems and engagement barriers in e- learning. Strategies like building ICT infrastructure, clear instructions on the usage of e-learning platforms, alternative resources, interactive elements, and motivational techniques can enhance the effectiveness e-learning." (Teacher 1, School A, 2024).

Commenting on the same, a teacher from School B said…"*e-learning is very good we should not just be using e-learning during pandemics like COVID19 and Cholera, the government should train teachers on the usage of e-learning /ICT or where there are problems sometimes we should try using it during the holidays with our pupils so that every pupil can get used to e-learning. Some teachers and pupils are not interested in using ICTs, the world is changing rapidly everyone should strive to know how to use these gadgets.* (Teacher 2, School B, 2024).

Teacher 3 from School A hinted that *…I genuinely think the government needs to come to our aid in this matter. Investing in material for students in e-learning is vital. Children are the future of this country. So this matter isn't one that should be taken lightly.*" (Teacher 3, School A, 2024).

Similarly, a teacher from School B added that…*Schools through the Ministry of Education should strive to create deals with network providers for cheaper Internet access for students*" (Teacher 4, School B 2024)

Adding to that, implementing regular assessments and feedback mechanisms is important for monitoring pupil progress and providing guidance on e-learning, Parents or guardians should be involved also. E- learning quizzes, assignments, and discussion participation can help keep pupils accountable and ensure they're staying on track with their learning objectives. Also, timely feedback from instructors is invaluable for guiding students in the right direction (Teacher 5, School B, 2024).

The government can be funding schools at a fee which can be making it easier for pupils to buy data so that they can be able to access e-learning education. The government can provide free WIFI routers to schools in Zambia to enable them to learn virtually and access information through e-learning."(Teacher 6, School A, 2024).

Implementing cyber security measures that protects pupil data and privacy, partnering with parents which ensures e-learning in a home environment, adapting lessons to multimedia (Teacher 7, School B, 2024).

'*The platform itself needs to be accessible in order to help solve the problem. One of the key things that we see now in the industry is that these facilities must be used by individual with disabilities and therefore things like screen readers, caption videos and so on try to promote inclusivity of you know the people that have got challenges*." (Teacher 8, School A, 2024).

So I think primary and secondary schools must provide their learners with gadgets (zed pads) that they can use to access school docs in such cases. The same way schools buy computers to put in their IT labs maybe if they can instead buy these tablets that can only browse academic content they would be helping a lot of people. When such things are bought and assigned to learners especially the less fortunate ones, classes would turn out to be very effective and learners would be focused on only that lesson because these school tablets can only open educative browsers." (Teacher 9, 2024).

Views of Curriculum Expert

'*In Zambia we should take e-learning as an urgent need, the strategies involve infrastructure development, curriculum alignment to suit the e-learning delivery, supportive policies like guidelines and policies on e-learning, assessments on e-learning, parent- pupil- teacher involvement, monitoring and evaluation on e-learning on the effectiveness on e- learning*' (Curriculum Expert, 2024). This agrees with Phiri (2022:517) observation on curriculum: "education policy reforms in Zambia are not linked to the next, in backward and forward loops, and the process as whole has no definite beginning or end". This shows that the views of experts on curriculum are correct.

Views of Pupils

In a focus Group Discussion, a pupil at School A had this to say on the strategies:

I do suggest creating platforms for easy access. As well as having accessible fast internet for pupils. I think network providers can help too. They could create bundle packages to facilitate e-learning. And these bundles would only be for e-learning alone. The same way they offer social media packages on their own you know? Also, the majority of the students here rely on their classmates who have access to gadgets. So, remembering such pupils also would help and I think they could provide gadgets for use in e-learning. Like the zed-u-pad. It was a tablet. But a tablet created specifically for education purposes. So, I think having these provided to such can help us as pupils" (FGD, School A, 2024).

On female said '*They should introduce workshops on e-learning for teachers in all schools so that they become more acquainted with e-learning.*' (Pupil 2, School A).

Sir, mmmm... I think we need change of mind set as pupils and as a country and it depends on us, things are now changing, our friends in developed countries use e-learning, which is very helpful especially during Cholera and COVID 19 outbreaks. Our problem is our mindset are used to physical learning. Sir, we are behind in finishing the syllabus because of cholera from January to February (FGD, School B, 2024).

Experiences of teachers and pupils on e-learning preparedness

Based on the study findings on teachers and pupils' experiences on e-learning preparedness in selected schools of Lusaka district they explained the bad experiences facilitating the challenges such as issues of connectivity- access to internet, few trained teachers in ICT and e-learning platforms, lack of social justice in the learning process as pupils from poor families cannot afford to buy electronic gadgets. A few pupils have handsets with internet connectivity. Also, the study showed that some teachers did not have a clear understanding of what e-learning was about, which questions the quality of e-learning processes. The study further indicated that the schools were not prepared for e-learning and had a lot of challenges in incorporating e- learning in the schools especially during pandemic like COVID 19 and Cholera in March, 2024 (Daka, Mugala, Mulenga-Hagane, & Kalimaposo, 2022). Additionally, in agreement with Phiri (2022), it appears incompetence by key actors in the education sector, or it may be due to inadequacies in infrastructure such as fewer classroom space for learners in e-Learning. Further, in agreement with Phiri (2022), lack of social justice in education is another factor that has contributed to e-Learning challenges to learners in urban schools. Here, social justice is based on values around humanity and dignity of all people (Phiri, 2022; Kalimaposo, Daka, Ndubakwenda, Phiri & Kaulu, 2024). It is the embodied values of justice and equality (Phiri, 2022; Kalimaposo, Mulubale, Daka & Kaumba, 2023) lacking in education affecting e-learning preparedness in urban secondary schools in Zambia.

This study is also in agreement with (Mweshi, 2022) findings in Lusaka which indicated that the challenges were being experienced because of the varying degrees of preparedness of the institutions, staff, and students. Transitioning was a challenge because some of the lecturers and students did not have any background and adequate training in ICT or knowledge on how to use the different platforms or tools associated with e-Learning. It is worth noting that despite its popularity, the curricula being transited to create e-learning instructions have not been altered and their design is also the same as that used in face-to-face settings. Mere regurgitation of materials extracted from books and classroom courses is a major error of e-learning curricula design.

On the contrary, this study by (Mweshi, 2022) focused more on university students. The study findings are also contradicted the findings by Miyanda (2020) who studied the effect of a web-based e-learning in Zambia for primary and secondary schools. The survey questionnaire was administered to pupils in urban and rural primary and secondary schools in Solwezi District. Data were analyzed using descriptive statistics with the aid of the statistical package. The piloted data were analyzed to calculate its reliability and special attention was given to relevance of survey questionnaire and clarity of instructions for this research.

Ministry of Education e-learning Policy- Education Contingency Plan (ECP) – 2022

The government through the Ministry of Education and its partners developed and have been implementing the Education Contingency Plan to respond and mitigate the impact to learn through printed learning packages, radio, television, e-learning using computers, phones and internet. However, the reality on the ground is that most of the pupils are from distant places especially in the rural areas. Further, the policy revealed that in Zambian schools, there is lack of trained ICT teachers, lack of electricity and load shedding of power by the Zambia Electricity Corporation (ZESCO).

CONCLUSION

The study has shown a number of e-learning challenges faced by pupils in the selected Lusaka urban secondary schools. Of concern is the lack of preparedness in offering e-learning programmes to pupils caused by various factors, namely lack of infrastructure, social justice in education as well as the lack of navigating strategies to enhance e- learning facilities. This observation is supported by Kalumba, Phiri et al (2023) who argue that, often use of strategies such as building networks, seeking out mentors and sponsors, and developing their own expertise to overcome the challenges they face in schools are missing. The authors recommend to offer training and development. This infers that organizations should offer training and development opportunities that help teachers build the skills and knowledge needed to succeed in decision-making roles needed for e-learning purpose (Kalumba 2023; Kalimaposo, et al., 2023). This could include leadership training, communication skills training, and technical training in areas related to their work and e- learning processes.

REFERENCES

1. Albion, P. R. (2001). Some factors in the development of self-efficacy beliefs for computer use among teacher education students. *Journal of Educational Technology & Society*, 14(4), 77-87.

2. Abukhzam, M., & Lee, A. (2010). Workforce attitude on technology adoption and diffusion. *The Built and Human Environment Review*, 3 (1), 60-71

3. Abdullah S.M, Toycan M. Analysis of the Factors for the Successful E-Learning Services Adoption from Education Providers' and Students' Perspectives: A case study of Private Universities in Northern Iraq, *EURASIA Journal of Mathematics, Science and Technology Education.* 2017; 14(3):1097-1109.

4. Agiorgitis G. ICTs use in the public Greek Primary Schools: The teachers' experiences, s.l.: Linnaeus. University, 2017.

5. Ahmed S.K. The pillars o f trustworthiness in qualitative research. *Journal of Medicine, Surgery, and Public Health*. 2024; 2:257.

6. Akaslan D, Law ELC. Measuring student e-learning readiness: A case about the subject of electricity in higher education institutions in Turkey. In Proceedings of the 10th International Conference on Advance, 2011.

7. Akaslan D, Law ELC. Measuring teachers' readiness for e-learning in higher education institutions associated with the subject of electricity in Turkey. In Proceedings of 2011 IEEE Global Engineering Education Conference: Learning Environments and Ecosystems in Engineering Education (pp. 481-490). Amman, Jordan, 2011.

8. Al-Awidi H, Aldhafeeri F. Teachers' readiness to implement digital curriculum in Kuwaiti schools. Journal of Information Technology Education: Research. 2017; 16:105- 126.

9. Aldhafeeri Fayiz, Khan Badrul. Teachers and Students Views on E-Learning Readiness in Kuwaits Secondary Public Schools. *Journal of Educational Technology Systems.* 2016; 45:202-235. Doi: 10.1177/0047239516646747.

10. Alhomod S, Shafi MM. Success Factors of E-Learning Projects: A technical Perspective. The Turkish Online Journal of Educational Technology – April 2013. 2013; 12(2).

11. Ali M, GE. Nursing Students' Readiness for e-Learning Experience, Gynecology & Obstetrics, Research Article. 2016; 6(5-6):1-6.

12. Ashraf, Khan AT, Rehman UI. E-Learning for Secondary and Higher Education Sectors: A Survey. (IJACSA) International Journal of Advanced Computer Science and Applications. 2016; 7(9).

13. British Journal of Educational Technology. Vol 38 No. 38 pp. 896-906.

14. Bwalya, M.B, Nakamba J. Analysis of the Challenges and Opportunities of E-Learning for Rural and Remote Schools in Zambia: Case of Mumbwa District. The *International Journal of Multi-Disciplinary Research*, 2015.

15. Charmaz K. Premises, Principles, and Practices in Qualitative Research: Revisiting the Foundations. Qualitative Health Research. 2004; 14(7):18.

16. Cohen L, Manion L, Morrison K. Research methods in education. London: Routledge, 2011.

17. Compeau, D.R. & Higgins, C.A.(1995). Computer self-efficacy: Development of a measure and initial test. MIS Quarterly,19 (2)189-211

18. Dunn, K.E. & Rakes, G.C. (2011). Teaching teachers: An investigation of beliefs in teacher education students. *Learning Environment Research*, 14(1),39-58

19. Eze SC, Chinedu-Eze VCA, Okike CK. Factors influencing the use of e-learning facilities by students in a private Higher Education Institution (HEI) in a developing economy. *Humanity Social Science Communication*. 2020; 7:133.

20. Farazkish M, Montazer GA. E-Learning Readiness among Faculty Members of Iranian Universities: A Survey of 23 Universities. *Interdisciplinary Journal of Virtual Learning* Med Sci. 2019; 10(4):54-64.

21. Gannon. Contemporary Research Paradigms. University of Edinburgh, Edinburgh, 2022.

22. Ghavifekr S, Rosdy WA. Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science* (IJRES). 2015; 1(2):175-191.

23. Gunga S, Rickets Ian. Facing the Challenges of e-learning initiatives in Africa, 2007.

24. Goddard, R.D. & Skria, L. (2006). The influence of school social composition on teachers' collective efficacy beliefs. *Educational Administration Quarterly,* 42(2), 216-235.

25. Hamood AC. Educational Research Philosophy and Application.Barsrah: University of Basrah Press, 2021.

26. Hogarty, K., Lang, T.R. & Kromrey, J.D. (2003). Another look at technology use in classrooms: The development and validation of an instrument to measure teachers' perceptions. Educational and Psychological Measurement, 63 (1), 139- 162.

27. Hong-Ren Chen, Hsiao-Fen Tseng. Factors that influence acceptance of web-based e-learning systems for the in-service education of junior high school teachers in Taiwan, Evaluation and Program Planning. 2012; 35(3):398-406.

28. Hung, Y-W., & Hsu, Y-S. (2007). Examining teachers' CBT use in the classroom: A study in secondary schools in Taiwan. Journal of Educational Technology & Society, 10 (3), 233-246.

29. Hussein M. The Research Philosophy Dilemma. International Journal of Research and Scientific Innovation. 2020; 6(4).

30. Jones R. Local and national ICT policies. International Society for Technology in Education, 2003, 163-194.

31. Kalimaposo, K., Mubita, S., Hambulo, F., Mubita, K. (2025). 'Continuous professional development for teachers: A reflection on teacher experiences in selected schools in Kabwe District, Zambia.' *International Journal of Social Science and Education Research Studies.* Volume 5. Issue 7. ISSN: 2770-2790. Pp: 737-745 DOI: https://doi.org/10.55677/ijssers/V05I07Y2025-08.

32. Kalimaposo, K., Daka, H., Ndubakwenda, H., Phiri, C., Kaulu, G. (2024). 'Opportunities and challenges of school based assessment during COVID-19 pandemic in Lusaka Urban Schools.' *International Journal of Research and Scientific Innovation.* Volume 11. Issue 1. ISSN: 2321-2705. Pp: 65-78 https://doi.org/10.51244/IJRSI

33. Kalimaposo, K., Moono, S., Daka, H., Mulubale, S., Kaumba, C., Mphande, F. (2023). 'Perceived challenges of ICT as an examinable curriculum subject in rural secondary schools: Voices of teachers and learners in Southern Zambia.' *European Journal of Education Studies.* Volume 10. Issue 10. Pp: 199 – 219. ISSN: 2501-1111. DOI: 10.46827/ejes.v10i10.5015. www.oapub.org/edu

34. Kalimaposo, K., Mulubale, S., Daka, H.,Kaumba, C. (2023). 'Education in Austerity: Exploring parental participation in supporting community schools in two villages of Eastern Zambia.' *International Journal of Social Science and Education Research Studies. V*olume 3, Issue 7, July 2023. Pp: 1236 – 1243. ISSN (online): 2770-2790. DOI:https://doi.org/10.55677/ijssers/V0317Y2023-11.

35. Kalimaposo, K., Mulubale, S., Daka, H. & Kaumba, C. (2023). 'Education in Austerity: Exploring parental participation in supporting community schools in two villages of Eastern Zambia.' *International Journal of Social Science and Education Research Studies.* Volume 3, Issue 7, July 2023. Pp: 1236 – 1243. ISSN (online): 2770-2790. DOI:https://doi.org/10.55677/ijssers/V0317Y2023-11.

36. Kalimaposo, K., Chidakwa, F., Mubita, K., Mulubale, S. & Kaumba, C. (2023). 'Pedagogical experiences of student teachers and teacher educators on teaching practice in selected colleges of education in Zambia.' *International Journal of Social Science and Education Research Studies.*

Volume 3, Issue 6, ISSN (online): 2770-2790. Pp. 1110 – 1116. DOI: https://doi.org/10.55677/ijssers/V0316Y2023-17,

37. Kalimaposo, K. & Kaumba Chivunda (2023) 'Issues associated with excessive use of lecture method as a teaching technique among teachers in secondary schools of Lusaka, Zambia.' *Iconic Research and Engineering Journals* (IRE. Paper ID 1704608) Volume 6, Issue 12, ISSN: 2456-8880, June 2023. Pp. 99 – 107. irejournals@gmail.com

38. Kalimaposo, K. & Mulubale, S. (2015). Perspectives of pupils, teachers and school administrators on the use of participatory teaching approaches in selected schools of Lusaka, Zambia. 4th UNAM Annual Education Conference tagged Zambezi.'

39. Kalimaposo, K. (2010). The impact of curriculum innovations on pre-service primary teacher education in Zambia. PhD Thesis, University of Zambia.

40. Kalumba, M., Daka, H., Kalimaposo, K., Phiri, C., Mulenga-Hagane, L.M., Mugala, A. (2023) Navigation Strategies by Women into Decision-Making Positions in the Ministry of Education, Zambia. *European Journal of Development Studies.* 3(3):147-155. Doi: 10.24018/ejdevelop.2023.3.3.276.

41. Kiilu Redempta, Muema Elizabeth. An E-Learning Approach to Secondary School Education: E-Readiness Implications in Kenya. *Journal of Education and Practice.* 2012; 3(16):142-148.

42. Kisanga D, Ireson G. Barriers and strategies on adoption of e-learning in Tanzanian higher learning institutions: Lessons for adopters, *International Journal of Education and Development using Information and Communication Technology* (IJEDICT). 2015; 11(2):126-137.

43. Konayuma G. A Study of the Enablers and Challenges in the Implementation of e-Learning Policies in Technical Education, Vocational and Entrepreneurship Training Colleges in Zambia, Cape Town: University of Cape Town, 2015.

44. Kozma R. National policies that connect ICT-based education reform to economic and social development. Human Technology. 2005; 1(2):117-156.

45. Kreps D, Kimppa K. Theorising Web 3.0: ICTs in a Changing Society. Information Technology & People. 2015; 28(4):726-741.

46. Kyngäs H, Kääriäinen M. The trustworthiness of content analysis. The application of content analysis in nursing science research, 2020, 41-48.

47. Lietz CA, Zayas LE. Evaluating Qualitative Research for Social Work Practitioners. Advance in social work. 2010; 11(2):188-202.

48. Lincoln, Y.S, et al.(2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. *The Sage handbook of qualitative research*, 2011, 97- 128.

49. Ma, W. W-K., Anderson, R., & Streith, K. (2005). Examining user acceptance of computer technology: An empirical study of student teachers. *Journal of Computer Assisted Learning,* 21(6), 387-395.

50. Marcinkiewwicz, H.R. (1994). Subjective norms predicting computer use. Paper presented at the proceedings of selected research and presentations, National Convention of the Association for Educational Communications and Technology, pp.519-524.

51. Marilynne Coopasami, Stephen Knight, Marí Pete. e- Learning readiness amongst nursing students at the Durban University of Technology, Health SA Gesondheid. 2017; 22.

52. Michelsen Institute. Corruption in the Education Sector.U4 Anti-corruption resource Centre, u4, 2006.

53. Mingaine L. Leadership Challenges in the Implementation of Ict in Public Secondary Schools. Journal of Education and Learning, 2013.

54. Ministry of General Education (MoGE). National E-learning and Smart Revision Portal, s.l.: s.n, 2020.

55. Miyanda M. Design and Implementation of a Web-Based E-Learning in Zambia for Primary and Secondary Schools: A Case Study of Selected Urban and Rural Schools in Solwezi District. *The International Journal of Multi-Disciplinary Research,* 2020, 1-58.

56. Mphande, F., Kalimaposo, K., Phiri, C., Tembo, P. & Mwale, M. (2024). 'Experiences of teachers and pupils on e-learning preparedness in selected urban schools of Lusaka District, Zambia.' An interpretive phenomenological study.' *International Journal of Advanced Multidisciplinary Research and Studies.* Volume 4. Issue 4. Pp: 672-685. ISSN: 2583-049X. DOI:https://doi.org/10.62225/2583049X.2024.4.4.4.3091.

57. Mubita, K., Mundende, K., Milupi, I. & Kalimaposo, K. (2023).'Teachers and pupils' perspectives on teaching and learning of Geography in selected schools of Luapula and Lusaka provinces of Zambia: Benefits, Challenges and Prospects. *International Journal of Social Science and Education Research Studies,* 3 (4), pp.588-593. ISSN (On-line): 2770-2790. DOI: https://doi.org/10.55677/ijssers/V)314Y2023-08,

58. Mundende, K., Mubita, K., Milupi, I & Kalimaposo, K. (2023). 'Re-engineering the teaching and learning of Geography in six selected secondary schools of Livingstone District, Southern Province, Zambia.' *International Journal of Social Science and Education Research Studies.* Vol. 3, Issue 4, April, 2023. PP; 701 -713. ISSN (Online): 2770-2790. DOI:https://doi.org/10.55677/ijssers/V0314Y2023-22,

59. Muyabi, P., Kalimaposo, K., Mubita, K., Mulubale, S., Haambokoma, N., Milupi, I and Mundende, K. (2022). Parental Involvement in Reducing Learner Absenteeeism in Selected Primary Schoos of Kazungula District in the Southern Province of Zambia. *International Journal of Research and Innovation in Social Science* (IJRISS) Vol. VI, Issue IV, April 2022, ISSN 2454-6186. (www.rsisinternational.org). pp. 207-214

60. Mwanamwambwa, V., Kalimaposo, K., Mubita, K., Sikayomya, P., Muyangana, A., and Haambokoma, N. (2021). Homework policy implementation in selected primary schools of Kalabo District in Western Province of Zambia: Prospects and Challenges. *International Journal of Research and Innovation in Social Science* (IJRISS) Vol. V, Issue X, ISSN 2454-6186. (www.rsisinternational.org). pp. 101- 108.

61. Neyland Edwina. Integrating online learning in NSW secondary schools: Three schools': Perspectives on ICT adoption. *Australasian Journal of Educational Technology.* 2011; 27:152-173. Doi: 10.14742/ajet.989.

62. Nikolopoulou K. What is convenience sampling? Definition & examples, 2022. Retrieved from: https://www.scribbr.com/methodology/convenience-sampling/.

63. Player-Koro, C. (2012). Factors influencing teachers' use of ICT in education. *Education Inquiry,* 3 (1), 93-108.

64. Qazaq A, NM. A Study on Readiness and Implementation of E- Learning Among Academic Staff at Jordanian Institutions of Higher Education, 2012, 300-306.

65. Raziyer G. International Journal of Advanced Biotechnology and Research. 2016; 7(4):1914-1922.

66. Saunders M. Understanding Research Philosophies and Approaches. University of Birmingham, Birmingham, 2009.

67. Shenton AK. Strategies for ensuring trustworthiness in qualitative research projects. Education for information. 2004; 22(2):63-75.

68. Simamuna L. M. and Kalimaposo, K. (2016). 'Factors affecting teaching and learning of Home Economics in the integrated Primary Curriculum: A Study of Selected Primary Schools in Lusaka Province of Zambia.' *International Journal of*

Multidisciplinary Research and Development. Volume 3, Issue 11. November 2016. Pp. 9-16.

69. Singh G, Hardaker G. Barriers and enablers to adoption and diffusion of e-Learning: A systematic review of the literature - a need for an integrative approach. Education Training. 2014; 56(2/3):105-121.

70. Sintema EJ. E-Learning and Smart Revision Portal for Zambian Primary and Secondary School Learners: A Digitalized Virtual Classroom in the COVID-19 Era and Beyond. Aquademia. 2020; 4(2).

71. Teo, T., Chai, C.S., Hung, D., & Lee, C.B. (2008). Beliefs about teaching and uses of technology among pre-service teachers. *Asia-Pacific Journal of Teacher Education,* 36 (2), 163-174.

72. Voogt, J. (2010). Teacher factors associated with innovative curriculum goals and pedagogical practices: differences between extensive and non-extensive ICT using science teachers. *Journal of Computer Assisted Learning*, 26 (6), 453-464.