Influence of Covid-19 Pandemic on the Management of Public Basic Schools in the Akuapem-North Municipality, Eastern Region, Ghana

Seth Dade Ansah
Department of Educational Foundations,
Faculty of Education and Life Long Learning,
University of Education, Winneba

Ruth Tetteh
Ghana Education Service Directorate of the
Akuapem-North Municipality, Akropong

ABSTRACT

The COVID-19 pandemic brought unprecedented challenges to global educational systems, necessitating adaptive strategies and resource management. This study investigated the impact of the pandemic on educational management in public basic schools within the Akuapem-North Municipality, Eastern Region, Ghana. Employing a pragmatist paradigm and sequential explanatory mixed methods design, data were collected from 87 headteachers using questionnaires and semi-structured interviews. The research identified the availability of educational resources, strategies adopted by headteachers, and their efficacy in managing teaching and learning as measures during the pandemic. Key findings indicated a predominant reliance on visual educational resources, strict adherence to COVID-19 protocols, and collaborative efforts in providing Personal Protective Equipment (PPEs). Despite the disruptions, headteachers demonstrated resilience and adaptability, leveraging available resources to ensure educational continuity. The study's implications extend to policy formulation, infrastructure development, and capacity building in emergency situations for educational stakeholders in Ghana and similar contexts globally.

INTRODUCTION

The management of schools has always been crucial, particularly in sub-Saharan African countries like Ghana, where education plays a pivotal role in economic development (Zhou et al., 2020; Suraj, 2019). The dynamics between educational leadership and educational management have garnered significant attention, with both aiming to enhance schools but differing in approach (Zhou, 2018). While educational leadership emphasizes leading through values and empowerment, educational management focuses on the maintenance and implementation of school policies (Qian, Walker & Li, 2017; Zhou, 2018).

However, the emergence of the COVID-19 pandemic has brought unprecedented challenges to the educational sector globally, threatening the provision of quality education. The pandemic has forced the closure of educational institutions worldwide, affecting over one billion students (UNESCO, 2020; World Bank Group Education Report, 2020). In Ghana, the closure of schools

left both parents and educators grappling with uncertainties, especially regarding the fate of final year students preparing for key examinations like the Basic Education Certificate Examination (BECE) and the West African Secondary School Certificate Examination (WASSCE) (Sintema, 2020; UNESCO, 2020).

The COVID-19 pandemic not only disrupted traditional teaching and learning methods but also exposed the vulnerabilities and lack of preparedness in educational systems, particularly in resource-constrained settings like sub-Saharan Africa (Ebner et al., 2020; Huang, Liu, et al., 2020; UNESCO, 2020). While some countries were able to transition to alternative learning platforms due to prior investments in digital infrastructure and training, others, including Ghana, struggled to cope with the disruptions caused by the pandemic (UNESCO, 2020).

In this context, understanding the impact of the COVID-19 pandemic on educational management in Ghana becomes imperative. This study sought to investigate the influence of the COVID-19 pandemic on educational management in public basic schools in the Akuapem-North Municipality (ANM), Eastern Region, Ghana. By exploring the strategies adopted by headteachers to manage the impact of the pandemic and the available educational resources, this study aimed to provide insights that could inform curriculum and instruction design and help navigate educational challenges during health emergencies and academic disruptions.

Theoretical frameworks guiding this study included the Contingency-based leadership theory. The Contingency-based leadership theory suggests that effective leadership styles are selected based on the given situation (Nahavandi, 2016; Brownlee, 2020). This study's significance lies in its potential to inform educational management practices during and post-pandemic, support the well-being of educational managers, and contribute to the existing literature on educational management in the Ghanaian context amid global crises.

Purpose of the Study
The study sought to investigate and highlight how the challenges of COVID-19 pandemic were managed in public basic schools in the Akuapem North Municipality.

Objectives of the Study
1. Discover resources available to headteachers in managing the impact of the COVID-19 pandemic on teaching and learning towards attaining educational goals in public basic schools in the Akuapem North Municipality.
2. Explore strategies adopted by headteachers in managing teaching and learning during the COVID-19 pandemic in public basic schools in the Akuapem North Municipality.

LITERATURE REVIEW
This literature review examines the impact of the COVID-19 pandemic on educational management within public basic schools in the Akuapem North Municipality, Eastern Region, Ghana. The term "pandemic" is derived from the Greek words 'pan' (all) and 'demos' (people) (Aweke, 2021). The widely accepted definition describes a pandemic as an epidemic that spreads across wide area such as regions, countries, continents, or globally, affecting a substantial proportion of the population (Petersen, Osler & Ekstrøm, 2021).

Historically, pandemics such as smallpox, cholera, and influenza have left indelible marks on societies worldwide (WHO, 2020). The 20th century witnessed major influenza outbreaks, including the "Spanish flu" in 1918-1919, "Asian flu" in 1957-1958, and "Hong Kong flu" in 1968-1969, each resulting in significant morbidity and mortality (WHO, 2020). Pandemics are characterized by their widespread geographic reach, rapid disease transmission, novelty, severity, and societal impact (Qiu et al., 2018; Lipsitch, 2020). The 2009 H1N1 pandemic, for example, affected 178 countries, illustrating its global reach (Rewar, Mirdha & Rewar, 2015).

Pandemics have multifaceted impacts, ranging from health crises leading to significant mortality (Ross et al., 2014; Joshi & Shukla, 2022) to substantial economic losses (Maurice, 2016; Gostin & Friedman, 2015). They also induce social disruptions, including school closures and travel restrictions (Parmet & Rothstein, 2018), and pose security threats that governments must address (Maurice, 2016; Kern, 2016). The COVID-19 pandemic has profoundly affected global education systems, leading to widespread school closures and disruptions (UNESCO, 2020; Education Cannot Wait, 2020). Reimers and Schleicher (2020) documented varied responses to the pandemic globally, with countries adopting remote teaching, online platforms, and innovative virtual models. Flexible and technology-enhanced learning emerged as key strategies during the pandemic (Gover, Loukkola & Peterbauer, 2019; Zhou et al., 2020). Despite the potential benefits, educators face challenges in adapting to online teaching methods due to infrastructure and training limitations (Trust & Whalen, 2020; Geiger & Dawson, 2020).

Research Paradigm, Approach and Design

The study adopted a pragmatist paradigm, emphasizing problem-solving and employing diverse research methods to comprehend the complexities of the COVID-19 pandemic's impact on educational management in public basic schools in the Akuapem North Municipality, Eastern Region, Ghana (Creswell & Creswell, 2018; SC, 2018). This paradigm facilitated the integration of both qualitative and quantitative data, enhancing data triangulation and overall research robustness. An interpretive approach was employed, emphasizing the voices of headteachers and capturing qualitative richness through audio-recorded interviews (Hall, 2020). A mixed methods approach was employed to address the multifaceted nature of the research questions, combining qualitative and quantitative methods (Baŝkarada & Koronios, 2018). Qualitative methods were utilized to explore experiences and perceptions, while quantitative methods addressed specific research inquiries, providing a holistic understanding of the pandemic's impact (Kelly & Cordeiro, 2020; Cuthbertson, Robb, & Blair, 2020).

The sequential explanatory mixed methods design was implemented, where quantitative data guided the collection and analysis of qualitative data to elaborate and explain initial findings (Creswell & Creswell, 2018; Bakla, 2018).

Population, Sampling and Instrumentation

The study population comprised 87 headteachers from public basic schools across seven circuits in the Akuapem North Municipality, Eastern Region, Ghana. There were 47 male and 40 female headteachers (Akuapem-North Municipality Education Directorate, 2022). The study employed a census comprising all 87 headteachers. Data were collected using a self-developed questionnaire consisting of three sections for quantitative data and a semi-structured interview guide with open-ended questions for qualitative insights into the pandemic's impact and

strategies adopted by headteachers. The Cronbach alpha reliability coefficients for the items is 0.87, indicating high reliability (Creswell & Creswell, 2018).

DISCUSSION OF FINDINGS

The discussion is organized into three main themes: Demographic data; Educational Resources Availability and Strategies Adopted in Managing Teaching and Learning. The demographic data collected included gender distribution, working experience, and years spent in the current school. The gender distribution among headteachers showed that 54% were male and 46% were female. Moreover, 59.3% of headteachers had 10 or more years of working experience, and 46% had spent 4-6 years in their current school. The sample as described by the demographic data is fairly distributed and suited for this study.

Educational Resources for Managing COVID-19 Impact

This objective of the study discovered educational resources that were available to headteachers in managing the impact of the COVID-19 pandemic on teaching and learning in public basic schools in the Akuapem North Municipality.

Table 1: Instructional Resources Available to Headteachers (n=87)

	Means	Standard Deviations	Ranking
Charts in my school	9.63	1.89	1st
Real objectives for teaching and learning	8.43	1.64	3rd
Text books for teaching and learning	7.42	1. 58	4th
Study guides are available in my school	7.32	1.46	5th
Teachers' handbooks are available in my school	6.67	1.31	7th
Computers for teaching and learning	6.98	1.38	6th
Television for teaching and learning in my school	5.45	1.29	8th
Handouts and pamphlets for teaching and learning	4.32	1.21	9th
Transparencies for teaching and learning	8.54	1.74	2nd
Lack of photographs for teaching and learning	3.75	1.06	10th

According to the data in Table 4.1, the availability of educational resources was assessed using means and standard deviations. Charts (M=9.63, SD=1.89) and transparencies (M=8.54, SD=1.74) were the most available resources, followed by real objectives (M=8.43, SD=1.64) and textbooks (M=7.42, SD=1.58) (Table 4.1). The results indicated a predominance of visual materials over audio and audio-visual resources. The results indicates that majority of the headteachers in the study area reported that there were more of visual instructional materials for teachers to use in their schools. This result signifies that there were less of audio instructional materials. Further, the result denotes that there were less audio-visual instructional materials. Based on these results, it was concluded that charts, transparencies, real objects, and text books were educational resources predominantly available to headteachers in managing the impact of COVID-19 pandemic on teaching and learning in public basic schools in the Akuapem North Municipality.

This finding confirms that of Tomlinson, & Imbeau (2023) who discovered that in order to help pupils efficiently understand the topics, charts are employed in every subject. The pupils can efficiently learn the ideas with the use of charts (Tomlinson, & Imbeau, 2023). Also, Busljeta (2013) found that using textbooks, teachers can teach pupils the fundamentals of many ideas.

These were created by authors specifically for students to aid in their learning. A textbook is any book that has been specifically written by the author(s) for the purpose of teaching a specific course. It is used in classrooms for all topics as an essential foundational teaching-learning tool. Again, Tomlinson, & Imbeau (2023) established that textbooks are used to educate all courses in pre-schools, elementary schools, secondary schools, and senior secondary schools. For all courses, including Physics, Social Science, Mathematics, Hindi, English, and so forth, textbooks are required. Students must bring their textbooks to school in order to participate in class. These also include exercises that students must do at the conclusion of each lesson plan in order to fully comprehend the lesson plans.

Strategies Adopted in Managing Teaching and Learning
This objective was to explore strategies adopted by headteachers in managing teaching and learning during the COVID-19 pandemic in public basic schools in the Akuapem North Municipality.

Adherence to COVID-19 Protocols
Headteachers emphasized the importance of adhering to COVID-19 protocols, such as handwashing, temperature checks, and social distancing. Teachers were responsible for monitoring these protocols and ensuring compliance among students (HT: 3, HT: 4, HT: 6).

Education
Educational measures included talks by health workers, the Ghana Education Service, and continuous sensitization of students, teachers, and parents about COVID-19 protocols (HT: 8, HT: 9, HT: 10).

Provision of Personal Protective Equipment (PPEs)
Various sources contributed PPEs to the schools, including old students, community members, parents, the government, and NGOs. These PPEs included sanitizers, masks, veronica buckets, and tissue papers. Headteachers ensured the proper distribution and utilization of these PPEs (HT: 1, HT: 7, HT: 8, HT: 10).

The study revealed that headteachers in public basic schools in the Akuapem North Municipality had access to visual educational resources, mainly charts and transparencies, to manage the impact of the COVID-19 pandemic on teaching and learning. Strategies adopted by headteachers included adherence to COVID-19 protocols, educational initiatives, and the provision of PPEs. These findings highlight the importance of preparedness and resource availability in managing crises like the COVID-19 pandemic in educational settings.

CONCLUSION AND RECOMMENDATIONS
Conclusions and Implications
Based on the findings, it is concluded that though the COVID-19 pandemic came to disrupt the smooth running of public basic schools in the Akuapem North Municipality, headteachers had at their disposal educational resources in managing the impact of the COVID-19 pandemic on teaching and learning. Also, headteachers made sure that teachers and students strictly adhered to the COVID-19 protocols. This was achieved through the supply and use of PPEs by students and teachers. Headteachers preparedness has become more pressing than before. Innovative ways of managing instruction is very important in current discourse in a world of

uncertainties. Therefore, preparing teachers in emergencies will ensure that teachers as well as headteachers are able to respond to education in emergency to ensure that the educational calendar is not disorganised.

Recommendations

In line with the poor quantities of audio-visual devices for teaching and learning, there is a need for the local government and the municipal education directorate to invest in digital and physical infrastructure. Public basic schools in the Akuapem North Municipality must have access to Information and Communication Technology (ICT) if they are to have equitable access to education. Likewise, parents of pupils should support their wards with smart digital handheld devices for internet connectivity to be made accessible in classrooms of such public basic schools in the Akuapem North Municipality.

Based on the findings that heads and their teachers were swift to respond to COVID-19 protocols, it is recommended that the human resource unit of the Ghana Education Service to occasionally run training programmes to refresh teachers' knowledge on pandemic and ways of adjusting in times of pandemics and emergencies. Also, teacher training institutions should review their curriculum to equip teachers with knowledge and skills for pandemic situations. Further, while the government initiate measures to enable continuity of education during the pandemics, headteachers should make special efforts to ensure students get access to teaching and learning resources. Where there have been lost of contact hours, headteachers should try and make sure that students get access to special teaching to recover lost contact hours. Policy-makers should invest in headteacher capacity building so they are better able to ensure instructional supervision in the mist of digital and information skills to guide teachers during teaching and learning and most especially in emergency situations. Headteachers should motivate and support teachers to use inclusive pedagogical approaches to ensure that girls and other vulnerable groups continue to benefit from education. The Ministry of Education should provide well-being, counselling, and therapy support to students and teachers in times of pandemics. The focus should be on mental health, especially the challenges vulnerable students faced during the pandemic.

Declarations
List of abbreviations:
Akuapem-North Municipality (ANM)
Basic Education Certificate Examination (BECE)
Coronavirus Disease 2019 (COVID-19)
Influenza A virus (H1N1)
Headteacher respondent HT
Information and Communication Technology (ICT)
Non-Governmental Organization (NGO)
Provision of Personal Protective Equipment (PPEs)
West African Secondary School Certificate Examination (WASSCE)

Availability of data and materials: The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

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