Teacher Perceptions and Professional Experience of E-Learning and Practical Subjects: Views of Selected Teachers in the Shiselweni Region of Eswatini

Epilogue Jedishkem[1*], Patience Dlamini (Ph.D.),[2] Jesfaith Jedishkem[3]
1. Ngwane Teachers College, Eswatini
2. Institute of Distance Education, University of Eswatini, P/Bag 4 Kwaluseni, Eswatini
3. Freelance Research Artist, Eswatini
[*]Email of the corresponding author: jejedishkem@gmail.com

Abstract
Several institutions amplected the tremendous variants technology offers in the advent of the covid-19 outbreak, bringing a paradigm shift in various fields regardless of digital competence and availability of resources. Many sectors, education inclusive had to adjust to the "new normal" transforming education drastically with a distinctive rise of e-learning as a pandemic management tool for tumultuous circumstances. E-learning was globally promoted to replace the conventional approach whereby teaching was undertaken remotely on digital platforms (Dhawan, 2020; Li & Lalani, 2020). The study evaluated primary teacher perceptions of the effectiveness of e-learning on practical subjects in 10 selected primary schools in the Shiselweni region of Eswatini. Practical subjects focus on two parts, theory and practice but practical sessions have huge significance in the learning process. Practical subject teaching posed a challenge to teachers during the covid-19 outbreak. The study was investigated by the baseline approach because it flags concerns by showing positive and negative impacts created during and after the study. Twenty-five (25) teachers were surveyed by convenience, snowballing, and random sampling procedures. Data interpretations epitomize that although the outbreak led to the sudden shutdown of schools, which was unprecedented, teachers managed to disseminate lessons by exploring different communication channels to connect learners, teachers, and parents. These were tailored toward the schedules and needs of families to ensure educational continuity. Engagement tools considered and utilized were messaging groups like WhatsApp, online conferences, e-mails, media, and other social media platforms to cater to all-inclusive instruction (UNICEF Romania, 2020). Teachers had fairly good knowledge of their subject content but no mastery over electronic tools for e-learning. E-learning demands acquired or learned skills, determination, strong self-motivation, and time management from both the teacher and learners. Amplecting newer educational technologies take time to implement effectually hence, a combined effort from the ministry of education, institutional management, teachers, and learners' inclusiveness is of paramount importance. The study recommends that teachers must grow and learn along with their learners for added benefits as the world advances.
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1. Introduction

Education is a lifelong process that should not be discontinued or limited by unprecedented events or challenges, either within or outside any learning environment. It is an integral part of life, deliberately carried out by family, community, and government to guide, teach and train individuals to be responsible for themselves, society, and their country (Gumantan *et al.,* 2021). In educational circles subject areas that give an all-encompassing education to a person are the practical subjects (visual arts, music, physical education, home economics, drama, and dance). A vocational analysis by Winberg and Hollis-Turner (2021) revealed that practical subjects have different knowledge forms that are purposefully integrated into curricula with a range of pedagogies, activities, and learning experiences. In curriculum building, students are required to be engaged in varied episodes of practice that link knowledge forms. The role played by practical subjects is essentially necessary for it has collaborative approaches that embrace digital literacy to develop persons to be creative, critical thinkers, and problem solvers for survival and existence. In the facets of intelligence, it builds the intellect, emotions, adversity, and creative quotients of an individual. To buttress this point, Mandimika (2021) added that practical education prepares one to triumph in the "global arena" by providing them with competencies and realistic skills applicable to actual happenings or adaptations needed for quotidian challenges (Stirling Institute of Australia, 2018). Similarly, it builds on theoretical knowledge, impacts deeply on the individual, and increases understanding for greater retention of knowledge needed to fill the skills gap in industries. The application of practical knowledge is the dependent variable needed to succeed in the current economy regardless of a university degree. The practicality of practical subject gives poignant insight and skills relevant to excel

irrespective of location. Moreover, in a world economic forum, a leading organization stated the needed future skills required to survive the present and future economy. They pinpointed creativity, critical thinking, complex problem solving, ability to coordinate with others, and people management as high demand in the workforce (Wagner, 2018) these are attributed to practical education.

2. Review Of Related Literature

In alignment with the aforementioned vision, exposure to practical skills at an early age improves dexterity and prepares children with the needed skills apt to adapt, this is vital for the sustenance and growth of oneself, society, and country. This can be achieved with the tactful guidance of a professional educationalist to impact such knowledge and skill (Bhebhe & Maila, 2016). Kingon of Northern Ireland with supplementary evidence asserts that practical subjects develop skills and support independent or experiential learning and many other ways (Kingon, 2021). Artfully exposing children to practical skills enables them to respond to their natural environment in many ways because there are structured activities that help them to develop joy, confidence, and self-reliance when tasks are executed. They learn to respect others and space while developing collaborative and social skills. As they grow the activities increase in complexity stretching their intelligence and abilities that extend to the cycle of work which demands organizational planning, task initiation, functioning skills, self-regulation, emotional control, and managing conflicts as observed by Wagner (2018). Curriculum changes require changes in educational methods and effective educators must be ready to integrate the necessary changes regardless of time, place, space, and mode of delivery. With the perpetual winds of change blowing, it is a prerequisite for the educational sector to have educators who have mastery not only over curriculum and class but educators who can respond to the needs of the everchanging waves of the technological age to attain high-quality education. The conventional pedagogic approach has been prioritized as the mode of delivery for centuries up until the covid-19 pandemic, bringing a paradigm shift to all sectors. Traditional classroom education offers the benefit of in-person interactions with peers and instructors. It provides children, especially those in their early developmental years, with a stable environment for social interaction, and skill development such as boundary setting, empathy, and cooperation. It also allows plenty of room for spontaneity, unlike a virtual learning setup (Naveen, 2021).

2.1 Learning During Covid-19

The outbreak of the pandemic moved countries worldwide to look beyond conventional approaches and seek effective and innovative ways to keep educational and economic affairs running (Bohak Adams & Metljak, 2022). Advancement in technology has affected many sectors, including education but not limited to the sciences but to practical subjects as well. Technology with the mediation of the internet is of prodigious importance to the field of education, it brings ease to learning and acquiring meaningful information to educators and students. It has proven to be effective in instructional delivery and producing meaningful outcomes with immeasurable techniques, materials, tools, and equipment at disposal (Tetikci *et al.,* 2021). With e-learning topping the list of technological choices, several institutions amplected the tremendous variants it offers regardless of digital competence and availability of resources (Cybint Author, 2020). E-learning was meant for learners with health-related concerns hence the outbreak of the pandemic summoned all to embrace the infinite potential of e-learning (Brom *et al.,* 2020). Consequently, the teaching field had to face the new normal, dissemination of knowledge across borders via electronic modes, Eswatini inclusive. E-learning is learning utilizing electronic technologies to access educational curricula outside of a traditional classroom. E-learning is technology based and primarily focuses on learning remotely (Bajaj, 2020). According to global reports, the profound outspread of the pandemic led to the closure of many schools worldwide hence, 1.5 billion children were out of the classrooms and over 40% had no internet access due to remote locations, although, learning depended on digital access and technologies (UNESCO, 2020). To ensure inclusive and effective education with technologies, it is essential to employ various tools for effectual delivery to ensure educational achievements (Ananga, 2020). It is not unusual for children in Europe, America, and Asia to access lessons on digital gadgets and resources whereas many others in less privileged deprived countries rely on WhatsApp, television, and radio, making this a professional challenge to educators in less privileged environments to implement. Although e-learning offers ease, flexibility, and the ability to remotely access a classroom in the student's own time and pace, learners may feel a sense of isolation in a room, therefore, requiring discipline and self-motivation (Gupta, 2017). Larson-Daugherty and Walker added that a school provides structure, support, and a system of rewards and penalties to groom its students (Larson-Daugherty & Walker, 2010).

2.2 The Use Of E-Learning On Practical Subjects

E-learning may provide theoretical needs and training but may not be able to provide the required practical guide and skills needed in practical sessions to primary pupils who need to be guided in their learning. Practical subject educators in the United States addressed the need for in-person sessions with their students because it harnesses

the experience of the learners with conceptual and procedural order to execute a task and without it, the basics were missed (Bohak Adams & Metljak, 2022). Although technology is helpful there are grey areas regarding its sole use in these fields. E-learning misses the in-person approach which is a huge motivation for learners. Mohebi and Meda (2021) argue that electronic integration into education can be a challenge due to intrinsic (teaching beliefs, established classroom practices, beliefs about computers, reluctance to change) and extrinsic (inadequate technical and administrative support, lack of electronic tools, gadgets, and software, insufficient time to plan instructions, less physical activity in online learning for students) factors. Through the tactile approach, children learn best when they do, move, and touch enabling the teacher to teach effectively. One of the utmost disadvantages of e-learning is the limited interactivity between learners and their instructors, teaching children requires adult supervision which is tantamount to practical subject teaching. Jinyoung (2020) added that e-learning might not be an appropriate means to engage pupils because they require more hands-on activities and interactivities to enable learning, therefore, it is expedient that e-learning goes hand-in-hand with the conventional method to make learning easy and accessible, especially for practical subject teaching. Many empirical studies show that actual engagement in practice in any subject has a positive effect on enhancing students' learning (Zhao *et al.,* 2021; Hinchcliff & Newberry, 2021). However, due to unforeseen circumstances, such as covid-19, practical subjects had to switch to electronic platforms for content deployment. One major drawback was that this space lacked the natural student-teacher and student-student interaction as they experienced precritical times. The lack of interactivity and personal involvement deprived students of the motivation that comes with peer interaction, especially with young learners. Furthermore, this defeats the purpose of learning a practical subject as Ramirez-Lopez and Muñoz (2015) observed, that the optimal learning situation is the student-teacher and student-student interactions in practical work. The study was guided by three objectives, first was to elucidate practical teacher perceptions and professional experiences of e-learning, the second was to discover the impact e-learning had on teaching, learning, and practical subjects, and finally to find out if e-learning met all learners' styles in the subject area. From the objectives, the researchers were able to derive specific research questions that the study sought to answer; What are practical teacher perceptions and professional experiences of e-learning? What impact has e-learning had on teaching, learning, and practical subjects? How far does e-learning meet all learner styles in practical subjects?

3. Methodology

A baseline study approach was adopted, according to International Council on Mining and Metals (2022), a baseline study provides a detailed description of the status quo of a situation of a particular population. It flags concerns by showing positive and negative impacts created during and after the study. For monitoring, data collection, and presentation it gives a clear image of the situation (Wieners, n.d.). The purposive sampling approach was adopted to select practical subject teachers in primary schools since they were in a better position of giving valid, substantial, and helpful information about the effect of e-learning on teaching and learning of practical subjects during the covid-19 pandemic. Also, the convenience sampling method was used to contact three already-known teachers due to the proximity and availability. Lastly, due to the covid-19 schools' lockdown, the snowball sampling approach was implemented to get the 3 previously-known teachers to connect to other teachers. The population was 25 practical subject teaching teachers (15 females and 10 males) whose ages ranged from 20 to 50 plus in 10 primary schools in the Shiselweni region of Eswatini. The data collection means was a survey (Likert-type with its scales) that was then disseminated, processed, and analyzed descriptively. Descriptive data were presented in statistical attributes of numbers and valid percentages.

4. Results And Discussions

This section discusses the results of the study by first addressing the demographical background of the teachers. In the educational system, Bohak Adams and Metljak (2022) emphasize that experience and years in service are essential to the quality of dissemination of knowledge considering the personality, professionalism, and social attributes of the teacher. The teaching experiences of teachers ranged from 0 to 25 plus years, with 10 teachers in service within 0 to 5 years, whereas 11 have had 6 to 15 years of skill, and 4 teachers had worked for 16 to 25 years but there was no teacher exceeding 25 years of working experience. Schools without teachers cannot be run whereas teaching can neither be achieved if there are no learners, but for quality education to take place the number of learners determines the productive output of the teacher. In the South African public school system, it is expedient that the recommended learner-educator ratio be 30:1 according to Kosie from South Africa (Kosie, 2022) while 15:1 is recommended in United States public primary schools (Public School Review, 2022). From the data, 5 teachers had the recommended figure of 30 or fewer learners; seven (7) others had a collection of 30 to 40; whereas 40 to 50 learners occupied the classrooms of 7, and 6 had a group of 50 plus respectively. From the class sizes of the selected teachers, it is recognizable that 80% of the classrooms are overcrowded, Meier and West (2020) opined that overcrowding in Southern African classrooms is a result of inadequate infrastructure and teacher shortages which affects assessments and quality education.

4.1 Digital Competency And Knowledge Of E-Learning Platforms

Before the data on teachers' digital competencies, reviewed literature posits that a teacher's professional development is essential and must be a lifelong process that must evolve with change. The teacher must view things differently and be the custodian of his development to be effective at duty. To successfully disseminate knowledge across borders technologically, teachers' digital literacy ought to be based on understanding and compatibility with technologies (Gupta, 2017). Ferrari (2012) stated that literacy implied the knowledge and basic skill associated with books, but the emergence of technologies has changed its meaning. Digital competence is the confident use of digital tools to assess, retrieve, store, produce, present, exchange information, communicate, participate, and engage in a collaborative network via the internet.

The twenty-first century encourages one to be conversant with modern technologies and e-learning has been widely promoted to replace conventional learning due to the covid-19 pandemic to enable young children to learn through media (Dhawan, 2020) and Eswatini also adapted to this form of reaching learners at home for learning electronically is better than not learning at all. According to the data outcomes, teachers defined e-learning as learning through media and the examples given was learning through radio, television, and social media (WhatsApp). Electronic learning is employing electronic technologies to access or deliver knowledge via the internet other than the conventional classroom where instructors teach (Bajaj, 2020) or educating through printed modules, radio, and television broadcasts as alternatives due to digital divide issues (UNESCO, 2020; 2021).

A representation of 92% of teachers apprehended computer software and electronic applications. 40% had a thorough understanding of the internet and the world wide web whereas (15) 60% were not capable. Though 92% acknowledged they understand computer software and electronic applications, a glance at the 60% who did not thoroughly apprehend the internet and the world wide web displays inequality in digital skills. This may mean they may have the digital devices but not have the digital skill or capabilities to effectively use them let alone to deploy content or engage learners effectively (Lynch, 2020). Characteristics such as age, educational level and experience, gender, inexperience with computers and unexposed to technology, personal attitudes, and beliefs toward technology can result in an incapability to understand technical issues and usage (Yanti & Setiawan, 2018). It is then conclusive that some teachers were digitally competent in the usage of communicating devices and applications to inform. A thorough understanding of digital tools clarifies the existing needs of all citizens and recognizes where actions are needed to be taken to increase competence levels (Ferrari, 2012).

As a result of the pandemic, e-learning was utilized and a high number of teachers motivated their learners to study electronically (Dhawan, 2020). Seven (7) teachers excellently encouraged learners,10 did their best, 2 managed to, and 4 were able. This resulted in a 92% positive response from teachers encouraging learners to learn electronically. It is good to encourage learners to study electronically because it allows new ways of learning, factors inclusion promotes higher-order thinking skills, encourages collaboration, and improves engagement and knowledge retention (ICTE Solutions, 2021).

Apart from teachers encouraging their learners to learn electronically they equally participated in the effort by using similar platforms to disseminate knowledge. Five (5) teachers used it excellently, 7 were good, 3 were capable, and 9 had a fair idea. Shiburi (2021) as cited by Mohebi and Meda (2021) postulates that in the current educational system, the integration of such tools is inevitable, as it increases knowledge and skills needed to boost teachers' competence and the learning process embraces inclusiveness. It develops the cognitive and analytical skills of learners which has a consequential positive impact on behavior and achievements. However, one (1) teacher was not capable of using the tools either at home or school. Negative responses might be a result of resistance to innovation and change (Wong *et al.,* 2008), and resistance can be a result of a lack of confidence or fear of using electronic technologies for learning (ICS Dublin, 2022). The inability of teachers to integrate such technologies is highly dependent on the experiences and exposure they had during their college or teacher preparation years (Mohebi & Meda, 2021). UNESCO (2020) added that teachers in other countries with reliable resources had equal challenges as well due to the rapid transition in instructions.

4.2 Impact Of E-Learning On Teaching And Learning

E-learning is a paperless approach to learning where learners can plan out a schedule to study, without having to make personal sacrifices to meet the class attendance requirements of teachers. Besides, e-learning takes into consideration the differences between individual learners which allows learners to practice their learning (Tamm, 2022). Teachers were asked about the importance of e-learning on teaching and learning; the use of such platforms for future teaching; whether it reached a wide audience and changed the way learners learn; and if the comprehensiveness of such platforms gave room for learners to voice out opinions respectively. Findings disclosed that a representation of 84% agreed with the multiple advantages of e-learning. Research has proven that e-learning has resulted in satisfaction, high achievements, flexibility in teaching and learning, and stronger student tenacity to study and know more (Thai *et al.,* 2020) and has flexible ways of delivering learning that

engages children significantly (McGee, 2013). The ever-evolving e-learning technologies cannot be ignored educationally because it influences individual preferential learning styles, promote independence to study and learning, and encourages instructor-learner connectedness supported by social networks regardless of demographic factors. It has personal influences on individual psychological factors, building one's experimental intelligence, contextual intelligence, emotional intelligence, componential intelligence, self-efficacy, and management of time. E-learning has a self-determination theory connected by intrinsic and extrinsic motivation factors (Bylieva *et al.,* 2019).

For the usage of e-learning platforms for future teaching, more than half of the teachers (76%) responded positively and decided to use it for its varying instructional modes and ICTE Solutions (2021) alluded to the fact that e-learning continuous to be a significant part of the future because it evolves and connects to individual's personal growth and creativity not forgetting innovative educational resources (Pedagoo, 2020). Additional evidence from Kharod (2021) added that there is a high correlation between e-learning and education in the future to facilitate instructional delivery and learning, it has a significant role in delivering learning materials remotely giving more access to quality education and learning virtually considered into the educational structure. He added that with the availability of e-learning systems, it is easier to measure learning experiences, performances, and educational impacts. Goyal (2012) appraised the significance of e-learning in the future of education, course content once developed could be easily used and modified at any time which is a cost and time-effective alternative; its paperless nature prevents students and instructors from carrying heavy or many books and resources as all can be accessed with a touch of a screen; it has an interesting, interactive, and entertaining approach to teaching and learning.

E-learning reaches a wide range of learners in the quickest of time (Gupta, 2017) and brings a transformative way to learning, 92% of teachers agreed it can connect remote learners and all teachers approved of how it transforms learning. It has countless open educational resources that challenge educators to use diverse platforms and teaching activities to maximize learner experiences, the use of chats, pictures, short videos, audio, games, video conferencing, and interactive cloud-based applications aid in teaching-learning and promotes critical thinking among learners. This excites learners, allows learning to take place, and makes managing a class easier (Lestiyanawati & Widyantoro, 2020; Lathifah *et al.,* 2020).

Its comprehensiveness gives learners various tools to cater to different requirements. Fifty-six percent (56%) affirmed e-learning allowed learners to voice out their opinions. This corroborates the views of Willbold, (2019) who holds that e-learning supports sharing documents and finding concrete information with great efficiency, helps parents get involved in their children's learning, and improves literacy, communication skills, and distance learning opportunities. Modern technologies are of great value in understanding learner behaviors and monitoring progress.

4.3 Effect Of E-Learning On Teaching And Learning Practical Subjects
The effectiveness of learning is achievable based on the learner and instructor's context (Maphosa *et al.,* 2021) furthermore, all learners learn differently as there are personality differences hence teachers were asked about learning styles that worked best for learners taking practical subjects. From the collected data, teacher responses resulted in 4% auditory, 52% visual, 20% kinesthetic, and 24% logical. One type of learning that benefits all is learning through the practical approach (Stirling Institute of Australia, 2018). Practical subjects are learned best through auditory, visual, kinesthetic, and logical. Active learning techniques result in 90% retention. Students learn best when perceptual learning styles are used because they are sensory-based. The more sensory channels are, the more the possibility of interacting with a resource, and the better the chances of learning. According to Davis and Summers (2015), Dale (1969) proposed that instructors should design instructional activities that build upon more real-life experiences and that is exactly what practical subjects teach. Shana and Abulibdeh (2020) highlight the relevance of combining theory with pragmatic sessions in the educational process, this develops learners' understanding of concepts. To get the young generation work-ready, practical subjects have inclusive opportunities that cater to all learning styles and abilities connecting theory to practice (STAYON, n.d.).

From teacher responses, being involved in practical sessions required learning by seeing or watching (imagery), logically processing procedures, and getting involved by listening and doing. This is because practical subjects focus on two parts which are theory and practical as affirmed by Laster and Johnson (2021). Children when engaged practically improve their sense of attainment. 36% of teachers agreed e-learning met learner styles whereas 64% were of the view e-learning failed to meet all learner styles of learning since the knowledge base of practical subjects involves conceptual analysis, procedural, contextual, and technical forms of knowledge are connected in activities and practical task (Winberg & Hollis-Turner, 2021) which can be less achieved electronically specifically in deprived areas. Goyal (2012) acknowledged that all learners will not find e-learning suitable for their learning style. As stated by the teachers, the introduction of e-learning posed a threat and was impractical to learner styles in this part of the globe. UNICEF opined that a proportion of almost 50% of learners (young students in the critical years of their learning and development are most likely to miss out) were unable to

access remote learning in Southern Africa relative to 9% in Latin America and the Caribbean (UNICEF, 2020). In a time of unanticipated educational interruption, such disparities were real threats to continual learning (UNESCO, 2020). Moreover, learners at the primary level need more active learning hence not using the right medium to engage them can bring down their enthusiasm to learn and hurts their psychomotor development (Robinson *et al.,* 2015). Lynch (2020) highlights learners being unfocused since they were not in the classroom setting consequently there will be many inconveniences and distractions from home in a time such as covid. Many parents and siblings were now working from home and some families faced economic devastations which questioned where to live and the availability of the next meal.

To the question of whether teaching and learning electronically were effective without practical sessions, a lower fraction of 16% of the teachers affirmed instruction was effective but 84% were of the view that without a practical session, instructions could not be effective due to the huge significance practical session has on the process of teaching and learning. Besides, the practical subject is reliant on the use and application of tools and equipment (Tetikci *et al.,* 2021) practical subjects have specialized areas that are difficult to teach electronically. It is an enormous task for practical subject teachers to transition entire instructional schedules electronically since non-conventional knowledge forms and experiential learning approaches are adopted. This will mean teachers have to refocus content and offer choices by adopting entirely new ways to get learners on board (Bates, 2021). Additionally, children are more effective, engaged, and respond more to practical activities as compared to reading schoolbooks. This brings a progression thrust in the skills of inquiry which provides a practical aspect to learning deeply and extensively (McGee, 2013). Surely e-learning has a significant impact on theoretical subjects however, in a practical session, learners may not be able to voice out opinions based on the electronic channels used. Designing courses electronically is both media and labor-intensive, it requires instructional designers with expertise in pedagogy and technology (Lynch, 2020).

According to Senn, in 1989 Moore identified learner-content interactivity, learner-learner interactivity, and learner-instructor interactivity as the three types of interactivities (Senn, 2020). Learner-instructor interactivity has received much attention in the circles of education (Makarova, 2021) and interactivity is one of the most vital factors to students' success (Pingree, 2012) and reports huge benefits (Teachmint, n.d.). For adequate interactivity of e-learning platforms on practical subjects, 20% partially agreed and 80% failed to agree. This view concurs with Shana and Abulibdeh (2020) who posit that practical subjects require adequate interactivity to construct knowledge by doing. For an effective explanation of content, communication is key (Mohebi & Meda, 2021). Shana and Abulibdeh (2020) and Innova (2015) added that for skills to be achieved, the quality, quantity, and breadth of practical sessions need to be focused on. If the range of experiments and skills that are assessed at present are too narrowly focused, it would make more sense to broaden the range, rather than switching to a different assessment method that might discourage a hands-on approach. Based on this, the introduction of e-learning posed a challenge for practical subjects and learner levels (Innova, 2015; Shana & Abulibdeh 2020). Moreover, the learners at this stage are in their prime active years and need a much more hands-on approach and experiences as confidence and competence boosters (Anu, 2022).

According to the teachers (92%), learning outcomes were unproductive electronically without practical sessions. This is in agreement with Robinson *et al.* (2015) who opined that primary-level learners are active learners, therefore, the use of inappropriate channels of learning and engagement can lower eagerness to learn resulting in low outputs. Additionally, at large, e-learning training providers choose to focus largely or in many cases entirely on developing theoretical knowledge, rather than practical skills. The reason for this is evident in that theories are considerably easier to implement in an online or electronic learning environment than practical instructions (Dube, 2020). To enable progressive competent performances in practical subjects, learner-instructor engagement is of the essence, it supports cumulative knowledge building (Winberg & Hollis-Turner, 2021).

There was rather a strange turnout of responses when teachers were asked if practical subjects are understood and learned by seeing and doing. 88% of respondents disagreed; Winterbottom (2019) alluded to this when he made these statements *"you may think students learn better hands-on", and "you may think they help students discuss their learning"* he is of the notion teachers are more concerned having students follow instructions instead of learning in practical activities. On the same note, Edgar Dale theorized that learners retain more information by what they "say and do" as opposed to what is "heard", "read" or "observed" (Anderson, 2013). But then again, there is a contrast in teachers' responses based on the required learning style for practical subjects. 54% agreed learners learn best by seeing (visual) 20% by doing (kinesthetic) and 24% by logically.

5. Conclusions

From the epitomized data, it can then be concluded that regardless of the several advantages e-learning offers, teachers are of the view that it has a less positive impact on the teaching and learning of practical subjects. This is based on the fact that theoretical concepts are considered easy to implement in the teaching and learning field electronically as compared to practical instructions. As affirmed by the teachers, e-learning has lapsed in the teaching and learning of practical subjects at the primary level, especially in deprived countries with dominating

inequalities. Almost 90% of learners lack access to the internet and household electronics in sub-Saharan Africa. Although mobile smartphones can connect learners to teachers and other learners enabling them to access meaningful information, almost half of 60 million learners in sub-Saharan Africa are located in areas that do not have mobile networking services (UNESCO, 2020).

As observed by many scholars, embracing new technologies take time to effectively implement hence, there must be a combined effort from all role players in the educational sector, school management, teachers, and learners. The study points out that as observed by Magee (2013), teachers must develop a culture to learn alongside their learners for the maximal benefits of the use of electronic tools in teaching and learning. They need to be given opportunities to train and acquire new knowledge and skills, and that can be possible by promoting training programs within the working institution as suggested by Gupta (2017) moreover, not only does it contribute to the development of the learner, but also enhances the professional skill of the teacher (Kamahina *et al.,* 2019). Although support in low-income countries is geason, it is requisite for teachers to undergo the training necessary to disseminate knowledge across borders for unprecedented events (UNESCO, 2020). Going forward, there is the need to demystify the tacit and conceptual forms of knowledge that are embedded in practice, practical subject educators could simplify competence-appropriate concepts and strategies by guiding learners in the skillful use of tools and new technologies (Winberg & Hollis-Turner, 2021). Tetikci *et al.* (2021) emphasize the need for field teachers to update and improve the education provided to ensure educational quality.

The succinct conclusion was that e-learning did not meet the needs of practical subjects. Lack of motivation continues to be one of the primary reasons why e-learning resources failed. The adopted learning method offered by online learning did not meet all learner styles and subject requirements. Practical subjects entail active learning hence the need for practical sessions, as the cone of learning emphasizes there is 90% retention of what is said and done. Tetikci *et al.* (2021) affirmed that practical subjects depend on the usage and application of tools-equipment and Bates (2021) specified that practical subjects have areas of specialization that are difficult to teach electronically. Bates further stated that it is not an easy task for practical subject teachers to transition entire instructional schedules electronically subsequently when non-conventional knowledge forms and experiential learning approaches are adopted. Meaning teachers have to refocus content and adopt entirely new ways to get learners on board which is difficult to achieve in less deprived areas in cataclysmic times such as covid-19. Moving practical subjects to an electronic platform requires careful planning, dedicated staff, and willing students who can collaboratively embrace new innovative teaching methods.

The study recommends that improved skills in teaching practical subjects need to be explored and teachers should be willing to learn new ways of lesson delivery of their subjects to meet the demands of this digital era. Kamahina *et al.* (2019) ascertain that a teacher needs to be in all readiness to integrate and use electronic tools effectively to organize lessons in a digital environment and collaborate or network with teaching communities for support. Mohebi and Meda (2021) endorse that teacher training institutions need urgent curriculum renewal and to be attentive in encouraging teacher trainees to adopt diverse approaches to instructional delivery and help build a capacity to embed the meaningful use of technology in the instructional process. Teachers' exposure to e-learning and hands-on virtual experiences challenges and inspires them to do likewise in their practice of teaching, collaborative working relationships will help teachers to gain varying pedagogical skills relevant to e-learning settings. Although covid-19 may be over, e-learning is in to stay and looming in many countries, institutions, and schools. Several institutions and organizations will continuously adapt to its use, for many are shifting from sole conventional modality towards more electronic modes of instructional delivery for it is inclusive, organized, and digitized.

Acknowledgments

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