Chapter 15
Exploring Heads of Departments' Management of the Mathematics Curriculum During COVID-19

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ABSTRACT

Heads of departments (HoDs) play a central role in managing teaching and learning in the schools. Moreover, good leadership contributes to school improvement and to learner achievement, especially in mathematics. South African mathematics achievement levels are still regarded as the lowest. The purpose of the chapter is to explore HoDs' management of the mathematics curriculum and challenges encountered during COVID-19. This investigation was situated within the qualitative research paradigm. A comprehensive literature review method was incorporated as an approach to collect, analyse, and interpret data. Themes of focus included managing the mathematics curriculum, resources availability, intervention strategies for teaching and learning during COVID-19, curriculum completion management, record keeping, teacher development, and learner support, among others. The present study seeks to problematise the notion that HoDs do not seem to have a good understanding of curriculum management with particular focus on mathematics in the schools during the COVID-19 pandemic.

INTRODUCTION

The roles of HoDs have undergone significant changes, especially during COVID-19. HoD has used HoDs for the different learning areas, phases, and departments in South Africa. In other countries, the terms used are middle managers, department chair, and administrator (United States of America) (du Plessis & Eberlein, 2018), middle leader, subject leader, and curriculum coordinator (United Kingdom) (Clarke, 2009). HoDs are former class teachers promoted to supervising teachers to equip them with

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updated abilities, interests, and knowledge in mathematics teaching and learning. Hence, Harris & Jensz (2006) concur that HoDs influence the quality of teaching and learning to educational scholars and policymakers worldwide for professional teacher development (PTD) and support opportunities to enhance knowledge (Mampane, 2018).

COVID-19 is the novel coronavirus that Sansa (2020) describes as 'severe respiratory syndrome coronavirus-2' (SARS-COV-2). Sansa further writes that COVID-19 was first identified in China in Wuhan City at the end of 2019. As a result of the quick spread and increased number of new coronavirus infections and deaths, the Ministry of Education and the Ministry of Higher Education decided to close all educational institutions. This procedure was done as a preventive measure to combat and contain the spread of the virus and protect learners, teachers, and lecturers. Consequently, the parents were instructed to keep their children at home and prevent them from going to public places or crowds. In South Africa, the government was forced to enact a national lockdown temporarily from March 6, 2020, until further notice. This move (which became known as the 'lockdown') meant that all learning institutions had total closure.

Consequently, the COVID-19 pandemic brought the need for all teachers, even university professors, to adjust the delivery of instruction and managers of mathematics school curriculum to adjust their management strategies. The new challenge for HoDs is re-envisioning how mathematics activities can be adjusted to ensure that meaningful teaching and learning occur during lockdown virtually where possible to ensure that teachers continue to provide best practices for teaching mathematics to learners during the COVID-19 era. In the context of the above factors, this chapter explores HoDs' management of the mathematics curriculum during COVID-19 in schools. The chapter seeks to respond to the following question: *What is the effect of COVID-19 on mathematics HoDs to manage curriculum delivery.*

BACKGROUND

Since the emergence of previous epidemics such as the Severe Acute Respiratory Syndrome (2003), the N1H1flu (2009), the Middle East Respiratory Syndrome (2012), and the Ebola virus (2014), research on epidemics has been minimally focused on the immediate loss of human life (Lappalainen, 2020). Such an approach is explained in the characterisation of outbreaks. They are mostly confined to regions of the world such as parts of East Asia, Africa, America, and the Middle East. Thus, their political, socio-economic, and health impact globally have been minimal (Delivorias & Scholz, 2020). However, in December 2019, a severe respiratory syndrome coronavirus-2 (SARS-COV-2), COVID-19, broke out in the city of Wuhan in China. The outbreak and uncontrolled spread of COVID-19 was one of the defining aspects of the unpreparedness of governments and societies across the globe, leading to national lockdowns in countries around the world. The effects of lockdowns worldwide have motivated scholars to study the impacts of global pandemics in economic, social, and academic terms (Mursyidah, Hermoyo, & Suwaibah, 2021; Chitiga-Mabungu, Henseler, Mabungu, & Masionnave, 2020).

Although epidemics and pandemics have received scholarly attention in the past, their bearing on societies' economic and academic well-being has not been exhausted. Conversely, the effect of the COVID-19 pandemic has had the most significant academic impact in the history of pandemics. Current studies opine that since the advent of national lockdowns, there has been a significant paradigm shift in delivering academic curriculums across the globe (e.g., Hodgen et al., 2020). This has necessitated a scholarly inquiry into *the effect of COVID-19 on mathematics HoDs to manage curriculum delivery?* As