

Challenges Experienced by Secondary School Economics Teachers During the Transition from Face-to-Face Teaching to E-Learning During the COVID-19 Pandemic: Evidence From Rural Schools in Vhembe East District, South Africa

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ABSTRACT

The COVID-19 pandemic disrupted education systems globally and necessitated an abrupt transition from traditional face-to-face instruction to online and blended learning approaches. Although e-learning provided an alternative mechanism for sustaining educational activities during school closures, its implementation exposed substantial inequalities in access to technology, particularly in rural communities. This study explored the experiences of secondary school Economics teachers regarding the challenges encountered during the transition to e-learning in rural schools located in the Vhembe East District of Limpopo Province, South Africa. Guided by Connectivism Theory, the study employed a qualitative research approach and collected data through semi-structured interviews with Further Education and Training from ten Economics teachers and 10 learners who were purposively selected from the sampled secondary schools. Results show that the lack of robust learning technology, smartphones and data, unstable network connectivity, student absenteeism, and curriculum gaps limited participants' e-learning experience. Some participants noted opportunities in online learning, such as access to online resources and flexibility in communication. Recommendations include increasing government funding for rural ICT resources, data waivers for learning, robust teacher training in technology use, context-specific blended learning policies, and the implementation of alternative informal learning opportunities through community learning centres. This study adds to the body of literature on current discourse on school transformation and digital connectivity for rural South African schools.

Keywords: Blended learning, COVID-19, e-learning, Economics education, rural schools, Connectivism.

INTRODUCTION

COVID-19 posed new challenges that the world had never experienced before. Governments imposed lockdowns to contain the spread of the virus. All learning institutions, such as schools and universities, were closed. As a result, learning institutions were forced to improvise alternative modes of learning to continue the learning process (COVID-19). In South Africa, COVID-19 fast-tracked the use of digital learning. It also saw a shift from traditional classroom learning to online learning, with a mix of learning at home and at school. Blended learning refers to the integration of face-to-face teaching with technology-mediated learning, enabling learners to access educational content through both physical and virtual platforms (Graham, 2013). While it is widely recognised for promoting flexibility, learner autonomy, and improved access to resources, its success depends on digital infrastructure, internet connectivity, and the technological competence of both teachers and learners (Cleveland-Innes & Wilton, 2018).

The shift to e-learning exposed existing socio-economic inequalities in the South African education system. Rural schools faced major challenges, including weak technological infrastructure, limited internet access, and low digital literacy among educators and learners (Munje & Jita, 2020). Many learners also lacked smartphones, computers, and affordable data, which made participation in online learning difficult and raised serious concerns about educational equity and continuity during the pandemic.

Although several studies have examined the impact of COVID-19 on education, limited attention has been given to the lived experiences of Economics teachers in rural secondary schools. Because Economics often requires learner engagement, graph interpretation, economic data analysis, and classroom discussion, the shift to remote learning may have significantly affected the subject. Understanding teachers' experiences is therefore important for informing future policy and improving preparedness for similar disruptions. The purpose of this study was to explore teachers' perspectives on the challenges and barriers encountered in transitioning from traditional face-to-face teaching to e-learning during the COVID-19 pandemic.

Globally, the transition to e-learning highlighted both the opportunities and challenges associated with technology-mediated education. While online learning provided learners with continued access to educational content and facilitated communication between teachers and learners, it also exposed significant disparities in access to technology and digital resources. Learners from disadvantaged socio-economic backgrounds were particularly vulnerable because they often lacked the necessary devices, internet connectivity, and digital skills to participate successfully in online learning environments (Dhawan, 2020). Consequently, the pandemic intensified existing educational inequalities, especially in developing countries where technological infrastructure remains inadequate.

The study focused specifically on secondary school Economics teachers and learners in rural schools in the Vhembe East District, Limpopo Province, South Africa. The article further offers recommendations to strengthen blended and online learning in rural educational contexts.

LITERATURE REVIEW

The Global Shift Towards E-Learning During COVID-19

The COVID-19 pandemic accelerated the adoption of digital technologies in education worldwide. Schools and universities increasingly use online learning platforms, video conferencing tools, and digital resources to support teaching and learning (Dhawan, 2020). E-learning offered flexible learning options and helped maintain educational continuity during periods of limited in-person interaction. However, the effectiveness of e-learning varied greatly depending on the situation. Developed countries typically had the tech infrastructure needed for remote learning, while many developing countries faced significant challenges related to internet access, electricity, and availability of digital devices (Bozkurt et al., 2020). These gaps led to unequal learning opportunities and highlighted the ongoing global digital divide.

The rapid spread of COVID-19 accelerated the adoption of e-learning worldwide. Educational institutions increasingly relied on digital platforms such as Google Classroom, Microsoft Teams, Zoom, and WhatsApp to facilitate teaching and learning (Dhawan, 2020). E-learning offered flexibility and enabled learners to access educational content remotely. However, successful participation in e-learning requires access to digital devices, internet connectivity, and digital literacy skills. Learners in developing countries often face substantial barriers due to inadequate technological infrastructure and socio-economic constraints (Bozkurt et al., 2020).

Blended Learning in Rural Educational Contexts

Blended learning combines traditional classroom teaching with online activities, promoting flexibility and student-focused education (Graham, 2013). Learning Management Systems (LMSs) like Moodle, Blackboard, and Google Classroom have become key tools for communication, content delivery, and learner assessment (Lubis et al., 2020). The digital divide refers to inequalities in access to information and communication technologies. During the pandemic, learners from disadvantaged backgrounds were disproportionately affected by limited access to digital resources (Van Dijk, 2020). Rural learners often experience challenges associated with poor network coverage, expensive internet data, and inadequate technological support.

Even with its potential benefits, effective blended learning requires adequate infrastructure, reliable internet access, and user tech skills. Research in rural educational settings shows that poor ICT infrastructure often limits the success of blended learning (Munje & Jita, 2020). Teachers often face challenges such as poor connectivity, inadequate training, and low student participation.

Studies during the pandemic indicated that many teachers struggled to adjust their instructional methods for online settings. According to Sari and Wahyudin (2019), limited digital skills and a lack of confidence in technology made it hard for educators to use digital learning platforms effectively. Similar issues have been noted in South Africa, where rural schools frequently lack sufficient technological resources and support (Mhlanga & Moloi, 2020).

The Digital Divide and Educational Inequality

The concept of the digital divide refers to disparities in access to information and communication technologies among different populations (Van Dijk, 2020). During the COVID-19 pandemic, the digital divide became increasingly evident as learners from disadvantaged backgrounds struggled to access online educational resources.

In South Africa, historical socio-economic inequalities continue to influence educational outcomes. Learners in rural communities frequently face barriers related to poverty, inadequate infrastructure, and limited access to technology (Spaull & Van der Berg, 2020). Consequently, the transition to e-learning disproportionately affected learners in rural schools, thereby exacerbating existing educational inequalities.

Theoretical Framework

Connectivism Theory

This study was guided by Connectivism Theory, developed by Siemens in 2004. Connectivism emerged in response to the growing impact of digital technologies on learning and knowledge creation. The theory suggests that knowledge exists within networks, and learning happens through building and maintaining connections among various information sources. According to Siemens in 2004, effective learning in the digital age relies on a person's ability to find, assess, and use information from different sources. Connectivism emphasises the following principles:

• Learning Occurs Through Networks and Connections

According to Connectivism, learning is not limited to an individual's mind. It happens through the connections people build with others, digital resources, and various information sources. Learners gain knowledge by interacting with teachers, peers, experts, online communities, and educational technologies. These networks allow learners to exchange ideas, solve problems together, and create new understanding. The stronger and more varied a learner's network, the better the chances for meaningful learning and professional growth.

• Knowledge is Spread Across Digital Platforms and Information Systems

Connectivism argues that knowledge is distributed across many digital sources rather than found in a single textbook or within a single person. Information is available on educational websites, online databases, digital libraries, learning management systems, social media, podcasts, webinars, and artificial intelligence tools. Learners need to know how to find reliable information and combine knowledge from different sources.

• Accessing Current Information is More Important Than Holding onto Static Knowledge

In today's fast-changing world, information can quickly become outdated. Connectivism stresses that learners should be able to find, assess, and use up-to-date information rather than just relying on memorised facts. Lifelong learning is crucial because new knowledge continues to emerge from technological advances, research, and innovation. Critical thinking and information literacy matter because learners must distinguish accurate, reliable information from misinformation.

• Technology Plays a Key Role in Gaining and Sharing Knowledge

Technology is essential to the Connectivist approach because it enables learners to access information,

communicate with experts, collaborate with peers, and learn anytime, anywhere. Digital tools such as learning management systems, video conferencing, mobile apps, artificial intelligence, cloud storage, and social media have transformed how knowledge is created and shared. Technology also supports personalised learning by letting learners study at their own pace and according to their needs.

• Learning involves collaboration and interaction within digital communities

Connectivism sees learning as a social process that grows through collaboration and interaction. Learners gain from participating in online discussion forums, virtual classrooms, social media groups, professional learning communities, and collaborative projects. Through these interactions, they exchange ideas, challenge different viewpoints, solve problems, and create new knowledge. Collaborative learning also enhances communication skills, teamwork, creativity, and reflective thinking. The theory offers a helpful framework for understanding the shift to e-learning during COVID-19 by stressing the importance of access to technology and digital literacy. However, Connectivism assumes that learners and teachers have access to technological resources and internet connectivity. In rural areas facing infrastructure challenges, applying connectivist principles becomes much harder. As a result, the digital divide limits chances for networked learning and knowledge sharing.

Research Design and Methodology

The study employed a qualitative research approach to explore the experiences of teachers and learners during the transition from conventional face-to-face teaching to e-learning amid the COVID-19 pandemic. A qualitative approach is appropriate for investigating participants' perceptions, lived experiences, attitudes, and interpretations of social phenomena within their real-life contexts (Creswell & Poth, 2018). The research was underpinned by a phenomenological design, which enabled the researcher to examine and understand the lived experiences of Further Education and Training (FET) Economics teachers and learners as they adapted to the abrupt changes in teaching and learning. This design provided participants with an opportunity to express their personal experiences and reflections in their own words, thereby generating rich and detailed accounts of the realities they encountered during the implementation of e-learning. Purposive sampling was used to identify participants who had direct knowledge and experience of the phenomenon under investigation. The study involved ten (10) Economics teachers and ten (10) learners from Grades 10–12, selected from ten secondary schools in the Vhembe East District of Limpopo Province. Data were collected through semi-structured interviews, which allowed participants to provide detailed responses while giving the researcher flexibility to ask follow-up questions and seek clarification where necessary. With participants' permission, all interviews were audio-recorded and transcribed verbatim to ensure an accurate representation of their views and experiences.

The interview data were analysed using thematic analysis, a widely recognised qualitative method for identifying and interpreting recurring patterns in textual data. The analysis began with familiarisation, during which the researcher repeatedly read the interview transcripts and listened to the recordings to gain a thorough understanding of the information collected. Thereafter, the researcher systematically coded the data by assigning labels to meaningful statements, phrases, and ideas that were relevant to the research objectives. Codes with similar meanings were grouped into categories, which were subsequently examined to identify broader themes and sub-themes reflecting participants' shared experiences, challenges, opportunities, and coping strategies associated with e-learning during the COVID-19 pandemic. These emerging themes were continuously reviewed, refined, and compared with the original transcripts to ensure they accurately reflected participants' responses. The final themes were clearly defined and interpreted in relation to the study objectives, research questions, and existing scholarly literature. To enhance the credibility and trustworthiness of the findings, verbatim quotations from participants were incorporated to support the interpretation of each theme, while continuous comparison of the data ensured consistency and accuracy throughout the analysis process.

Ethical principles were carefully observed throughout every stage of the study. Prior to data collection, ethical approval was obtained from the University of Venda Research Ethics Committee, confirming that the study complied with institutional ethical requirements and internationally accepted ethical principles governing research involving human participants. Permission to conduct the research was subsequently obtained from the

Limpopo Department of Basic Education, followed by approval from the relevant district education offices and principals of the participating schools. Participation was entirely voluntary, and all participants were provided with comprehensive information about the purpose of the study, the research procedures, the expected duration of participation, and the intended use of the findings before agreeing to participate. Written informed consent was obtained from each participant, and they were informed of their right to decline participation, refuse to answer any question, or withdraw from the study at any time without adverse consequences. Confidentiality and anonymity were maintained by assigning participant codes and pseudonyms instead of using personal names or school identities. Furthermore, all interview recordings, transcripts, consent forms, and related research documents were securely stored in password-protected electronic files and locked storage facilities accessible only to the researcher and, where applicable, the research supervisor. The information collected was used solely for academic purposes, and the findings were presented in a manner that protected the identities of individual participants and schools. Throughout the research process, the researcher adhered to the principles of honesty, transparency, integrity, respect, confidentiality, and professional responsibility to safeguard the rights, dignity, privacy, and welfare of all participants.

FINDINGS AND DISCUSSION

Lack of Smartphones, Data and Network Connectivity

The findings revealed that many learners lacked smartphones and other digital devices required for online learning. Teachers reported that even learners who owned smartphones often struggled to purchase internet data. *Two of the teachers said that:*

"The teacher and the learners indicated that they formed a WhatsApp group, which proved beneficial to learners who had smartphones but had challenges with data and network coverage. And some of the learners were unable to get smartphones because of the environment they found themselves in. Most learners were left behind because they did not have access to smartphones". (teacher 1)

"It was difficult teaching using the gadgets because of the network, which was very poor in the area; learners also had a problem of data" (teacher 2)

Most learners reported that they did not own smartphones, laptops, or tablets during the lockdown period. Some learners had to share devices with siblings, while others depended on neighbours or relatives. One of the learners stated:

"I missed many lessons because there was only one phone at home and my brothers also needed it for their schoolwork." (learners 8)

The findings of this study are consistent with previous research showing that limited access to digital technologies remains one of the most significant barriers to effective online learning in developing countries (Bozkurt et al., 2020; Munje & Jita, 2020). They further demonstrate that structural inequalities continue to exacerbate educational exclusion, particularly in rural communities where many learners lack access to essential digital devices and reliable internet connectivity. As a result, learner participation in online learning was severely constrained, widening existing educational disparities and limiting opportunities for meaningful engagement with instructional activities. From the perspective of Connectivism, learning is facilitated through participation in digital networks, where knowledge is acquired, shared, and continuously updated through connections with information sources and other learners (Siemens, 2004).

However, the findings reveal a "broken network condition," in which the absence of digital devices and internet connectivity prevented learners from accessing these learning networks, effectively disconnecting them from the broader knowledge ecosystem. This situation challenges the central assumption of Connectivism that learners function as connected nodes within dynamic digital learning environments.

Similar findings were reported by Van Dijk (2020), who argues that digital exclusion perpetuates educational marginalisation by restricting access to technological resources and learning opportunities, particularly among learners in rural and socio-economically disadvantaged communities.

Incomplete Curriculum Coverage

Teachers reported difficulties completing the Economics curriculum due to rotational attendance schedules implemented during the pandemic. Reduced classroom contact time affected lesson pacing and contributed to disparities in content coverage among learner groups. The inability to complete the curriculum has implications for learner performance and examination preparedness. Burgess and Sievertsen (2020) similarly argue that prolonged disruptions to teaching and learning may have long-term effects on educational outcomes. Two teachers said that:

“Learners were left behind because of the lack resources as most learners are from the poor family background. Another problem of not completing the syllabus is that learners used to come twice or thrice in a week for traditional face-to-face method”. (teacher 2)

“Learners had to alternate in coming to school whereby emphasis on the important information would differ from group to group. Groups could not benefit from the same information”. (teacher 5)

The finding was also supported by learners, and one of them indicated that:

“Because we used to alternate, we were left behind because the level of understanding differs from learner to learner”. (learner 4)

The findings regarding the completion of the syllabus contradict the proposals of Burgess & Sievertsen (2020), Goh & Sanders (2020), and Tabane (2020) for the best way to cover the content. The solution they came up with was to encourage academics to offer their lessons via online platforms such as Blackboard, Moodle, email, WhatsApp, YouTube, and Microsoft Teams. But for disadvantaged learners, the strategy could become problematic due to limited internet access.

Learner Distractions and Reduced Supervision

Learners reported experiencing distractions while learning from home. Household responsibilities, family obligations, and the absence of direct teacher supervision negatively affected learner engagement. During online learning, learners encountered another challenge: distractions at home. Sometimes phones would ring during the lessons. Learners complained about important calls ringing on their phones, which became a distraction. Sometimes they would end up surfing for something irrelevant to academic issues.

Two learners highlighted the following:

“It was a big challenge of being taught online because we found ourselves most of the time at home. Sometimes you become committed to house chores in such a way that you end up forgetting about the lesson scheduled”. (learner 7)

“Some of us would just log in for the sake of the attendance register and end up not attending the class” (learner 9)

The literature by Cleveland-Innes, Ostasiewicz, Mishra, Gauvreau & Richardson (2017) says the following to support the findings above: The teacher should raise awareness of cyber-malice and ensure that security solutions are in place to combat unethical learning practices, academic dishonesty, identity theft and bullying. If they are not addressed, e-learning might be misused, and learners can be distracted from their learning process. The findings suggest that online learning environments require high levels of learner self-regulation and motivation. In many rural contexts, such conditions may be difficult to achieve due to socio-economic realities and limited parental support.

The Use of The Internet in Searching for Current Information

Both teachers and learners found an opportunity to make use of the gadgets for teaching and learning. It was easy to surf for relevant, up-to-date information about the topic being taught. Learners who are advanced in using the gadgets had the opportunity to assist some teachers in getting used to them. In this regard, two of the teachers had the following to say:

“The teacher gained knowledge from the learners of using the gadgets to search for information because learners are used to them”. (teacher 1)

“With reference to the graphs, we had an opportunity to watch recorded videos from YouTube. (teacher 4)

On the same note, three of the learners supported the teachers by indicating that:

“As learners, we were able to search for current and relevant information using the internet. We gained knowledge without the assistance of the teacher”. (learner 2)

“Information is received instantly which makes learners lose interest in searching for information in textbooks. Technology is the way to go as we can watch lessons on YouTube”. (learner 3)

“Information retrieved is also accompanied by pictures which make learners have a deeper understanding”. (learner 8)

The findings above are supported by the following literature. Current learners represent the Net Generation or Digital Natives which simply means that they grow up with digital and cyber technologies and therefore have some specific characteristics of using technology, they appear and demonstrate ease and proficiency in using IT (Jones, Ramanau, Cross & Healing, 2010). They are accustomed to using their mobile phones to apply technology by frequently texting, using social media, and browsing the web. When they use these devices, they typically enjoy them and find them helpful. Learners can use technology to create worthwhile projects that will help them develop their problem-solving and critical thinking skills. According to Kurt (2010), technology can be used to redesign the classroom and create an environment that fosters higher-order thinking skills. Technology can be used by learners to foster greater collaboration, a powerful learning tool. Learners collaborate to create projects and also learn from one another by reading their peers' work (Keser, Huseyin, & Ozdamli, 2011).

As a result of using technology, they become accustomed to it and find it easy to apply their knowledge in a classroom setting. According to Christen (2009), technology can make the classroom an interactive learning environment in which learners excel in their studies if it reflects how they interact with the outside world.

Preference for Face-to-Face Teaching

Most participants expressed a preference for traditional face-to-face teaching. Teachers believed that classroom instruction facilitated immediate feedback, improved learner participation, and enabled effective monitoring of learner progress. The preference for face-to-face teaching highlights the limitations of e-learning in contexts characterised by inadequate digital infrastructure. Although online learning offers several advantages, its effectiveness remains dependent on access to reliable technological resources.

Flexibility of Time

Teachers and learners had the opportunity to set a time that was suitable and convenient for both, without any restrictions imposed by the school timetable. This also creates problems if both are ignorant because the class might not take place. This requires a lot of time and discipline for both teachers and learners.

On the flexibility of time, one teacher and one learner said the following:

“Time convenient to both the teacher and the learners was arranged and agreed upon. The time agreed upon was more than what is on the school timetable”. (Teacher 5)

“More time for interpreting and explanation is available. Learners have enough time to ask questions for clarity. One could distribute time evenly between house chores and learning”. (learner 9)

The study done by Vitriani et al. (2020), concur with the findings on time. They indicate that content and instructions are supplied using digital and online media in blended learning, which gives learners control over time, location, and speed.

Lubis et al., (2020), also support the findings about flexibility of e-learning. In their study they indicate that learners have freedom in selecting the time and locations where they enjoy hanging out, such as cafes, among others.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed to improve the implementation of blended and online learning in rural secondary schools:

Increase Government Investment in Digital Infrastructure

The government should prioritise expanding and improving information and communication technology (ICT) infrastructure in rural schools by providing reliable internet connectivity, well-equipped computer laboratories, and adequate digital devices for both teachers and learners. Such investments are essential for creating equitable learning opportunities and ensuring that rural schools are not disadvantaged in accessing technology-based education. Improved infrastructure would enable learners and teachers to participate effectively in digital learning environments and reduce educational disparities between rural and urban schools.

Provide Affordable or Subsidised Educational Data

Government departments, educational authorities, and telecommunications providers should collaborate to make educational data more affordable or freely available to teachers and learners. High data costs remain a significant obstacle to participation in online learning, particularly for learners from low-income households. Reducing these costs would increase access to digital learning resources, improve learner engagement, and ensure that financial constraints do not prevent learners from participating in educational activities.

Strengthen Continuous Professional Development for Teachers

Ongoing professional development programmes should be implemented to strengthen teachers' digital literacy, technological competence, and confidence in integrating digital tools into classroom practice. These programmes should provide practical training, continuous support, mentoring, and opportunities for collaborative learning among teachers. Continuous capacity building will better equip teachers to deliver high-quality instruction in both face-to-face and online environments while enabling them to respond effectively to future educational disruptions.

Develop a Blended Learning Policy for Rural Schools

The Department of Basic Education should develop a comprehensive blended learning policy tailored to the unique needs and challenges of rural schools. The policy should provide clear guidelines on infrastructure requirements, curriculum delivery, learner support, assessment practices, teacher responsibilities, and the effective integration of technology into teaching and learning. A context-specific policy would promote consistency in implementation and provide schools with practical direction for sustaining blended learning.

Strengthen Alternative Learning Approaches

Education authorities should incorporate alternative methods of curriculum delivery into emergency preparedness plans to ensure learning continues during periods when digital technologies are inaccessible. These approaches may include printed learning materials, educational radio broadcasts, television lessons, and other

community-based learning initiatives. Diversifying learning platforms will ensure that learners continue receiving educational support despite limited internet connectivity or shortages of digital devices.

Promote Learner Self-Regulation and Independent Learning Skills

Schools should implement programmes that develop learners' self-regulation skills, including time management, self-discipline, goal setting, problem-solving, and independent learning strategies. These competencies are essential for learners to manage their own learning effectively in blended and online learning environments where greater personal responsibility is required. Strengthening these skills will improve learner engagement, academic performance, and resilience during both normal schooling and periods of educational disruption.

CONCLUSION

The findings of this study indicate that the transition from face-to-face teaching to e-learning during the COVID-19 pandemic exposed significant educational inequalities in rural South African schools. Economics teachers in the Vhembe East District faced challenges, including limited access to digital devices, poor internet connectivity, high data costs, inadequate infrastructure, and reduced learner participation, which hindered effective teaching and learning. Although e-learning provided opportunities for continued instruction and flexible access to educational resources, its success was constrained by socio-economic and infrastructural limitations. The study concludes that effective implementation of blended learning in rural schools requires sustained investment in ICT infrastructure, affordable internet access, continuous teacher professional development, learner support, and context-specific policies to bridge the digital divide and promote equitable access to quality education.

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