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INNOVATIVE EDUCATIONAL PRACTICES IN THE POST-COVID-19 ERA IN SOUTH AFRICAN RURAL SCHOOLS: IN PURSUIT OF QUALITY TEACHING AND LEARNING

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ABSTRACT

The emergence of the COVID-19 pandemic in the global world, which started in Wuhan, China in December 2019 grounded social activities globally. The school system was severely affected and shut down. Schools all over the world adopted various digital technologies to continue teaching and learning. This study explored changes in teaching and learning, with the influence of ICT in the education system as well as the impact of the COVID-19 pandemic on the education system. Thus, providing insight into the future of teachers' usage of Information and Communication Technologies (ICT) successfully in South Africa's public rural schools. The study employed an interpretive qualitative design to collect data from 10 purposively selected rural school principals from the Ilembe District of Kwazulu-Natal province. Audio-recorded semi-structured interviews were thematically analysed to present and discuss findings for the study. It was established that teachers are prepared to continue using digital learning strategy, artificial intelligence, information management, social interaction, mobile technology, and other measures, which were introduced during COVID-19 for teaching and learning in post-pandemic. The study, therefore, suggests adequate and regular training on online classroom instructional delivery should be designed by the Department of Basic Education, to support teachers, while teachers should also be provided laptops and data bundles.

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1. INTRODUCTION

The Fourth Industrial Revolution (4IR) is a global trend in Information and Communication Technology (ICT), which has infiltrated every sector including teaching and learning (Siyaya, 2022). ICT has grown to be a popular tool for enhancing instruction and learning (Ravjee, 2007). Teaching and learning in South Africa's education system experienced a significant setback during the COVID-19 pandemic, especially in rural schools. This was due to the conventional face-to-face classroom practices the country was used to before the emergence of the COVID-19 pandemic. The traditional face-to-face teaching and learning environment learners were used to, was replaced with online learning or digital learning. According to Dorin (2011), MS'Sakshi and Dhull (2018), the shift to online learning is a paradigm shift rather that came with an opportunity to combine the best

elements of both worlds of human touch of our traditional teaching and learning methods with the technological advantages of online learning.

Teachers in the twenty-first century are always considering how learners can be helped and motivated (Amichai-Hamburger & Ben-Artzi, 2003; Ranaeyi, Taghavi & Goodarzi, 2016; Ajani, 2019; Ajani, 2020). This includes what learners consider difficult in learning and how they can overcome those difficulties, as well as how they would personally explain the ideas (Govender & Ajani, 2019; 2021). While there are many advantages to substituting online learning for traditional learning techniques, there are also certain context-specific challenges. For instance, the cost of online education is borne by learners in rural areas (Gamede, Ajani & Afolabi, 2021). Lack of appropriate resources may be the main factor contributing to the disadvantage faced by online learners in remote places (Gamede & Ajani, 2021). Additionally, online learning does not adequately enable the emotional domain of the teaching and learning process that is provided by face-to-face contact (Ali & Smith, 2015). This paper looked at the applicability of the Protection Motivation Theory (PMT) to understand the perceived challenges faced by teachers in a rural South African community in the context of COVID-19-induced online learning using the aforementioned gaps as a starting point.

2. THEORETICAL FRAMEWORK

Several models have been developed to respond to situations that might be lethal, such as the onset of pandemics. Understanding this can help you take personal precautions to stop the spread of illnesses (Jiang et al., 2009; Williams et al., 2015). Others have looked at how increasing awareness may help contain the spread of disease (Redd, 2012; Ling, Kothe & Mullan, 2019). The PMT has also been considered by some academics as a framework for pandemic interventions (Plotnikoff et al., 2010). The Protection Motivation Theory (PMT), developed by Ronald Rogers in 1975, was used in this study to analyse how teachers reacted to the challenges caused by the COVID-19 outbreak. To better understand how people respond to threats to their health and safety, the psychological framework known as PMT was developed (Rogers, 1975). This viewpoint contends that both individual and environmental factors can affect or contribute to the development of protective behaviours, which should be controlled by individual cognitive processes (Clubb & Hinkle, 2015). It has frequently been used to describe preventive activities that people may participate in to reduce the perceived threat of pandemic illnesses in a variety of fields, including health, education, and psychology (Baghianimoghadam et al., 2014; Williams et al., 2015). However, the current work presented COVID-19 defence strategies. Significant alignment illustrates PMT's applicability to COVID-19-based online teaching and learning. Protective measures must be constantly used to protect vulnerable persons in unaffected regions. Therefore, it avoids harm and unwarranted worry during outbreaks of new diseases (Jiang et al., 2009). Accordingly, PMT is crucial because it promotes the use of personal protective equipment and other practices that normalize behaviour and increase safety. This concept is useful in analysing how teachers in rural locations perceive the challenges of online learning.

3. THE COVID-19 AND EDUCATIONAL PRACTICES

There have been several studies that seek to describe feelings of social isolation. Social isolation is the absence of real human contact with people (Hortulanus et al., 2006). According to Priego and Peralta (2013), a lack of face-to-face encounters might lead to social isolation. According to studies, the advantage of face-to-face communication is that it allows individuals to express their emotions to peers (Holmes & Reid, 2017). People currently struggle to engage with others due to COVID-19-related restrictions. For example, to maintain their social distance, people are compelled to limit their discretionary movement. When learning online, it may be challenging to communicate with other learners and teachers, especially when all interactions take place remotely. It's critical to distinguish between social isolation's beginnings and advancement. Some investigations discovered that social isolation may contribute to the greater withdrawal rate during online learning as compared to the more traditional face-to-face form of learning (Ali & Smith, 2015; Schaeffer & Konetes, 2010). Studies suggest that social isolation might hinder academic achievement and performance (Bester & Budhal, 2001; Tingstad, 2019). It could lead to increased anxiety, sadness, and despondency (Ali & Smith, 2015; Matthews et al., 2016). Even if alternative communication channels like phone and email may be used for interactions where audio and video messages may be sent (Conrad & Donaldson, 2012; Lehman & Conceição, 2010), genuine facial expressions and body movement cannot be perceived during a phone discussion. However, significant strategies that a person may employ to reduce the likelihood of acquiring or spreading COVID-19 include social isolation

and social distance. To reduce the risk of contamination and spread, individual freedom of choice and everyday activities are limited.

According to studies, adopting measures can significantly lower the chance of getting sick (Clubb & Hinkle, 2015). Given the connections between online learning and classroom education, it is imperative to draw a connection between social isolation and both. Using social distance as a means of reducing contact with others. Social distancing strategies are among a range of non-pharmaceutical countermeasures (NPCs) aimed at reducing disease transmission, which results in a decrease in the demand for health services (Anderson et al., 2020; European Centre for Disease Prevention and Control [ECDPC], 2020). It is unclear how behavioural reactions to the pandemic's perception of contamination danger function. As a result of the pandemic, social isolation could lead to fewer social contacts (Williams et al., 2015).

Literature has been written about the challenges of providing education in the face of pandemics like COVID-19 (Gamede et al. (2021). For instance, according to Wenham, Smith, and Morgan (2020), the closing of beyond would have a particularly negative effect on women, who frequently provide most of the informal care within families, limiting their career and financial possibilities. Similarly to this, McKibbin and Fernando (2020) found that the pandemic may have a significant immediate impact on global economic growth. According to Daniel (2020), the COVID-19 pandemic is a serious issue for educational institutions. Daniel also suggested that COVID-19 be taught in a way that puts it in a historical and global perspective. The introduction of integrated learning in South African schools is commendable, however, Ngogi (2020) contends that a variety of problems would negatively impact rural schools. The self-efficacy associated with PMT components significantly predicted the willingness to utilize social isolation behaviours to stay at home during a hypothetical epidemic. The behaviour of social distance and PMT were both shown to be key factors in reducing infectious disease outbreaks, according to Williams et al. (2015). However, the inability of learners to mingle in South Africa's rural locations may have hindered their ability to study online. Studies indicate that learners in rural schools have little to no access to the materials they need for online learning in the COVID-19 era because these schools lack Internet connectivity (Omodan, 2020; Dube, 2020; Muthala et al., 2022). The literature review that was conducted turned up very little information regarding the challenges that South African schools face with online learning. Therefore, the current study looked at the perceived challenges teachers had while doing their jobs at selected rural South African schools during the COVID-19 epidemic.

4. RESEARCH METHODOLOGY

The study was conducted using a phenomenological research design. This research strategy is suitable for summarizing the essence of a phenomenon by considering it from the perspective of those who have experienced it (Teherani et al., 2015). Phenomenology is used to interpret the meaning of experience in terms of what was experienced and how it was experienced (Teherani et al., 2015). This strategy was selected because it allowed the researchers to look at the specific challenges that teachers at rural schools faced. Ten principals from outlying schools in South Africa's KwaZulu Natal province made up the population. Based on the population's particular characteristics in the influence of teaching and learning experienced during the COVID-19 period at rural secondary schools, the participants were selected utilizing easy and purposeful selection processes. These sampling techniques were crucial in locating people who were available and willing to participate in the research throughout South Africa after COVID-19. Participants were asked to conduct their remote work from home because schools were closed during this period. The participants had been contacted to ask them to participate in the study. Ten teachers comprising five men and five women made up the sample size. Each participant had a teaching career ranging from 4 to 10 years in length. To compare pre-COVID and after-meetings, their interactions were rated remarkably.

5. INSTRUMENT

Telephonic interviews that were performed with the participants' consent were used to collect the data. Because it guarantees a balanced distribution of power between the interviewer and the participants, this approach was chosen (Vogl, 2013). This method was suitable for the study because it was compatible with social distance, a strategy to stop the spread of COVID-19. Since it was impractical for the researchers to conduct interviews at each principal's school or home. Hence, this approach was suitable for COVID-19. The study included open-ended questions on the difficulties teachers encountered during COVID-19 at a far-flung high school. In-depth discussions on network access, learning tools, and parental involvement in children's

homework were placed throughout the interviews. All participants in this study felt comfortable taking part, and the interviews were performed in English in a friendly and natural way to help with data collection. Participants were repeatedly prompted to attest to the reliability of the data. The credibility was built and upheld.

6. PROCEDURE FOR DATA COLLECTION

The research and ethics committee at the University of Zululand approved the project. The study's participants were informed of their ability to decline to engage in it at any moment without facing consequences. All interviews were performed over the phone and only English was used for communication. Every phone interview was captured on tape. Every participant voluntarily consented to have their phone calls recorded. The length of each participant's interview with the principals ranged from twenty-five (25) to forty-five (40) minutes. The study employed telephone interviews, targeted secondary school principals, and took place at a rural secondary school in the KwaZulu Natal province's ILembe region. The principals were questioned throughout the day. They made convenient timing choices.

7. DATA ANALYSIS

Thematic analysis was used for the data analysis. This approach seeks to identify categories and draw attention to emerging patterns (themes) in the data. It describes the data gathering in (rich) detail while just marginally organizing it. Theme analysis, however, typically goes beyond this and examines other aspects of the research issue (Boyatzis, 1998). Following the transcription of the interview data, the participants' responses were grouped as follows: Participants 1 to 10 (Participants 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10). Copying, reviewing, and rereading the data while making notes helps researchers become familiar with it. The researchers divided the data into potential topics and gathered the essential information for each potential subject to evaluate the coding quality. Using coded extracts from the whole dataset as well as themes identified from a thematic "map" of the analysis, the researchers studied and evaluated each theme's applicability. Based on the topic's qualities and the overall narrative and the ability to identify emerging themes; the analysis tells the story and produces clear descriptions and labels for each subject. Finally, the researchers produced integrated results that support the write-up report's rationale.

8. PRESENTATION OF FINDINGS

The study examined the effects of teaching and learning in a particular rural South African school during the covid-19 pandemic. The results showed that, as a method, PMT is beneficial for recognizing intention in online learning and supporting the employment of social distancing behaviours among rural school teachers to reduce the spread of COVID-19. Diverse issues have an effect on the effectiveness of COVID-19-induced online learning and teaching, as seen by the recurring themes that emerged. Examples of these problems include low parental involvement in children's homework, the submission of subpar work and incomplete assignments, a lack of personal protective equipment (PPE), a bad network connection, and an absence of Information Communication Technology (ICT) devices to access the Internet.

Poor parental involvement in children's homework

The results show that a variety of factors contributed to limited parental involvement in children's homework during the COVID-19-induced lockdown at the chosen rural school. Low parental involvement in the academic lives of their children may be a result of language difficulties. Most participants in the COVID-19-induced lockdown saw that some parents were unable to assist their children with their schooling because of linguistic barriers. This problem particularly affected those who relied on teachers and friends for assistance when their children needed it. For example, the bulk of online learning during this time was painful for students who lived in remote areas with their grandparents or other family members. According to one participant,

"We've found that many parents don't want to help their kids. They claim that helping students is what the school must do. As a result, they are not helping their children, the school, or the teacher any favours". Participants 2 and 3.

The lack of time during the lockdown at the remote school in the interview extract may have contributed to the parents' lack of interest in their children's academic performance. However, most parents who were considered to be important employees and who put in a lot of time at work were unable to help their kids with their homework. Most of them would only be available on weekends, although many would be catching up on work. As a result, they were unable to make a meaningful difference in their kids' academic performance. Parents bemoaned their lack of free time because they had to work during the lockdown. Third participant:

“According to the interview excerpt, the rural school lockdown brought on by COVID-19 and the poor parental involvement in children's homework may have been caused by a shortage of technological gadgets” (P3).

Participants mentioned that parents' limited access to technology is one socioeconomic barrier to their engagement. Study materials were required as a result of the special rise of online learning, which significantly transformed education. Moreover, since online submissions required an internet connection, parents were unable to assess their children's work. Participants reported that it was difficult to communicate with and interact with the learners' parents or guardians during the COVID-19-induced confinement.

“The Department of Education's website and other online platforms, including a worksheet, the cloud, and others, both offer study aids. Unfortunately, most parents find it difficult to help their kids with their education.” (P1).

The following quote from one participant exemplifies those mentioned above:

"Learners need the most help in two subjects in particular: accounting and mathematics. Sadly, they are the ones that endure the greatest pain. Schools that have been collaborating on projects with students find it difficult to carry out the assessments and observations that are necessary for teachers to keep teaching. Feedback is not available because the platforms are not interactive." (P6).

The passages from the interview with Participant 1 above indicate that she agrees that students can use online learning materials. Nevertheless, they were inefficiently used because of parental illiteracy, leaving them unable to provide for their offspring. This situation only occurs in rural schools (Gamede et al., 2021). Participant 6 made a connection between the problem and parents as well as the fact that several of the main subjects were not effectively addressed because of technological issues. Therefore, parents' lack of motivation to help their kids were not the only reason for poor parental engagement. The absence of Internet connectivity was another significant challenge (Ajani & Gamede, 2020).

Poor quality and incomplete work submissions

Participants' responses indicate that teachers produced subpar work because of using online teaching and learning to provide curriculum during the COVID-19-induced lockout. Additionally, they said that parents were unable to help their kids produce high-quality work. Because they live with old people who are unable to help them, most children suffer academically even under normal circumstances.

“To them, school is the only place where they should study; as a result, a home is simply a place where they may rest” (P4).

Participants in the interview extract stated that some learners could not even complete the tasks they were given, while others prepared and submitted incomplete or incomplete items. Participants complained that learners' work was of low quality, suggesting that they would have hurriedly completed the exercise. Additionally, they saw that some learners were writing incoherently and others did not follow instructions when completing tasks. Furthermore, it was established that learners do not adhere to the instructions that are given to them. Additionally, their writing is illegible.

“A few of our children have also been absent from the classroom for longer than the required four weeks” (P2).

According to the interview excerpt, submissions of subpar work might be viewed as socioeconomic barriers. Effective teaching and learning are challenging in rural areas since most parents are uneducated, unemployed, and face considerable challenges with poor infrastructure available to their children at home. The next sentence supports the previous one by saying:

"having the ability to stroll outdoors and play with their friends is a more convenient alternative for them." I've spoken to a lot of parents, and they all swear that things are OK in the townships and that kids are playing

outside while they should be in class” (P7).

Participants believed that some parents were helping or even finishing the task for their children, therefore. Participants demonstrated that students exceeded themselves in class and produced high-calibre work. It is important to emphasize that some parents pushed their kids to do excellent work and refused to accept anything less. They argued that the term "online assessment" should remain the domain of teachers and that learners should still be allowed to turn in essays and other paper assignments. The researchers also found that some learners needed other people's help to get through the COVID-19-induced confinement. For instance, depending on others to do their task for them rather than completing them themselves. The previous study concluded that the beginning of COVID-19 caused the 'new normal,' which hindered learners' productivity as seen by participants' low-quality work.

Insufficient personal equipment and poor network access

The participant transcripts revealed that instructors lacked sufficient personal technology, such as computers, mobile phones, and electronic devices. With the excellent potential for usage in both indoor and outdoor learning situations, this device has evolved into a teaching tool.

“Of the 48 parents of the pupils, 28 have smartphones but don't know how to use them, while the other 16 only have basic phones for making calls” (P5).

"At this time, learning and teaching are almost impossible due to the lack of technology since we are unable to meet in person. If ICT tools are not available, children will fall behind. Working without these resources indicates that neither teachers nor learners will significantly advance within the COVID-19 framework. Since most learners cannot afford ICT equipment, they are immediately academically rejected. When someone can't finish their education because there aren't enough facilities, that's a violation of their right to an education” (P8).

Most of the interviews, as seen by the aforementioned interview fragments, The aforementioned interview snippets make it clear that most participants lacked the requisite ICT tools, while others were unaware of how to use them to enhance online learning. Due to a variety of issues, including the expensive cost of mobile phones that offer internet access, a shortage of electricity, inadequate network coverage, and high maintenance expenses for data and Wi-Fi, participants also said that the majority of parents and guardians were ignorant of ICT gadgets. Given that even when parents try to make ends meet, it is difficult due to data prices (Ajani & Gamede, 2020), it is clear from the aforementioned interview excerpts that the majority of participants claimed that the lack of these devices influenced online teaching and learning. These are the main challenges that make it impossible for learning to continue in a classroom setting during the COVID-19 pandemic. Participants voiced their anger against teachers and learners about the lack of ICT resources.

“The limitations on network access and Internet access have had a profound influence on learning. Some students may find it difficult to access the assignments that have been sent to them. As a result, they are unable to follow the curriculum” (P2).

Insufficient network connectivity prevented online instruction and learning during the COVID-19-induced lockdown, according to participant 2's reaction. They acknowledged that the bulk of the pupils was from townships and slums. In these situations, internet access is viewed as a luxury in comparison to basic requirements like food and shelter. Most residents in informal settlements lacked Internet connectivity. Due to a shortage of internet connectivity, learners had trouble accessing their studies. Participants also mentioned that many students' ability to submit their work on time was limited by network-related problems. According to our thesis, this might cause learners to get anxious since they are concerned about not earning the grades for which they have worked, and teachers find it difficult to mark and control. They worry that they won't get the grades for which they've laboured, and teachers struggle to mark and control work since they're always trying to get access to learners' assignments.

Lack of learning devices

An appropriate online teaching-learning resource is on the horizon since the COVID-19 pandemic has redirected the teaching and learning spaces in schools. For learners to function with and interact with their urban counterparts, personal electronic and Internet equipment is necessary. Lack of access to online learning tools can result in several negative effects, such as withdrawal and feelings of isolation since there isn't enough

information to encourage learning. Insights from teachers revealed the contrary to be true. The statement contained the following claims:

“Unfortunately, parents of students do have some access to technology; nevertheless, many are unwilling to share it with their kids and would prefer to wait for the schools to give the required tools”(P9).

“Some students have to share gadgets with their siblings and parents, which frequently causes their work to lag or causes conflict in the homes” (P10).

Findings from the participant responses revealed that the lack of school-provided technology, such as laptops and mobile phones, had an influence on online learning and teaching during COVID-19. The fact that some parents own these devices was acknowledged by the participants. Participants stressed the risk of learners falling behind if they lack access to technology since they would have to wait a long time to access their work. Concerns have also been highlighted by the fact that not all devices can access the different online learning systems. This includes the inability to access Microsoft Software, such as teams and forms, on smartphones and the use of WhatsApp for receiving work. Due to the aforementioned and other factors, Dube (2020) and Siyaya (2022) asserted that one of the challenges learners encounter throughout COVID-19 is a lack of teaching and learning opportunities, absence of teaching and learning resources, such as the Internet, gadgets, and technologies that might increase learners productivity in connection to their academic results, is one of the challenges students experience during COVID-19.

9. DISCUSSION OF FINDINGS

The purpose of the study is to look into how the COVID-19 pandemic was impacted by challenges with online teaching and learning. It was focused on a selected South African rural school. The results showed that the barriers to online learning in the context of COVID-19 were low parental involvement in children's homework, poor quality and incomplete classwork submissions, insufficient personal equipment, bad network connectivity, and a shortage of learning devices. The purpose of the study is to look into how the COVID-19 pandemic was impacted by challenges with online teaching and learning.

It was focused on a selected South African rural school. Similarly to this, Lemmer (2007) pointed out that some parents are only able to communicate with their children at home using their mother language and cannot read or write. Lau, Li, and Rao (2011) found that parental involvement in their kids' education resulted in positive outcomes in both elementary and secondary schools, though. These findings might be attributable to the fact that learners in lower educational levels, such as learners in elementary and secondary/high schools need direction both at home and at school. The study does, however, show that there is a lack of parental involvement in their children's education in the study region (Muthala et al., 2022), which is harmful to their academic development and productivity, particularly in the context of the COVID-19 lockdown. The investigation discovered that learners were submitting poor work to their teachers during the lockout brought on by COVID-19.

The learners occasionally didn't take their homework seriously. It was highlighted that learners can submit incomplete assignments to their teachers, which was linked to characteristics of rural locations including parents' poor socioeconomic status and incapacity to provide their children with the resources necessary for online learning. Similar conclusions were reached by Omodan (2020), who found that while rural inhabitants had access to the technology, such as the Internet, needed to maintain the new normal, the COVID-19 pandemic rendered them more vulnerable. Dube (2020) also found that despite the South African government's efforts to provide learners with various academic coping methods for online learning, their efforts were in vain. Due to this, distant learners of COVID-19 were unable to use Internet-enabled devices including laptops, phones, and other tools to improve their academic performance (Dube, 2020). This finding is in accordance with the World Bank's (2020) finding that learners who are more advantaged than their classmates benefit more from online learning. Learners in the selected field are thought to be at a disadvantage in this scenario. not only. Learners s in the selected field are thought to be at a disadvantage in this scenario.

This is strange to people across all grade levels. For example, Cristobal-Fransi et al. (2020) confirmed that rural schools lack the educational resources necessary to serve their learners, especially those who reside in remote areas. In rural locations, the distribution of academic resources is frequently unequal (Grydehj, 2016; Omodan, 2020). Additionally, the poll found that learners lacked the ICT resources required for remote work during the COVID-19 lockout. This must do, on the one side, with parents finding it difficult to let their kids use their gadgets and, on the other, with schools not providing learners with devices. Rural learners, whether by

choice or accident, have little to no access to online education. To assist instructors and students in meeting the demands of 21st-century teaching and learning, It was suggested by Montrieux et al. (2015) that policy and curricular developers should consider this.

10. CONCLUSION AND RECOMMENDATIONS

The study concludes that learners' perceptions of online learning were initially quite negative and influenced how successfully they finished their academic programs. It also affected their academic success because of certain limitations related to the fields offered. The recent COVID-19 outbreak changed people's attitudes and made online teaching and learning more essential. It's important to understand the danger of social isolation and online learning before we begin with online education. To investigate this, this study employed a qualitative technique. We conclude that learners in rural communities experienced difficulties during the COVID-19 pandemic because of poor parental involvement in their children's homework assignments, poor quality, and incomplete academic work, a lack of personal protective equipment, poor network access, and a lack of learning tools. The Department of Education, the Department of Basic Education, and SGBs, among others, should make a concentrated effort to inform parents about online learning so that they can support their children when working at home. Second, for children to finish their academic activities flawlessly and on time, parents, teachers, and other adults should all encourage them to manage the resources at their disposal. Additionally, the government should prioritize helping learners who reside in rural locations by providing appropriate resources such as internet connections and ICT equipment.

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