

Chapter 8

Technology Integration in Mathematics to Promote Wellbeing of Learners During the Coronavirus Pandemic: A Case Study in the Or Tambo Inland District

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ABSTRACT

The purpose of this chapter is to explore the effects of technology integration in mathematics teaching to promote wellbeing of learners during Covid-19. An interpretive approach together with face-to-face interviews were utilized to gather information from nine participants who teach grade ten mathematics from each of the three senior secondary schools in the OR Tambo Coastal District. The findings revealed that several teachers lacked the formal technology expertise required to embrace online learning successfully and found a dearth of learner connections while teaching online. It was also found out that there was a lack of access to technology. It is recommended that the department of basic education should ensure that all learners have the data card loaded with uncapped data for learning to run smoothly. It was advised that professional development programs be established to train teachers in the design, use, and application of ICT technologies for online teaching.

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INTRODUCTION

Many facets of society were affected by the coronavirus pandemic, which forced nations and local communities to close offices, switch schools to online education, reduce in-person contact, postpone public events, and impose travel restrictions. Most of the world has experienced crises since 2020 because of COVID-19's spread. To ensure continuity in education when in-person learning was not possible, schools and colleges utilized digital technologies, such as Internet-connected PCs, laptops, and mobile phones. Globally, the amount of research on COVID-19's effects on schooling has increased dramatically. Researchers in mathematics education have investigated issues like necessary skills and curriculum development in regional contexts (Marav-Zavaleta, 2021; Aguilar & Castaneda, 2021), perceptions, uses, and barriers in technologically enhanced learning environments (Yılmaz, Gülbağcı Dede, Sears & Yıldız Nielsen, 2021), and parent-school communication (Gomez, 2021). Teachers, who make up one of the primary groups of educational actors, have had to adapt their daily routines while also figuring out how to keep the teaching process consistent and satisfy the expectations and goals of the students. Another significant topic in recent research is the ability of teachers to teach online in emergency situations. Technology use can enhance students' aptitudes in mathematics and scientific studies (Tan, Wijaya, Zou & Hermita, 2020). Therefore, the teacher must plan the usage of technology. Sometimes, teachers refrain from employing technology in the classroom for a variety of reasons (Tondeur, Scherer, Siddiq & Baran, 2020). Teachers refrain from using technology in the classroom for a variety of reasons, including a lack of time for lesson planning, a lack of technical expertise, a tendency to waste time on it, and a comfort level with the chalkboard as a teaching tool. This chapter seeks to explore technology integration in the teaching of mathematics to promote wellbeing of learners during coronavirus pandemic.

- What part did technology integration play in mathematics teaching in order to promote wellbeing of learners during the COVID-19 pandemic?
- What are the challenges of technology integration in mathematics teaching during the outbreak of COVID-19 pandemic?
- Which professional training is likely to improve technology integration in mathematics teaching?

The author also provides a brief background on the subject as it is described, the setting in which the issue is present, as well as the relevant literature and theoretical framework, before outlining their approach. The approach used to try to find answers to the research questions is further expanded upon in the proposal.

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