

**UNIVERSITY OF EDUCATION, WINNEBA**

**EXAMINING THE EFFECTS OF COVID-19 ON SENIOR HIGH  
SCHOOL STUDENTS' LEARNING IN TEMA WEST MUNICIPALITY.**



**A dissertation in the Department of Educational Foundations,  
Faculty of Educational Studies submitted to the School of  
Graduate Studies in partial fulfilment  
of the requirements for the award of the degree of  
Post Graduate Diploma  
(Education)  
in the University of Education, Winneba**

**SEPTEMBER, 2023**

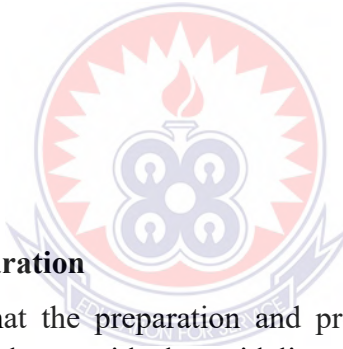
## DECLARATION

### Student's Declaration

I, Reuben Takyi-Ofori, declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

Signature: .....

Date: .....



### Supervisor's Declaration

I hereby declare that the preparation and presentation of this dissertation was supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Education, Winneba.

**Dr. Abigail M. Opong Tetteh** (Supervisor)

Signature: .....

Date: .....

## **DEDICATION**

To my family



## AKNOWLEDGEMENTS

My heartfelt appreciation goes to my supervisor, Dr. Abigail M. Opong Tetteh for her comments and expert guidance that helped to shape this work.

Special thanks also to my parents as well as my colleagues for their diverse assistance, inspiration and motivation, without them this dissertation wouldn't have been a success.

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## ABSTRACT

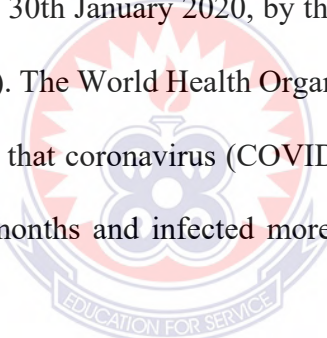
The study sought to examine the effects of COVID-19 on Senior High School students' learning in Tema West Municipality. Specifically, to determine the relationship between participants' demographic variables and their responses as well as explore from the perspectives of students the challenges faced during COVID-19 period. The study was underpinned by the pragmatic paradigm hence the mixed method was employed. The target population was 1100 SHS forms two and three students in Tema SHS and Lashibi Community SHS. 285 SHS forms two and three students in both schools were selected using the simple random sampling technique. Both the questionnaire and the semi-structured interview guide was employed to aid in data collection. Both face and content validity were established in the study while a reliability test of Cronbach alpha (0.78) was conducted to determine the reliability of the questionnaire. Quantitative data analysis was done with the use of the SPSS software while a qualitative software analysis, tool Nvivo 8, was used to transcribe the oral data recorded during the interview phase. Findings from the study revealed that, 53.5% and 59% of the students responded their academic performance and quality of learning was affected by COVID-19 respectively. Overall, 34% of the students found online learning to be ineffective while COVID-19 affected them academically, socially and psychologically. This study recommended that, educational managers should develop policies and strategies such as provision of technical resources for teaching and learning as education contingency measures that can address future pandemic and support sustainable.

## CHAPTER ONE

### INTRODUCTION

#### 1.0. Background to the study

The fear that gripped the world was the COVID-19 pandemic and hence a vital discourse in recent times for both countries in the world and researchers alike. A lot of pandemics have occurred in human history, and affected human life, education system, and economic development in the world (Editors, 2020). The infectious disease corona virus also known as COVID-19 was first detected in December 2019 in Wuhan, Hubei province, China (WHO, 2020). Its outbreak was however declared on 30th January 2020, by the Director General of World Health Organization (WHO). The World Health Organization (WHO) on March 11, 2020, officially announced that coronavirus (COVID-19) is a pandemic after it covered 114 countries in 3 months and infected more than 118,000 people in the world (WHO, 2020a).



This COVID-19 has already impaired global healthcare systems as well as affected every aspect of human life (Dutta and Smita, 2020). The novel coronavirus (COVID-19) pandemic facing the world has forced over 124 countries to close schools as at 22nd March 2020 with an estimated 1.25 billion learners from pre-primary to tertiary education being affected. As of 28th March, 2020, over 1.7 billion learners were out of school due to schools not in session because of the pandemic. Also, as of 6th May 2020, UNESCO estimated that 177 countries have closed schools nationwide, impacting over 1.2 billion learners globally, who are mainly children and youth. School closures in the context of COVID 19 have been

necessary across the globe to slow the spread of the disease and mitigate the effects on health systems.

According to UNESCO monitoring, over 100 countries have implemented nationwide closure, impacting nearly 90% of the world's student population. (UNESCO, COVID-19 Educational Disruption and Response, 2020). For reducing the spread of the infectious disease, governments of numerous countries have adopted several unprecedented preventive measures like strengthening health facilities, closure of educational institutions, offices, markets, restaurants, museums, movie theatres, etc., prohibition on social gatherings, border shutdown, and travel restrictions (Dutta and Smita, 2020).

In Ghana, the pandemic has affected masses of students, whose school closings have further caught them, their families and teachers by disbelief. UNESCO (2020a) reports that the closure of all education institutions in Ghana, effected some 9.2 million basic school students (kindergarten, primary and junior high schools) and 0.5 million tertiary education students. COVID-19 Response in Ghana's Education Sector in May, 2020 reported that, the Ministry of Education (MoE) and the Ghana Education Service (GES) were quick to put in place measures aimed at ensuring opportunities for continuous learning even with schools closed. Soon after school closures were announced, MoE and GES announced the COVID-19 Emergency Support Provision of Distance and Remote Learning Systems Solutions, which was followed by the launch of distance and online learning platforms and the rolling out of lessons broadcast on Ghana Learning television (GLTV) for 1 million senior high school (SHS) students. Digital content developed

for million kindergarten (KG) through junior high school (JHS) students for TV, radio, and online learning was launched from the third term.

Despite the achievements of the remote and distance learning platforms, challenges remain in ensuring equitable access to these education services. Many students and their families do not have access to the internet; indeed, the Multiple Indicator Cluster Survey (MICS) 2017/18 indicates that only 22% of households in the country have access to the internet at home and only 15% have access to a computer. In comparison, TV coverage (60.4%) and radio coverage (57.2%) are much higher across the country, with radio coverage more widespread in those regions with higher levels of economic deprivation.

However, education has been the bedrock of development of every nation; hence its sustainability is paramount to growth and development of all nations. It has been the pillar of development of every country, so education is principal to the development and growth of all countries (Owusu-Fordjour, Koomson, & Hanson, 2015). Education over centuries have been hit with several challenges ranging from changes in school curriculum to closing down of Educational Institutions due to either a demonstration by students or staff, outbreak of a disease and/or instability in governance of a nation of which the education system in Ghana is of no exception (Owusu-Fordjour, Koomson & Hanson, 2020). The Coronavirus pandemic has affected educational systems and consequently have affected masses of students' learning. The United Nations Education, Scientific, and Cultural Organization (UNESCO) has been recognized that the coronavirus pandemic outbreak has impacted the education system in the world (UNESCO, 2020b). Earn, He, Loeb,

Fonseca, Lee & Dushoff, (2012) and Kawano & Kakehashi (2015) argue that, preventive measures taken by governments with regards to education and its related activities as an effective strategy for breaking the critical transmission chain during the pandemic adversely affected students' academic study, including learning interruptions, disruption to assessment among others.

As UNESCO reports that 87% of the world's student population were affected by COVID-19 school closures (UNESCO, 2020b). UNESCO launched distance learning practices in an attempt to reach out to students who are most at risk. According to the UNESCO, over 1.5 billion students in 195 countries were affected by COVID-19 pandemic school closures. Niranjana, (2020) posits that COVID-19 impacted not only the overall economy and our day-to-day life, but also emotional, mental, and physical health, also, losses in national and international business, poor cash flow in the market, locked national and international traveling; moreover, disruption of the celebration of cultural, and festive events, stress among the population, the closures of hotels, restaurants, religious, and entertainment places (Evans, 2020).

In many developing countries the economic shock has come first, as governments have locked down their economies to reduce the speed of infection. As a result, developing countries like Ghana are suffering their greatest economic decline and closures of their education and transportation system (Haleem, Javaid, & Vaishya, 2020). Distance learning solutions containing platforms, educational applications, and resources that aimed to help parents, students, and teachers were introduced to mitigate the severe impact of the pandemic on education (UNESCO, 2020a).

However, due to lack of internet connectivity, information technology, educational materials, and digital technology skill, the distance learning and accompanying objectives were not achieved in developing countries (Mustafa, 2020).

### **1.1. Statement of the Problem**

The outbreak of the corona virus disease (COVID-19) increased tension and anxiety among Ghanaian citizens, particularly students' learning has been severely affected. Education has been the pillar of development of every country, so education is principal to the development and growth of all countries. The education system has been affected by several challenges ranging from changes in the education curriculum to closing down the education system due to widespread pandemic diseases (Owusu-Fordjour *et al.*, 2015). During the pandemic environment, the main focus of teaching and learning was on maintaining consistency in delivering quality education. Unfortunately, the pandemic situation forced educational institutions to adopt several preventive measures such as social distancing, cancellation of extra-curricular activities among others and hence adversely affecting students' learning. In the COVID-19 period, among the world's student population, senior high school students experienced educational disruptions on an unprecedented scale, as the pandemic interfered with their academic functioning. This COVID-19 situation induced concerns in students about academic activities along with social and economic affairs and fear of infection (Al-Tammemi, Akour, & Alfalah, 2020).

In contributing to the COVID-19 discourse with regards to its impact on student's learning and to a broader perspective, education, several authors including

Browning, *et al.* (2021); Owusu-Fordjour, Koomson & Hanson 2020; Anamika & Irum (2021) focused their study on only higher education or tertiary students with no emphasis on secondary education. However, Dutta and Smita (2020) argue that, secondary school students are the largest among the world's student population and hence investigating the effects of COVID-19 on senior high school students' learning will provide a more valid and reliable result while revealing the real effects on students in a country and as such necessitates this study.

Although researchers have attempted to investigate the effects of COVID-19 on education, these studies were conducted in countries where the resources and facilities are much better than Ghana (that is the developed countries). Thus, it may be misleading when results from these advanced countries are generalized for developing countries such as Ghana. In other words, the true effect cannot be ascertained when findings from advanced countries are used to inform policies for developing countries like Ghana. Also, very limited studies have been conducted particularly on how COVID-19 has affected the learning activities of students at the secondary level in Ghana. Therefore, this study attempts to fill the gap by examining the effects of the COVID-19 on students' learning in Senior High Schools in Ghana, specifically Tema West Municipality.

Most of the previous studies were conducted using either the quantitative (Upoalkpajor & Upoalkpajor, 2020; Browning, Larson, Sharaievska, Rigolon, McAnirlin, Mullenbach & 2021).; Fordjour, Koomson & Hanson, 2020) or qualitative (Dutta & Smita,2020; McCoole, Boggiano & Lattanzi, 2020); Kedraka & Kaltsidis, 2020; Adnan & Anwar, 2020; Arnhold, Brajkovic, Nikolaev &



Zavalina, 2020; Mahdy, 2020). However, Klassen, Creswell, Plano Clark, Smith & Meissner, (2012) emphasize that an equal emphasis should be given to both quantitative and qualitative approaches in investigating phenomena thereby providing in dept understanding. Hence, this study attempt to address this is by employing the mixed method in examining the effects of COVID-19 on the students' learning.

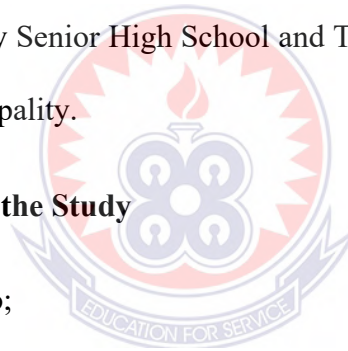
### **1.2. Purpose of the study**

This study sought to examine the effects of COVID-19 on Senior High School students' learning in Tema West Municipality. That is, second cycle public schools, Lashibi Community Senior High School and Tema Senior High School within the Tema West Municipality.

### **1.3. Objectives of the Study**

The study sought to;

1. Examine the effects of COVID-19 on SHS students' learning in Tema West Municipality.
2. Determine the relationship between participants' demographic variables and their responses.
3. Explore from the perspectives of students the challenges faced during COVID-19 period



#### **1.4. Research Questions**

The research questions underpinning this study are;

1. What are the effects of COVID-19 on Senior High School students' learning in Tema West Municipality?
2. What is the relationship between participants' demographic variables and their responses?
3. How were students, from their perspective, affected by the challenges of COVID-19 period?

#### **1.5. Significance of the study**

The results of the study will expound the effects of COVID-19 on Senior High School students' learning in Tema West Municipality. The findings of this study will add to literature and bringing to bear the magnitude of how COVID-19 has affected the learning experiences of students in the second cycle institutions help policymakers make sound and informed decisions.

This study's findings will contribute to the body of knowledge and represents novel research on this topic for Ghana. It will contribute to the development of policies and strategies for teaching and learning in emergency cases like the Coronavirus situation so that it will assist educational managers to improve the quality of education. It will also help teachers to improve instruction and follow a proper plan for teaching in emergency situations.

## **1.6. Delimitation of the study**

This study examines the effects of COVID-19 on Senior High School students' learning within the Tema West Municipality. Specifically, the study focused on 285 SHS two and three students from the two public Senior High Schools (that is, Lashibi Community Day Senior High School and Tema Senior High School) within the Tema West Municipality to examine how their learning has been affected by the pandemic. The study would also determine how the demographic characteristics of the respondents (students) are related to their responses as well as the challenges COVID-19 has posed from their perspective as students.

## **1.7. Organisation of the Study**

The study was organized into five chapters. The first chapter covers the background of the study, statement of the problem, objectives of the study, research questions, significance of the study, delimitation, and organisation of the study. The second chapter covers review of related literature, theoretical framework and empirical review of the study. Chapter three deals with the methodology to be used and its justifications, the fourth chapter deals with the results and discussion of findings, whereas chapter five looks at the summary of key findings, conclusion, recommendations suggestions for further research as well as limitations of the study.

## **1.8 Chapter Summary**

This chapter focused on the premise that set the research into being. It further looked at the problem at hand and its guiding objectives to address the problem

statement. The next chapter of this study, reviews conceptual and theoretical theories, as well as empirical studies on the themes underpinning this study.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0. Introduction

This chapter reviewed related literature, both theoretical and empirical. The theoretical review consists of theories, themes or issues in which the study was embedded while the empirical review, on the other hand, reviewed information taken into consideration the methodology of other works that justifying the outcome of this study.

#### 2.1. Theoretical Review

This study is supported by or based on Mezirow (1997) theory of transformative learning. The concept of transformative learning has proven to be a very rich vein of discourse in the field of learning, creating opportunities for wide ranging discussion and debate about the nature of learning and of its relationship to personal and social change (Dirkx2006; Marsick and Mezirow 2002; Taylor and Snyder 2012). Transformative learning theory is a humanist learning theory introduced by Jack Mezirow in 1981) which explains that the learning begins when learners experience an anticipated situation or a discomfort position. Thus, the learning that strongly influences learner, his beliefs and values. In this theory, “learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one’s experience in order to guide future action.

At its heart, transformative learning theory is about the nature of change, and about the processes through which we produce a shift in the way we see and make

meaning of the world. It offers a theory of learning that is uniquely abstract, idealized, and grounded in the nature of human communication. It is a theory that is partly a developmental process, but more as “learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one’s experience in order to guide future action” (Mezirow, 1996). Transformative learning offers an explanation for change in meaning structures that evolves in two domains of learning based on the epistemology of Habermas’ communicative theory.

First is instrumental learning, which focuses on learning through task-oriented problem solving and determination of cause-and-effect relationships including learning to do, based on empirical-analytic discovery. Second is communicative learning, which is learning involved in understanding the meaning of what others “communicate concerning values, ideals, feelings, moral decisions, and such concepts as freedom, justice, love, labor, autonomy, commitment and democracy” (Mezirow, 1991). When these domains of learning involve “reflective assessment of premises and movement through cognitive structures by identifying and judging presuppositions”, transformative learning is taking place.

This theory thus, attempts to explain how our expectations, framed within cultural assumptions and presuppositions, directly influence the meaning we derive from our experiences. It is the revision of meaning structures from experiences that is addressed by the theory of perspective transformation. Perspective transformation explains the process of how adults revise their meaning structures. Meaning structures act as culturally defined frames of reference that are inclusive of meaning

schemes and meaning perspectives. Meaning schemes, the smaller components, are “made up of specific knowledge, beliefs, value judgements, and feelings that constitute interpretations of experience” (Mezirow, 1991). They are the tangible signs of our habits and expectations that influence and shape a particular behavior or view, such as how we may act when we are around a homeless person among others. Changes in our meaning schemes are a regular and frequent occurrence.

Meaning perspective is a general frame of reference, world view, or personal paradigm involving “a collection of meaning schemes made up of higher-order schemata, theories, propositions, beliefs, prototypes, goal orientations and evaluations” (Mezirow 1990) and “they provide us criteria for judging or evaluating right and wrong, bad and good, beautiful and ugly, true and false, appropriate and inappropriate” (Mezirow, 1991).

However, Mezirow’s theory can be seen on three common themes which are the centrality of experience, critical reflection, and rational discourse in the process of meaning structure transformation. It is the learner’s experience that is the starting point and the subject matter for transformative learning (Mezirow, 1995). Experience is seen as socially constructed, so that it can be deconstructed and acted upon. It is experience that provides the grist for critical reflection. Tennant (1991) offers a description of using a learner’s experience that seems most congruent with transformative learning. Thus, learning experiences establish a common base from which each learner constructs meaning through personal reflection and group discussion. The meanings that learners attach to their experiences may be subjected to critical scrutiny. The teacher may consciously try to disrupt the learner’s world

view and stimulate uncertainty, ambiguity, and doubt in learners about previously taken-for-granted interpretations of experience.

The second theme, critical reflection, based on Habermas' view of rationality and analysis, is considered by Mezirow the distinguishing characteristic of transformative learning. Critical reflection refers to questioning the integrity of assumptions and beliefs based on prior experience. It often occurs in response to an awareness of a contradiction among our thoughts, feelings, and actions. These contradictions are generally the result of distorted epistemic (nature and use of knowledge), psychological (acting inconsistently from our self-concept), and sociolinguistic (mechanisms by which society and language limit our perception) assumptions. In essence, we realize something is not consistent with what we hold to be true and act in relation to our world. "Reflection is the apperceptive process by which we change our minds, literally and figuratively. It is the process of turning our attention to the justification for what we know, feel, believe and act upon" (Mezirow, 1997).

In the case of transformative learning, most significant to effecting change in one's established frame of reference (world view) is the critical reflection of assumptions (CRA). This is a critique of assumptions (e.g., habits of mind based on logical, ethical, ideological, social, economic, political, ecological, or spiritual aspects of experience) underlying a problem defined by a learner. Mezirow (1998) breaks critical reflection into a taxonomy: (1) critical reflection of assumptions (CRA), which focuses more on instrumental learning (e.g., critiquing a text) through objective reframing with the intent to improve performance; and (2) critical self-



reflection of assumptions (CSRA), subjective reframing, which focuses on the psychological and cultural limitations of one's world view. It is through CSRA that we are freed from cultural distortions and constraints, allowing for open discourse. Therefore, it is critical self-reflection of assumptions (CSRA) that is most essential for the transforming of our meaning structures.

The third theme of transformative learning theory is rational discourse. Rational discourse is the essential medium through which transformation is promoted and developed. However, in contrast to everyday discussions, it is used "when we have reason to question the comprehensibility, truth, appropriateness, (in relation to norms), or authenticity (in relation to feelings) of what is being asserted or to question the credibility of the person making the statement." (Mezirow 1991).

Discourse in transformative learning rest on the following assumptions: It is rational only as long it meets the conditions necessary to create understanding with another, It is to be driven by objectivity, all actions and statements are open to question and discussion, understanding is arrived through the weighing of evidence and measuring the insight and strength of supporting arguments and the primary goal is to promote mutual understanding among others. It is within the arena of rational discourse that experience and critical reflection are played out. Discourse becomes the medium for critical reflection to be put into action, where experience is reflected upon and assumptions and beliefs are questioned, and where meaning schemes and meaning structures are ultimately transformed.

In summary, Mezirow does not see transformative learning as an "add-on" educational practice or technique but rather a significant learning which involves

the transformation of meaning structures through an ongoing process of critical reflection, discourse, and acting on one's belief. Thus, Mezirow believes that the learning begins when the learners experience an anticipated situation or a discomfort position. It is therefore upon the premise of the theory of transformative learning that forms the foundation of this study. Thus, the outbreak of the COVID-19 pandemic created dissonance in the education system around the world, and caused paradigm shifts and transformation in secondary education. Transformative learning is the expansion of conscience through self-adaption to a changing situation. Mezirow believes that disorienting dilemma causes alterations that leads to cognitive differences and dramatic changes in the education. This theory is suitable for this study because it examines students' experience of teaching and learning during a sudden transformation in secondary education.

## **2.2. The Effects of Coronavirus on Education Globally**

Corona virus disease (Covid-19), a novel pandemic has become an albatross on the world's economy, public health, education, agriculture and so on of which Ghana is no exception. It has remained a global health concern since the initial outbreak in Wuhan, China. With what was first purported to be common cold with an unknown cause (Sohrabi, Alsafi & O'Neill, 2020), the Coronavirus has spread across every continent of the world in less than two years and has affected about 220 countries, with nearly 519,467,357 confirmed cases and 6,277,833 deaths as of May 19, 2022 (WHO, 2020). Coronaviruses typically result in respiratory and enteric infections affecting both animals and humans, and were considered

relatively benign to humans before the severe acute respiratory syndrome (SARS-CoV) outbreak in 2002 and 2003 in China (Cui, Li & Shi, 2019).

The pandemic has affected every sector of human life including religious activities, funerals, business, education, public healthcare systems, and socio-cultural events. It resulted in schools, colleges and universities shut all across the world. On education, the COVID-19 pandemic has affected education through two main types of shocks: the immediate impacts of schools and university closures and the impacts of the economic recession sparked by the pandemic response, which have already begun and will deepen for some time to come and unless countries mount major efforts to respond, the pandemic will have a long-term effect on human capital and welfare. (World Bank Group Education Report, 2020).

In response to the coronavirus pandemic, UNESCO estimated that 107 countries had implemented national school closure related to COVID-19 by 18th March 2020 affecting 862 million children and young people, roughly half the global student population (Russel, 2020). Even more seriously, Bozkurt and Sharma (2020) reported that more than 1.5 billion learners of all ages from around the globe were affected due to the school and university closure owing to COVID-19 pandemic (UNESCO, 2020a & UNICEF, 2020). The affected number of students equal 90% of the world's enrolled students (UNESCO, 2020) and the shutting down of schools have widened learning inequalities and hurt vulnerable children and youth disproportionately.

Despite the low rates of the infections among children, school closures are critical pillar of the social distancing tools to mitigate the spread of the disease and avoid

an acceleration of cases that will put a strain on health services. Its effectiveness as a measure to slow down the spread of contagion will depend on the exact timing of the closure, the age structure of the population and the length of the closure (World Bank, 2020). Around mid-March 2020, governments across Africa through the Ministry of Health announced that all schools, colleges and universities closed indefinitely amid fears of the Coronavirus (COVID-19) outbreak that had reportedly ravaged most parts of China, United States of America, Italy, Spain and other parts of Europe and Africa (Sintema, 2020).

As of 27 April 2020, nearly 1.725 billion learners were affected owing to school closings in response to the pandemic. According to a monitoring report by UNICEF, one hundred and eighty-six (186) countries were engaging national closures and local closures, impacting about 98.5 percent of students' population in the world. On 23 March 2020, Cambridge International Examinations (CIE) made a pronouncement that the annulment of Cambridge O Level, Cambridge IGCSE, Cambridge AICE Diploma, Cambridge International AS & A Level, and also Cambridge Pre-U examinations for the May/June 2020 series all over the world. International Baccalaureate exams were also annulled (UNESCO, 2020a).

The pandemic caused the cessation of all forms of physical interaction between teachers and students and has been a big blow to the global education sector as the popular traditional form of interaction where the teacher stands and delivers the teaching and learning activities in the classroom was not possible. The global lockdown of educational institutions caused a wreck in students' learning and assessments (Bjorklund & Salvanes, 2011). Many global communities were taken

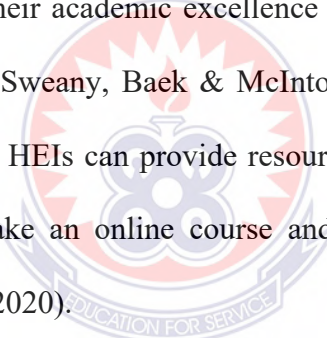
by surprise as they never envisaged that online teaching and learning approach would overtake the traditional classroom (face-to-face) teaching during pandemics like the COVID-19 pandemic.

However, school closings impact not only teachers, students and families, but have extensive economic and societal costs. School closings in response to COVID-19 have thrown light on numerous social and economic issues, including homelessness, digital learning, student debt and food insecurity as well as health care, access to childcare, housing, disability services and internet. The impact was severe for underprivileged families, and their children, causing intermittent learning, conceded nutrition, childcare complications, and resultant economic cost to families who could not work (UNESCO, 2020b). Efforts to stalk the spread of COVID-19 through non-pharmaceutical involvements and protective procedures such as self-isolation and social-distancing sparked the extensive closure of all tertiary, second cycle and basic schooling.

In addressing this issue, UNESCO indorsed the use of distance learning program and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education (UNESCO, 2020c; 2020d). On account of this recommendations, HEIs across the world have started operating remotely via online platforms for emergency remote teaching and learning as part of measures to reduce the spread of COVID-19 (Bozkurt & Sharma, 2020; Crawford, Butler-Henderson, Rudolph, Malkawi, Glowatz, Burton, Magni, & Lam, 2020), conversely, powered by the digital divide (Bozkurt & Sharma, 2020; UN, 2020; UNESCO, 2020f, Ziyu, 2020) due to inequalities among higher

educations and socio-economic differences among students. Regarding this, many scholars questioned if HEIs are prepared for moving into digital era of learning (Houlden & Veletsianos, 2020).

Remote learning offers students with elasticity in where and when they learn. Students have more control in when and how they complete course learning activities. However, the online learning necessitates diverse qualities of students such as knowledge of technology use, time management and organization, and interaction using online technologies (Joosten & Cusatis, 2020). Students who enroll in online courses may have mixed levels of readiness and preparedness that could likely affect their academic excellence (Hung, Chou, Chen & Own, 2010; Yeh, Kwok, Chien, Sweany, Baek & McIntosh, 2019). To ensure high level of student engagement, HEIs can provide resources to help students assess whether they are ready to take an online course and offer suggestions for preparation (Joosten & Cusatis, 2020).

The logo of the University of Education, Winneba, is a circular emblem. It features a central shield with a cross and four smaller shields in the quadrants. Above the shield is a sunburst. The shield is surrounded by a wreath. Below the shield is a banner with the motto 'EDUCATION FOR SERVICE'. The entire emblem is set against a red and white background.

Aside this, lecturers can also provide instructional support via instructional activities that can help students in appraising their preparedness and readiness (e.g., assessment), gaining the needed skills to learn online (e.g., orientation), and managing their expectations about learning online (e.g., course tours and tips), which can help increase students' chances for success in an online course (Joosten & Cusatis, 2020).

### **2.3. The Effects of Coronavirus on Ghana's Education**

Coronavirus disease, a novel pandemic has become an albatross on the world's economy, public health, education, agriculture and so on of which Ghana is no exception. Going to school is the finest public policy instrument accessible to promote skills. While school period can be entertaining and can promote social skills and social consciousness, the main importance of being in school is that it surges a child's capacity. Even a fairly short period in school does this; even an equally short time of missed school will have charges for skill growth (Upoalkpajor & Upoalkpajor, 2020).

The education system in Ghana is based on free compulsory basic education (kindergarten, primary school, lower secondary school), secondary education (free secondary school, technical and vocational education) and tertiary education (universities, polytechnics and colleges of education). The main educational methodology employed in Ghana is face-to-face classroom teaching for almost all basic schools and second cycle institutions and some tertiary institutions such as the colleges of education. However, the universities combine both face to face and online learning. The outbreak of the COVID-19 pandemic affected Ghana's education system and hence led to the adoption of online learning at all levels of education in the country. The president of the Republic of Ghana on 15th March 2020, announced a series of measures to curtail the spread of the virus in Ghana. The actions taken by government were geared towards reducing the spread of the virus by instituting social distancing and enhanced hygiene protocols. The President directed the closure of schools beginning March 16, 2020.

The initial school closure directives allowed final year students in both Junior High School (JHS 3) and Senior High Schools (SHS 3) to continue attending school to prepare for their exams with schools ensuring that social distancing and enhanced hygiene protocols were observed. Subsequently, on March 23, 2020 following West African Examinations Council's (WAEC) decision to indefinitely postpone West African Senior School Certificate Examination (WASSCE), the Ghana Education Service directed schools to release the JHS 3 and SHS 3 students to go home until the President's directives were reversed (MOE,2020).

The closure was announced at the time when Final year Basic school students were preparing for their BECE exams in June and the Final year Senior High School students were also warming up to take their WASSCE exams in May 2020. The fate of these students remained a mirage. The Ministry of Education did not seem to have any solution to the problem at hand as at then. Parents were confused and teachers were depending on the Ghana Education Service for the way-forward. What was more worrying and confusing was that no one knew how these candidates would gain admission into Senior High Schools and Universities as at September 2020 as suggestion of aptitude test and entrance exams for these candidates was rejected by the universities.

Clearly the pandemic has come to expose the lack of planning and preparedness towards such emergency educational situations. There seemed to be no alternative solution to a problem that is likely to draw the entire educational system back and further deepen the woes of vulnerable children and youth in the country (UNESCO, 2020a). The Ghana National Council of Private Schools (GNACOPS) have



estimated that, over 94,000 private school teachers lost their jobs due to the corona virus outbreak as at May, 2020.

In an attempt to contain and control the spread of the virus, the president instituted social distancing protocols and directed the closure of schools on the 16th of March 2020. Initially, the closure excluded both final year Junior High School (JHS) and Senior High School (SHS) students. This was to enable these final year students to prepare for their final examination. However, following the indefinite postponement of the West African Senior School Certificate Examination by the West African Examination Council (WAEC) the final year students were asked to go home (Ministry of Education [MoE], 2020). About 9.2 million and 500,000 learners from the basic and tertiary levels were affected respectively (MoE, 2020). To ensure the continuity of teaching and learning, the president of the Republic of Ghana directed the Ministry of Education and the Ministry of Communication to ensure that they rollout distance and remote learning programmes for all students (Abdul-Salam, 2020).

As a response to the president's directive, the Ministry of Education in Ghana had to quickly make arrangements for online teaching and learning at all levels of education. The Minister of Education disclosed at a press briefing on 25th March 2020 that the government of Ghana had engaged a team of experts from the Ministry of Education, the National Council for Tertiary Education, the Ghana Education Service, and the Centre for National Distance Learning and Open Schooling as well as the Ghana Library Authority and the Curriculum Assessment

Agents to find proactive measures in planning online instruction for students at all levels in educational institutions in Ghana (Ghana News Agency, 2020).

As such, the Ministry of Education (MoE) together with Ghana Education Service (GES) ensured continues learning through its distance and online learning platform and the broadcasting of lessons on Ghana Learning Television (GLTV) for 1 million SHS students (MoE, 2020). Digital contents were also been developed for TV, radio and online learning for the basic school and junior high school levels (MoE, 2020).

The Ministry of Education targeted making good and effective use of social media platforms in delivering online instruction. However, ethically, students below the age of thirteen were not to be exposed to the use of social media (International Baccalaureate Organization, 2020). Many lecturers and teachers in the educational institutions in Ghana made good use of the WhatsApp, WeChat, Facebook, Instagram Live, and other social media sites for their online teaching and learning activities. Telecommunication companies in Ghana also offered lecturers free internet packages to deliver online instruction to learners. To a larger degree, the government partnered with the telecommunication companies to zero-rate education content. This made it easy for students to be able to access them free of charge. Also, the Ministry of Education encouraged educational institutions to tap the good open or free educational resources online urging the universities in Ghana to access the free educational resources from Open Universities especially in Britain.

The Association of African Universities in collaboration with the eLearn Africa and Wiley Education Services partnered with all member and non-member universities to support their migration to online instruction while helping them gain access to open education resources. Wikipedia Zero and Facebook Zero offered zero-rates on educational resources for students and teachers which can be subscribed and used with Wikipedia and Facebook Foundations bearing the cost of data charges. It must be noted that only high-quality content for online instruction was always to be selected and appropriate to the learner's level of knowledge. This was very important because of high proliferation of poor and less quality online materials online.

Tertiary institutions started engaging students using online platforms for teaching and learning (Anaba, 2020; Ashesi University, 2020). At the college level, the National Council for Tertiary Education (NCTE) with support from Transforming Teacher Education and Learning (T-TEL), established a Virtual Learning Taskforce for Teacher Education. The Taskforce together with five mentoring universities created an online B.Ed. curriculum for teachers and students and enrolled about 85%-90% student teachers on their affiliated universities virtual learning platforms (T-TEL, 2020). On the 27th of April 2020, the colleges of education officially started the second semester on their affiliated universities' online learning platforms.

## 2.4. Empirical Review

This section of the research focuses on the results or findings of other researchers in relation to the effects of COVID-19 on Senior High School students' learning in Tema West Municipality. However, for the past years, the effects of COVID-19 have brought about divergent views and theories among authors resulting from different results. Below are some of the different results;

First and foremost, Noori (2021) investigated the impact of the COVID-19 pandemic on students' learning in higher education in Afghanistan. A mixed method research design was employed where quantitative data were gathered using an online survey questionnaire from 592 randomly selected students and 6 semi-structured interviews conducted to collect qualitative data. The quantitative finding showed that the students did not experience a constant online teaching and learning during the COVID-19 pandemic. In addition, the qualitative finding revealed that the students had problems with Internet and technological facilities in their learning and they suggested that the Ministry of Higher Education should design and introduce a practical online platform which will be free and accessible with a poor Internet connection because some of the students live in areas where the Internet speed is very slow.

Owusu-Fordjour, Koomson and Hanson (2020) aimed at accessing the impact of Covid-19 on learning. The study employed a Descriptive survey design in which 11 item Likert-scale type of questionnaires was administered to 214 respondents mainly students in the second cycle and tertiary institutions of Ghana. The study employed simple random sampling technique in selecting the respondents for the

study. The study revealed students are unable to study effectively from the house thus, making the online system of learning very ineffective. Again, parents are incapable of assisting their wards on how to access online learning platform, neither can they entirely supervise the learning of their children at home without any complications. It came to light that the pandemic really has had a negative impact on their learning as many of them are not used to effectively learn by themselves. The e-learning platforms rolled out also poses challenge to majority of the students because of the limited access to internet and lack of the technical knowhow of these technological devices by most Ghanaian students.

Furthermore, learning in the time of a pandemic and implications for returning to school: effects of COVID-19 in Ghana was studied by Wolf *et al.* (2021). 1,844 children in the Greater Accra Region of Ghana, as well as their caregivers and teachers, regarding their engagement in remote learning, literacy and math test scores, and household economic hardships were surveyed for the study. The study found inequalities in access to and engagement in remote-learning activities during the ten months in 2020 in which schools were closed in Ghana. Specifically, children in private schools and children in higher socioeconomic status households engaged in remote-learning at higher rates and received more support from their schools and caregivers.

Sharma and Alvi (2021) investigated and evaluated the learners' perception in a higher education institution of India and compared the difference in the perception of the same students in Pre and Post COVID 19 period, using the Statistical Package for Social Sciences program (SPSS) version 23.0 and JASP 0.14.1 software

applications for descriptive and analytical statistics i.e. medium, minimum, maximum, paired t-test and correlation. The result of this papers confirmed that there exists a statistically significant difference in the students' perception towards the Pre-Pandemic and Post-Pandemic learning methods, which indicates that students have a higher perception of the Pre-Pandemic learning blended learning, than that of the Post Pandemic learning web-assisted learning.

Brako and Essel (2020) conducted an assessment of COVID-19 on primary education in Ghana. A survey of Mass Media was conducted and, in the survey, News items, Report and Interview on education and educational stakeholders from television and radio stations were collected. The radio stations were Peace FM, Citi FM, Joy FM, Adom FM and Oman FM. The television stations were Adom TV, UTV, TV3, GTV, Joy News, Metro TV, and Joy Prime. Furthermore, the BBC was added to get the global perspective on how Education in Ghana responded to the COVID-19 pandemic. The study found out that, the feedback from GES and the Private Schools showed that they were not prepared for the COVID-19 in the country. Also, although the distance education was an educational innovation from both Public and Private Schools, it had its own challenges.

Also, Upoalkpajor and Upoalkpajor (2020) studied the effect of COVID-19 on education in Ghana. This study was guided by the following objectives; to evaluate the awareness of COVID-19 virus among students in Ghana, to examine the impact of COVID-19 on education in Ghana and to evaluate the after effect of COVID-19 epidemic on education system in Ghana. The study employed the descriptive and explanatory design; questionnaires in addition to library research were applied in

order to collect data. Primary and secondary data sources were used and data was analyzed using the chi square statistical tool at 5% level of significance which was presented in frequency tables and percentages. The respondents under the study were 100 teachers and students of selected Senior High Schools (SHS) in Tamale metropolitan area of northern region of Ghana. The study findings revealed that COVID-19 pandemic has significant impact on education in Ghana; based on the findings from the study, schools want resources to reconstruct the loss in education through the epidemic.

Agormedah, Henaku, Ayite and Ansah (2020) explored students' response to online learning in higher education in Ghana. The study was guided by three research questions. Descriptive survey design was adopted and online questionnaire was used to gather data from 467 students in a higher education of Ghana.

Overall, the study found that students had positive response to online learning. They knew of online learning and some of the platforms like UCC Moodle platform, Alison and Google classroom. However, they were not ready for online learning because they lacked formal orientation and training, perceived lack of constant access to internet connectivity and financial unpreparedness. Management of the university should provide resources to help students assess whether they are ready to take an online course and offer suggestions for preparation.

Adom (2020) conducted a qualitative inquiry into the cultural and educational implications of the COVID-19 global pandemic in Ghana from the 3rd of March to the 16th of April, 2020. Thirty-Eight conveniently sampled study participants consisting of teachers, informal sector workers, health workers, and news reporters

from the two epicenters of the COVID-19 in Ghana were recruited for the study. Data were generated via face-to-face, telephone, and video interviews and published news reports on the COVID-19. Data were analyzed using qualitative descriptive thematic analysis, and document analysis. The findings revealed that the myths and misinformation on the infection and prevention of the COVID-19 are shrouded in the cultural beliefs of Ghanaians. In terms of education, there is a weak implementation of online education in Ghana due to the lack of technical know-how and technological gadgets as well as the high costs of internet infrastructure. The study suggests the use of a culture-driven public health education strategy and the re-creation of a robust educational system that uses blended learning approaches in Ghana.

Moreover, Tadesse and Muluye (2020) aimed to review the impact of the COVID-19 pandemic on the education system in developing countries. Hence, countries design a strategy to use educational technology, zero-fee internet educational resources, free online learning resources, and broadcasts teaching. Therefore, developing countries should enhance broadcast teaching, online teaching, and virtual class infrastructures. Further, controlling for demographic characteristics and pre-pandemic learning outcomes, the study also found gaps in children's literacy and math test scores, with food insecure and low-SES children, as well as children enrolled in public schools before the pandemic, performing significantly worse than their peers (0.2-0.3 SD gap).

In addition, Dutta and Smita (2020) explored the impact of COVID-19 pandemic on tertiary education in Bangladesh through the students' perspectives by using a



qualitative research design. The participants were fifty university students who took part in semi-structured interviews. The thematic analysis method was used for data analysis. Numerous unprecedented disruptions in students' learning, decrease in motivation and study hours, and various physical, mental and economic problems regarding academic studies were prominently found in this study. The study findings concerning online education such as unavailability of electronic devices, limited access to the internet, high cost of internet, low speed of internet, and difficulties in using online platforms were also provided valuable insights into the present scenario of online tertiary education in Bangladesh as COVID-19 is continuing.

More so, Browning *et al.* (2020) examined the psychological impacts from COVID-19 among university students. Cross-sectional data were collected through web-based questionnaires from seven U.S. universities. Representative and convenience sampling was used to invite students to complete the questionnaires. 2,534 completed responses were received, of which 61% were from women, 79% from non-Hispanic Whites, and 20% from graduate students. Exploratory factor analysis on close-ended responses resulted in two latent constructs, which we used to identify profiles of students with latent profile analysis, including high (45% of sample), moderate (40%), and low (14%) levels of psychological impact. Bivariate associations showed students who were women, were non-Hispanic Asian, in fair/poor health, of below-average relative family income, or who knew someone infected with COVID-19 experienced higher levels of psychological impact. Students who were non-Hispanic White, above-average social class, spent at least

two hours outside, or less than eight hours on electronic screens were likely to experience lower levels of psychological impact.

Also, Leal Filho *et al.* (2021) investigated the impacts of COVID-19 and social isolation on academic staff and students at universities. The aim of this study was to identify the perceived consequences of this on staff and their work and on students and their studies at universities. The study used a variety of methods, which involved an on-line survey on the influences of social isolation using a non-probability sampling. More specifically, two techniques were used, namely a convenience sampling supported by a snow ball sampling. A total of 711 questionnaires from 41 countries were received. The study revealed that 90% of the respondents have been affected by the shutdown and unable to perform normal work or studies at their institution for between 1 week to 2 months. While 70% of the respondents perceived negative impacts of COVID 19 on their work or studies, more than 60% of them value the additional time that they have had indoors with families and others.

Muftahu (2020) explored the implications of the Covid-19 pandemic to higher education by identifying matters arising and the challenges of sustaining academic programs with specific attention to developing universities in African context. In carrying out this study, secondary data analysis was conducted wherein systematic literature, policy documents, as well as related models between Covid-19 and Higher Education were reviewed. The findings from study indicated that the Covid-19 pandemic has pushed universities in different nations beyond their limits toward developing appropriate and creative alternatives such as transitioning to remote

learning, training of academic staff in the use of online instruction materials and tools and encouraging students to complete their education requirements through online learning in response to the Covid-19 pandemic. Findings from this study can be useful for researchers, policymakers, and university leadership in terms of developing policies and program as well as education contingency measures that can address future pandemic and support sustainable learning.

## **2.5. Chapter Summary**

From the theoretical point of view, the study was supported by Mezirow (1997) theory of transformative learning which was suitable for this study because it examines students' experience of teaching and learning during a sudden transformation in secondary education. Empirically, studies have investigated the effects of COVID-19 on students' learning with the help of various techniques and statistical packages ending up with different results but without much emphasis on the magnitude of effects for students in the senior school level. The next chapter focuses on the methodology employed in gathering the needed data.

## CHAPTER THREE

### METHODOLOGY

#### 3.0. Introduction

This chapter presents the methodology that were employed in carrying out the research. This chapter encompasses the mixed method approach chosen for the research which holds the pragmatism paradigm, and argues that what is best is what solves a particular phenomenon at a particular point in time. This informed the population and the sample size chosen for the study. The chapter further deals with the quantitative and qualitative instruments employed, how the data was collected and analysed and the ethical issues considered in the study.

#### 3.1. Research Paradigm

The choice of research paradigm or philosophical position for any research is premised on the approach employed for the study. Thus, in conducting a qualitative study, the most commonly used philosophical position or paradigm is the interpretivist paradigm. The interpretivist paradigm is mostly used in qualitative studies because “it acknowledges the feelings, experiences and viewpoints of the researched as data” (Kusi, 2012, p.16). That is, the interpretivist paradigm allows to gather verbal data from respondents based on their experiences and socio-cultural context. This affirms the Rugg and Petre (2007) claim that the interpretivist paradigm argues that social reality is created jointly through meaningful interaction between the researcher and the researched-on agreement in the latter’s socio-cultural context (Kusi, 2012).

The positivist paradigm on the other hand underpins quantitative studies. Unlike the interpretivist paradigm which posits that social reality is created jointly through meaningful interaction between the researcher and the researched, the positivist paradigm which underpins quantitative studies argues that social reality exist out there and it is independent of the researcher. According to Cohen, Manion and Morrison (2007), this paradigm operates on the assumption that human behaviour is essentially rule-governed and can best be interpreted through discovering a set of laws that can be used to predict general patterns of the human behaviour (Esterberg, 2002).

Like quantitative and qualitative studies being underpinned by the interpretivist and positivist paradigms, the mixed method study is underpinned by pragmatic paradigm. According to Scotland (2012), the pragmatic paradigm is of the premise that reality is constantly negotiated, debated, and it is interpreted per what best solves the problem. That is, there is no ultimate truth in knowledge, but the ultimate truth is what brings a solution at a point in time when needed. Its ontological view is of both the objectivist and subjectivist, with the aim of arriving at the truth in knowledge on what best fits or solves a problem. It can be said that pragmatism is outcome-oriented and interested in determining the meaning of things and hence necessitates the reason for employing this paradigm for the study.

### 3.2. Research Approach

Contemporary writings in research methods have led to the discovery and inclusion of a new approach to the traditional approaches in research. Until this discovery and inclusion of the mixed-method approach, most research works were done using either the quantitative approach or qualitative approach. The quantitative approach allows for gathering of large data through surveys for statistical analysis. The use of the quantitative approach helps to generalise the findings to a larger population. The qualitative approach on the other hand is used to gather subjective data from the perspective of the respondents. The use of this approach limits the researcher in relation to the population size, since data from a larger population may be time consuming and difficult to transcribe within a limited time frame. Data from the use of qualitative approach cannot be generalised to the larger population since responses are subjective.

Therefore, to better examine the effects of COVID-19 on Senior High School students' learning in Tema West Municipality, the mixed-method approach was employed. The mixed-method approach enabled the researcher to use a combination of the quantitative approach (for the first two objectives) and qualitative approach (for the last objective) to collect and analyse data. This approach employed helped to offset the quantitative and qualitative data to ensure completeness through clarifications and elaborations in the response to the research question posed (Almalki, 2016). Wisdom and Creswell (2013) add that the mixed method approach permits a more complete and synergistic utilization of data than to separate quantitative and qualitative data collection and analysis. The authors

further revealed that the use of this approach helps to collect rich, comprehensive data, provides methodological flexibility, reflects participant's point of view, compares quantitative and qualitative data and fosters scholarly interaction.

However, Creswell and Plano (2011) argue that the use of the mixed method often pose a challenge to some researchers as to which of the designs under this approach best suits the study being conducted, increases the complexity of evaluations as well as cope with the demands associated with the utilisation of this approach. In all, a clear understanding of the paradigm (pragmatic paradigm) underpinning the mixed method approach in a way provides an insight to the researcher in the choice of design that can help best in unravelling the truth in knowledge.

### **3.3. Research Design**

Research design is the overall plan for connecting the conceptual research problems to the pertinent and achievable empirical research. It is an inquiry which provides specific direction for procedures in research (Creswell, 2014). This is a step-by-step procedure which is adopted by a researcher before data collection and analysis process commences so as to achieve the research objective in a valid way. The essence of research design is to translate a research problem into data for analysis so as to provide relevant answers to research questions at a minimum cost. Kerlinger, (1986) describes research design as a plan, structure and strategy of investigation that is adopted with an aim of obtaining answers to research questions with optimal control of variables.

“A research design provides a framework for the collection and analysis of data” (Bryman, 2016, p.40). It can be argued that the choice of research design is based on the researcher’s own assumptions, skills, and practices which influence how the data is collected and analysed (Maree & Pietersen, 2009). Each of the various approaches namely; quantitative approach, qualitative approach and mixed method approach to conduct research has distinct research designs that serve as the framework for data collection and analysis. Research designs under the mixed method approach are classified in terms of sequence and or priority. In choosing a research design based on priority, the researcher has the option of giving much attention to quantitative component, qualitative component, or ensuring equal weight for both quantitative and qualitative components of the research (Bryman, 2016).

However, after deciding on the priority to employ for the study, the researcher has four main typologies to choose from the sequential classifications under mixed method approach which are the sequential exploratory design, convergent parallel design, embedded design and sequential explanatory design (Creswell & Plano, 2011). The sequential exploratory design first gathers qualitative data as the basis on which to build and explain the quantitative data. The use of this design involves “separate stages which are easy to implement and that the qualitative data is acceptable to quantitative researchers” (Almalki, 2016, p.293).

The author points out that the use of this design is time-consuming and as such some participants may not be willing to partake in the second phase of the data



collection process. The convergent parallel design also known as the triangulation design gathers complimentary yet distinct data on the same phenomenon which is then compared or merged for analysis and interpretation (Amalki, 2016; Bryman, 2016). The convergent parallel design makes intuitive sense to gather information from different sources, utilising different methods, which work together as an efficient design whereas the embedded design sees one method of enquiry being used in a supportive secondary role which enables researchers and readers to make sense of the study in its entirety. The disadvantage with the use of the embedded design is that, it is often difficult for researchers within qualitative research.

The sequential explanatory design is a two-stage design which sees quantitative data being used as the basis on which to build and explain qualitative data. With this study laying priority on quantitative components (the first two research objectives or questions) which allowed for more emphasis on the quantitative data over the qualitative data, it influenced the researcher's choice of research design to be the sequential explanatory design. This design was employed because it permitted the researcher to first gather quantitative data on the two research questions and then based on the results, the researcher gathered qualitative data on the third research question or objective.

Consequently, the researcher employed the descriptive survey for the first two research objectives or questions. This involves systematic gathering of data about individuals, groups and events in order to answer research questions concerning the current status of the subject of the study (Saunders, Lewis & Thornhill, 2014). The

descriptive survey was considered appropriate because it allows the researcher to collect data to assess current practices for improvement.

Also, for the qualitative aspect of this study which explores the challenges faced by students during the COVID-19 period, the semi-structured interview instrument was employed because it helps the researcher gather data which describes the lived experiences of individuals about a phenomenon as described by the participants (Creswell, 2014). This description culminates in the essence of the experiences for several individuals who have all experienced the phenomenon. This was appropriate for the study as it can provide an in-depth understanding of the nature and lived experiences of students during the COVID-19 era.

### **3.4. The Study Area**

Lashibi Community Day Senior High School is an E-block school established and commenced officially in September, 2019 with a students and staff population of 1, 065 and 48. The school is situated in Lashibi, a town in the Greater Accra Region of south-eastern Ghana near the capital Accra. Interestingly, Lashibi is the twentieth-largest settlement in Ghana. The vision of the school is to provide holistic, quality education through effective teaching and learning that enables students to acquire knowledge, skills and values for national development. Its mission is to provide a formal education and training through effective teaching and learning and efficient management of resources to harness students' potentials to enable them become self-reliant and responsible citizens of society. Courses

offered include general arts, general science, visual arts, home economics and business.

Tema secondary school is a day and boarding mixed school established and commissioned on 22<sup>nd</sup> September, 1961, by Ghana's first president Dr. Kwame Nkrumah. The school is located between Community Two and Five. It is about 200 metres from the West African Examination Council (WAEC) hall. The students' population stands at 1, 873 with staff population of 169. In addition to the academic training, students participate in co-curricular activities and are encouraged to form approved clubs and societies to occupy them during their leisure periods. The mission of the school is to provide quality education and moral uprightness to every Ghanaian or non- Ghanaian child of school going age, qualified and placed in the school having passed successfully in the Basic Education Certificate Examination (B.E.C.E) while the vision is to transform Tema Secondary School to one of the best Boarding and Day Co-educational schools in the country.

The choice of these study areas was influenced by accessibility to the schools since the researcher was familiar and created the rapport with some of the key personnel of the schools. Geographically, it was convenient due to its accessible routes and location in Tema. This affirms the claim by Kusi (2012) that the choice of an area or site for a study is influenced by these pragmatic factors.

### **3.5. Population of the Study**

The population of the study is very critical when conducting research. This is because, in choosing a population for the study, it must comprise of participants bearing the same or similar characteristics. Thus, “population is a group of individuals with the same characteristics and in whom the researcher is interested” (Kusi, 2012, p. 80). The population for this study was all students in Lashibi Senior High School and Tema Senior High School within the Tema West Municipality. According to Asiamah, Mensah and Oteng-Abeyie (2017), the target population refers to the members or group of the population that data is intended to be collected to make inferences. The target population of the research comprised of one thousand one hundred (1100) Senior High School forms two and three students in Tema Senior High School and Lashibi Community Senior High School.

### **3.6. Sample Size and Sampling Procedure**

According to Upoalkpajor and Upoalkpajor (2020), sample is the set of people or items which constitute part of a given population sampling. It refers to a subset of the population of interest. It is the small amount of the population that gives out a more representative information about the population it was taken from. The sample of the study is the representative of the population to assure that the researchers can generalize the finding of their studies to the whole population. Based on the (Krejcie and Morgan, 1970) table for determining sample size from a given population and as shown in appendix A, two hundred (285) SHS two and three students were selected as the sample of the study using the simple random

sampling technique. Creswell (2012) stated that random sampling gives the chance for every member of the population to be selected as the participant of a study. The researcher anticipated that some of the students may not fill out the questionnaire and hence led to the selection of a high number of students as the sample to reduce sampling error of the study.

The maximal variation sampling technique was employed to select participants and as such ten (10) students were selected to be interviewed. This sampling technique assisted selecting participants from extreme angles in order to access multiple perspectives. This affirms the claim by Kusi (2012) that maximal variation sampling technique allows the researcher to categorise participants according to their different sex, class, age etc for data collection. These categories of respondents were interviewed to answer the third research question of the study.

### **3.7. Data Collection Methods**

An accurate data collection method leads to a valid result. That said, an inaccurate data collection method distorts the results of the study thereby making the results of the study invalid. There exist many data collection methods, both quantitatively and qualitatively. Consistent with Noori (2021), survey and interview were the methods employed for this study to reinforce the mixed-method approach. The survey method was used to collect quantitative data whereas the interview was used to gather the qualitative data needed for the study.

The survey method of data collection is mostly used in the collection of data from a large sample of a population (Glasgow, 2005), hence, its usage in gathering

quantitative data from the sampled students for the study. The use of the survey method assists in gathering data from a wide array of participants which would have been difficult to reach under normal circumstances, and within a limited period of time (Dudovskiy, 2016). The survey can be conducted faster, cheaper and it is relatively easy to analyse. However, it is subject to bias of respondents and unclear understanding of some of the questions or items formulated on the part of the respondents.

### **3.8. Research Instruments**

#### Questionnaire

The questionnaire, which is one of the major survey methods, was employed as the instrument to collect the quantitative data. According to Denscombe (2010), it is appropriate to use the questionnaire when the researcher intends to gather large volume of data from participants within a short period of time. It also helps to keep participants anonymous since the use of the instrument does not require them to reveal their identity and offers the possibility of generating large amount of data. However, the use of this instrument makes it difficult to ensure greater depth for the research. The structured questionnaire was designed based on the research questions and literature reviewed on the effects of COVID-19 on students' learning. The questionnaire was made up of four (4) sections. The first section of the questionnaire contains an introduction of the researcher, the purpose of the study and the significance of the study.

The second section of the questionnaire gathers data of the demographic background of the respondents whereas the rest of the two subsequent sections gathers data on the research questions guiding the study. The third and fourth sections of the questionnaire contain a five-point Likert scale type with Strongly Disagree (SD) - 1, Disagree (D) - 2, Uncertain (U) - 3, Agree (A) – 4 and Strongly Agree (SA) - 5 as options to choose from, and also had both open-ended and closed-ended questions.

#### Semi-structured interview

This instrument was also used in collecting the qualitative data of this study. This was done through the use of a semi-structured interview guide as the instrument in data collection by means of face-face interaction. This instrument was developed to explore from the perspectives of students the challenges faced during COVID-19 period and also based on the issues that emerged. Denscombe (2010) postulates that conducting interview helps to reflect emotions and experiences, and examine issues with greater focus. A semi-structured interview guide gives the researcher room to seek for explanations and clarifications whereas the participants have the freedom to express themselves in their own perspective and choice of words (Bryman, 2016).

In affirmation, Denscombe (2010) postulates that conducting interview provides the possibility to direct the process of data collection and offers the possibility to gather specific information required. That notwithstanding, it requires a lot of time to arrange, conduct interview and transcribe the data before the relevant information can be sieved and used for its intended purpose. It was therefore

prudent to employ this method to probe further for detailed clarification on emerging issues and consequently analysed and discussed.

### **3.9.0 Validity of Quantitative Instrument**

Validity in research expresses the degree to which the instrument measures what it is supposed to measure (Bryman, 2016). Both face and content validity were established in the study. Face validity was established by colleagues in the Lashibi Community Day Senior High School to determine whether the items were in line with the research questions. Content validity was established through examination and critiquing of the instruments by the researcher's supervisor. The critiques made were effected to reshape the instrument to be able to measure what it was intended to measure.

#### **3.9.1. Reliability**

Reliability is the likelihood of obtaining the same or similar results when the instrument measures the same variable more than once, or when more than one person measures the same variable. In ensuring reliability, the researcher presented the instrument to the supervisor to check if there is consistency between the items in the instrument and research questions. The contents of the instrument were divided into sections to reduce the likelihood of repeating some items, and also to make it convenient for participants to respond to the questionnaire. As shown in appendix B, a reliability test of Cronbach alpha was conducted to determine the reliability of the questionnaire. The results showed that each category of the items



had an overall alpha value of over 0.78 which indicates a high reliability of the instrument.

### **3.9.2. Dependability of Qualitative Instrument**

In testing for the validity of a qualitative instrument, the structured interview guide was given to colleagues at Lashibi Community Day Senior High School to check whether it lends itself to any biases. The researcher's supervisor also did have a look at, and helped shaped the interview guide. The dependability of the interview guide was also ensured by giving participants a copy of the transcribed notes from the audio recording to enable them to review the interview responses and verify the accuracy of the interpretation to ensure credibility.

### **3.9.3. Pre-testing of Instruments**

Pre-testing of instruments helps in identifying the shortcomings in the instrument and also informs the researcher in determining how long the instruments can be completed by respondents. The instrument was pre-tested with thirty (30) SHS two and three students in Ashaiman Senior High School. The choice of this school was based on the views by Kusi (2012) that participants in a pre-test study should possess similar characteristics as those of the study. Also, Ashaiman Senior High School is a public or government school, so the researcher considered it to possess similar features with regards to where the study is being conducted. The results, comments, and suggestions were used by the researcher to improve the contents of the instruments for data collection before the actual data was collected. Some items were also deleted from the instrument as they did not really fit into the study.

#### **3.9.4. Data Collection Procedure**

First, the researcher met with the headmaster and headmistress of both schools and shared the aim of the research to take their agreement asking the students to cooperate with the researcher and participate in the study. This offered the researcher access to the data on target population of the study. Also, a meeting was held between the heads of departments in both schools and the researcher. These management members served as the gatekeepers and granted the researcher the permission to conduct the research in both schools.

The collection of quantitative data through a survey began in the month of August, 2022 and ended in September, 2022. The researcher self-administered the questionnaire in person and used that opportunity to explain the purpose of conducting the study to the participants. Participants were then given the questionnaires to respond which took about fifteen (15) minutes to complete, after which the responded questionnaires was given back to the researcher on the very day the instrument was administered.

The collection of qualitative data on the other hand took effect on October, 2022 through interview sections. The researcher booked an appointment with each of the ten (10) participants given by the maximal technique. By the maximal technique, the researcher selected five forms three and two students from the two schools as the participants of the study because they had the better experience of teaching and learning before and after the COVID-19. The interview sections took the form of face-to-face interaction in the respective offices of the various heads of departments

in the respective schools. Each interview section took thirty-five (35) minutes and were audio-recorded based on the consent of the participants. Questions from the structured interview guide were adapted from the previous literature (Noori, 2021; Owusu-Fordjour et al., 2020; Marinoni et al., 2020; Shin and Hickey, 2020) as well as from the results of the quantitative data analysis and shared with 2 of my colleagues including my supervisor for revision. The questions were revised based on their feedback and suggestions.

### **3.9.5. Data Analysis**

The analysis of the data of this research was in two phases namely: quantitative and qualitative. The analysis of the quantitative phase was done by coding each questionnaire with numerals to facilitate easy identification. Responses from the various items were codified with numerals and the data from the questionnaire was then inputted into the IBM SPSS for statistical analysis. Simple percentages, frequencies, mean and standard deviation were generated in accordance with the various research questions raised and their corresponding responses, and computed for the quantitative data analysis and discussion. The use of simple percentages, frequencies, and mean was to help in determining the responses of the majority of respondents on the statements raised in the 5-point Likert scale. Also, Independent Samples T-test and One-Way ANOVA tests were conducted to find out the relationship between participants' demographic variables and their responses.

The qualitative data was generated from the perspectives of students the challenges faced during COVID-19 period and in line with the research objectives. The six

steps of thematic analysis method were followed for data analysis considering the qualitative nature of that objective as it is the widely used qualitative research data analysis method for identifying, analyzing, and reporting patterns within data (Braun & Clarke, 2006). A qualitative software analysis, tool Nvivo 8, was used to transcribe the oral data recorded during the interview phase. Inductive and deductive approaches were used to identify and characterize themes that emerged from the data. Then the researchers finalized the major themes and included the minor themes into them.

### **3.9.6. Ethical Considerations**

According to Bryman (2016), ethical issues cannot be overlooked as they relate directly to the researcher, the researched and the study conducted. Thus, Kusi (2012) postulates that ethical issues in research deal with how the researcher conducts himself or herself as well as its impact on the participants of the study. The researcher, therefore, took a keen interest in ensuring ethical issues such as obtaining access, informed consent, anonymity, confidentiality was duly followed to uphold the integrity of the researcher. The researcher sought access from the headmaster and headmistress of both schools. Also, permission was sought from the heads of the department and the participants in each school by giving them an overview of what the study is about and what it intends to achieve.

Informed consent involves disclosing every aspect of the research to the intended participants. Participants were therefore informed that they were under no obligation to partake in this study under compulsion but out of their self-will.

Participants were also made aware that, if they felt insecure or unsafe in the course of the study, they were free to opt-out. Despite this, the researcher encouraged them to partake in the research by making the purpose of the study known to them.

Anonymity requires that there should be no instance where a piece of information can be traced to a particular participant. The participants of the study were therefore codified during the interview session with some codes assigned to students in Lashibi Community Day SHS and Tema SHS respectively. Participants were also assured that every item responded to in the course of the study will be kept away from their identity.

Another ethical issue considered was confidentiality. According to Cohen, Manion, and Morrison (2007), although the identity of the participants is known by the researcher, their identification or connection is not made known to anyone. The information provided by participants was therefore used only for the purpose of the research after which the instruments administered to participants were sealed and kept under lock accessible by only the researcher. Also, the interview sessions took place at the offices of the various heads of department where no one was present with the exception of only the researcher and the participants.

### **3.9.7. Chapter Summary**

This chapter focused on the methodology employed for the study. By this, attention was given to the research paradigm, approach, design, study area, population, sample size and sampling procedure, data collection methods, research instrument

and analysis, as well as ethical issues. The next chapter focuses on the presentation and discussion of results.



## CHAPTER FOUR

### PRESENTATION OF ANALYSIS AND DISCUSSION

#### 4.0. Introduction

The results and findings of the study are discussed in this section taking into consideration the objectives and research questions of the study. This chapter is grouped into five (5) sections with the first and second sections on the demographic characteristics of respondents and students' experiences of teaching and learning during the COVID-19 pandemic respectively. The third section reports on the effects of the COVID-19 on different aspects of students' learning. The fourth and fifth sections reports on the relationship between participants' demographic variables, i.e., gender, class and their responses and explore from the perspectives of students, the challenges faced during COVID-19 period respectively.

#### 4.1. Demographic Characteristics of Respondents

The demographic information consists of characteristics of respondents in terms of sex, age, form and course. Two hundred (200) participants out of the sample size of two hundred and eighty-five (285) responded to the questionnaires. Details can be seen from Table 1;

**Table 1: Demographic Characteristics of Respondents**

Demographic Variables		Frequency	Percentage
Sex	Male	85	42.5%
	Female	115	57.5%
	<b>Total</b>	<b>200</b>	<b>100%</b>
Age	Below 15 years	18	9%
	15- 20 years	170	85%
	21 years and above	12	6%
	<b>Total</b>	<b>200</b>	<b>100%</b>
Form	Form 2	97	48.5%
	Form 3	103	51.5%
Course	Business	18	9%
	General Arts	60	30%
	Home economics	51	25.5%
	Visual Arts	48	24%
	General Science	23	11.5%
<b>Total</b>		<b>200</b>	<b>100%</b>

Source: Field Survey (2022)



Data from Table 1 present the demographic data of respondents of the study. The demographic data of the respondents was under the themes sex, age, form and course. In terms of sex, 85 (42.5%) of the respondents were males while 115 (57.5%) were females, indicating the male respondents were more than the females. On the age of respondents, the table revealed that the majority of the respondents were in the age bracket 15-20 years with 170 (85%), followed by the age brackets below 15 years with 18 (9%) and 21 years and above scoring 12 (6%) of respondents.

Moreover, in terms of form, 97 (48.5%) of the respondents were in form two (2) while 103 (51.5%) were in form three (3), which shows that majority of the respondents were in form three (3). Finally, the courses offered by the respondents in Table 1 revealed that, majority of the respondents offered General Arts with 60 (30%), followed by Home Economics and Visual Arts with 51 (25.5%) and 48 (24%) respectively. Courses including Business and General Science had the least number of respondents with 18 (9%) and 23 (11.5%) respectively.

#### **4.2. Analysis of Quantitative data**

Under this section, data was analyzed to answer the research questions posed. All two sections of the questionnaire, sections B and C, representing the first research question employed the five-point likert scale. The scale used ranged from 1 – 5 thus, strongly disagree to strongly agree. For the second research question, an independent sample t-test and One-way ANOVA tests were conducted to determine

the impact of respondents' demographic variables, i.e., sex, class, age and course on their response.

However, the data were collected from 200 participants. The descriptive statistics in table 2 below presents the responses of participants in frequencies, simple percentages, mean and standard deviation on the effects of COVID-19 on SHS students' learning in Tema West Municipality, specifically, students' experiences of teaching and learning during the COVID-19 pandemic.



**Table 2: Students' experiences of teaching and learning during the COVID-19 pandemic**

<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>	<b>M</b>	<b>SD</b>
	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>		
I had contact with my teachers through online platforms.	121 (60.5)	79 (39.5)	0 (0)	0 (0)	0 (0)	2.94	.267
I was aware of platform introduced by the Ministry of Education and Ghana Education Service	81 (40.5)	46 (23)	17 (8.5)	35 (17.5)	22 (11)	2.05	.214
I received feedback from my teachers	98 (49)	65 (32.5)	0 (0)	24 (12)	13 (6.5)	2.85	.215
I received support from my teachers	87 (43.5)	70 (35)	10 (5)	22 (11)	11 (5.5)	1.97	.106
I was taught all the topics for the semester	160 (80)	40 (20)	0 (0)	0 (0)	0 (0)	3.69	.363
Overall, online teaching helped me academically	128 (64)	30 (15)	17 (8.5)	14 (7)	11 (5.5)	2.59	.232
I had access to online classes during the COVID-19 pandemic.	120 (60)	60 (30)	0 (0)	13 (6.5)	7 (3.5)	1.79	.117
I used different learning sources during the COVID-19 pandemic.	71 (35.5)	52 (26)	42 (21)	15 (7.5)	10 (5)	2.28	.223
I had better knowledge of using technology.	47 (23.5)	68 (34)	36 (18)	29 (14.5)	20 (10)	3.02	.243

Source: field work data, 2022

Table 2 gathered data on students' experiences of teaching and learning during the COVID-19 pandemic. The questionnaire attracted a range of mean scores and standard deviation scores from 1.79 to 3.69 and .106 to .363. From Table 2, participants strongly disagreed to the statement, I had contact with my teachers through online platforms with mean ( $M=2.94$ ) and standard deviation ( $SD=.269$ ) indicating that, majority (60.5%) of the respondents did not have contact with their teachers during the COVID-19 period. Participants also strongly disagreed to the statement, I was aware of platform introduced by the Ministry of Education and Ghana Education Service with mean ( $M= 2.05$ ) and standard deviation ( $SD= .214$ ). Participants strongly disagreed to the statements, I received feedback from my teachers ( $M=2.85$ ,  $SD=.215$ ) and I received support from my teachers ( $M=1.97$ ,  $SD=.106$ ) respectively. This indicates that, neither did the respondents get feedback nor support from their teachers during the pandemic.

Also, the statements, I was taught all the topics for the semester ( $M=3.69$ ,  $SD=.363$ ), Overall, online teaching helped me academically ( $M=2.59$ ,  $SD=.232$ ) and I had access to online classes during the COVID-19 pandemic ( $M=1.79$ ,  $SD=.117$ ) respectively were all strongly disagreed by participants. Moreover, the statement, I used different learning sources during the COVID-19 pandemic scored ( $M=2.28$ ,  $SD=.223$ ), indicating respondents strongly disagreed while respondents disagree to the statement that I had better knowledge of using technology with mean ( $M=3.02$ ) and standard deviation ( $SD=.243$ ).

**Table 3: students' perception about the effects of the COVID-19 on different aspects of their learning**

Statement	SD	D	U	A	SA	<i>M</i>	<i>SD</i>
	(%)	(%)	(%)	(%)	(%)		
COVID-19 pandemic affected my academic performance.	0 (0)	0 (0)	15 (7.5)	78 (39)	107 (53.5)	2.31	.360
COVID-19 pandemic affected my subject knowledge.	0 (0)	0 (0)	0 (0)	92 (46)	108 (59.4)	2.28	.501
COVID-19 pandemic affected my class projects.	5 (2.5)	13 (6.5)	8 (4)	77 (38.5)	97 (48.5)	2.24	.412
COVID-19 pandemic affected the quality of my learning.	0 (0)	0 (0)	11 (5.5)	118 (59)	71 (35.5)	1.38	.142
COVID-19 pandemic affected me psychologically.	0 (0)	0 (0)	21 (10.5)	81 (40.5)	98 (49)	3.14	.431
COVID-19 pandemic affected my motivation for learning	0 (0)	0 (0)	0 (0)	62 (31)	138 (69)	2.02	.129

Source: field work data, 2022

The descriptive statistics in table 3 above presents the responses of participants in frequencies, simple percentages, mean and standard deviation on the effects of COVID-19 on SHS students' learning in Tema West Municipality, specifically, students' perception about the effects of the COVID-19 on different aspects of their learning.

The questionnaire attracted a range of mean scores and standard deviation scores from 1.38 to 3.52 and .129 to .586. From Table 3, participants strongly disagreed to the statement, COVID-19 pandemic affected my academic performance with mean (M=2.31) and standard deviation (SD=.360) indicating that, majority (53.5%) of the respondents' academic performance were indeed affected by COVID-19. Participants also strongly disagreed to the statement, COVID-19 pandemic affected my subject knowledge with mean (M= 2.28) and standard deviation (SD= .501). Participants strongly disagreed to the statements COVID-19 pandemic affected my class projects (M=2.24, SD=.412) while they disagreed to the statement that COVID-19 pandemic affected the quality of my learning (M=1.38, SD=.142). This indicates that, the quality of learning as well as class projects were affected by the pandemic.

Finally, respondents strongly agreed to the statements, COVID-19 pandemic affected me psychologically (M=3.14, SD=.431) and COVID-19 pandemic affected my motivation for learning (M=2.02, SD=.129) respectively.

**Table 4: The Relationship Between Participants' Demographic variables and Their Responses**

Variables	N	Mean	SD	p-value
Sex				0.13
Male	85	2.52	.206	
Female	115	2.57	.298	
Age				0.049
Below 15 years	18	2.59	.297	
15yrs – 20years	170	2.56	.242	
21yrs and above	12	2.18	.221	
Form				0.002
Form 2	97	2.46	.175	
Form 3	103	2.54	.314	
Course				0.15
Business	18	2.13	.253	
General Arts	60	2.52	.195	
Home economics	51	2.26	.307	
Visual arts	48	2.21	.304	
General science	23	2.15	.287	

Source: field work data, 2022

Table 4 above presents results for Independent Samples T-test and One-Way ANOVA tests to find out the differences in participants' responses by their demographic variables, i.e., sex, class, age and course. From Table 4, the mean and the standard deviation scores for the demographic variables ranges from 2.13 to 2.59 and .175 to .314 respectively. The demographic variables sex, age, form and course had p-values of 0.13, 0.049, 0.002 and 0.15 respectively.

### **4.3. Discussion of Quantitative Results**

Under this section, the quantitative results of the study are discussed into detail to bring meaning and to aid in achieving the stated objectives underpinning the study. Discussion is therefore done according to the research questions of the study. It is important to note that the effects of COVID-19 on students' learning discourse have attracted several debates in recent times and as such investigating about them will be of great benefit hence the discussion of the analyzed results of this study.

### **4.4. Students' experiences of teaching and learning during the COVID-19 pandemic**

COVID-19 pandemic has impacted all spheres of human life and students' learning in secondary education is not an exception. The effect of COVID-19 pandemic on students' learning in a developing country varies from a developed country and therefore necessitates the study. The first item in table 3 implies that students did not have contact with teachers through online platforms during the pandemic. Upoalkpajor & Upoalkpajor (2020) assert that the main educational methodology employed in Ghana is face-to-face classroom teaching for almost all basic schools and second cycle institutions and some tertiary institutions such as the colleges of education and also coupled with the fact that online technologies had not been integrated effectively into teaching and learning activities.

As such students were unable to experience a constant access to online teaching and learning or contact with their teachers during the pandemic since face-to-face classroom teaching was not possible. This finding of the study is aligned with



UNESCO (2020) report and earlier studies conducted by Noori (2021) but contradict that of Agormedah, Henaku, Ayite and Ansah (2020) who found out that students had positive response to online learning.

The next item in Table 2 sought to find out whether students were aware of platform introduced by the Ministry of Education and Ghana Education Service. The response from the table revealed that, students were not aware of the platform introduced. According to Joosten and Cusatis (2020), online learning necessitates diverse qualities of students such as knowledge of technology use, time management and organization, and interaction using online technologies.

The Ministry of Education (MoE) together with Ghana Education Service (GES) ensured continuous learning through its distance and online learning platform and the broadcasting of lessons on Ghana Learning Television (GLTV) for 1 million SHS students (MoE, 2020). Digital contents were also been developed for TV, radio and online learning for the basic school and junior high school levels (MoE, 2020). However, due to socio-economic differences among students, some residing in remote areas of the country, some engaged in menial economic activities to cater for themselves as well as majority of them not having access to digital devices could not even hear the announcement and hence the implementation of this platform. This finding is in line with that of Dutta and Smita (2020).

In addition, according to the World Bank Group Education Report (2020), the pandemic resulted in schools, colleges and universities shut all across the world. Around mid-March 2020, governments across Africa for which Ghana is no exception, through the Ministry of Health announced that all schools, colleges and universities closed indefinitely amid fears of the COVID-19 pandemic. Thus, making it impossible for teaching and learning activities to take place. The pandemic caused the cessation of all forms of physical interaction between teachers and students and was a big blow to Ghana's education sector as the popular traditional form of interaction where the teacher stands and delivers the teaching and learning activities in the classroom was not possible.

As such, from Table 2, it is therefore a clear indication that students did not receive feedback and support from their teachers and neither were they thought all the topics for the semester. This finding is consistent with a study conducted by Leal Filho *et al.* (2021) but not in line with the findings of Muftahu (2020) who intimates that the Covid-19 pandemic has pushed schools in different nations beyond their limits toward developing appropriate and creative alternatives and encouraging students to complete their education requirements.

Furthermore, the data from Table 2 above implies that, students found the online teaching not helpful as far as their academic work is concerned as well as did not have access to online classes during the COVID-19 pandemic. Thus, the online teaching was not effective for them. Joosten and Cusatis (2020) argue that, online learning offers students with elasticity in where and when they learn. Students have

more control in when and how they complete subject learning activities. However, the online learning necessitates diverse qualities of students such as knowledge of technology use, time management and organization, and interaction using online technologies. Hence in a developing country such Ghana where resources are limited coupled with no or low provision of instructional support via instructional activities that can help students in appraising their preparedness and readiness (e.g., assessment), gaining the needed skills to learn online (e.g., orientation), and managing their expectations about learning online (e.g., course tours and tips), they were unable to participate effectively in the online teaching and learning. This finding is consistent with that of Noori (2021) but contradict that of Agormedah, Henaku, Ayite and Ansah (2020) who argue that, students had positive response to online learning.

More so, the next item in Table 2 sought to find out whether students used different learning sources during the COVID-19 pandemic. Due to the pandemic, schools were closed abruptly coupled with a series of measures to curtail the spread of the virus in Ghana including the institutionalization of social distancing and enhanced hygiene protocols. In that regard, other learning sources such as going to the library, engaging in peer group discussions, undertaking class projects among were not possible. In a study conducted by Dutta and Smita (2020) of which this study's findings is in line with, they argued that with school closure, students experienced several learning disruptions. Students' motivation to study at home as there was no need to follow any scheduled routine for study but rather engaged in various non-academic activities such as cooking, watching movies, TV, videos among others.

As such, it is therefore clear from the table that students did not use different learning sources during the COVID-19 pandemic.

Finally, the last item in Table 2 implies that, students did not have better knowledge of using technology. Although, UNESCO endorsed the use of distance learning program and open educational applications and platforms that schools and teachers could use to reach learners remotely and limit the disruption of education (UNESCO, 2020c; 2020d) as well as particularly in Ghana the Ministry of Education (MoE) together with Ghana Education Service (GES) ensured continued learning through its distance and online learning platform and the broadcasting of lessons on Ghana Learning Television (GLTV) could not reach the masses and hence were not effective. This is because, students experienced challenges such as unavailability of electronic devices, limited access to the internet, high cost of internet, low speed of internet, and difficulties in using online platforms, power outages among others. Hence, students did not better appreciate the use of technology during the COVID-19 pandemic. This finding is in line with that of Dutta and Smita (2020) but not consistent with that of Muftahu (2020).

#### **4.5. Students' perception about the effects of the COVID-19 on different aspects of their learning**

Table 3 above gathered data on the responses of participants on the effects of COVID-19 on SHS students' learning in Tema West Municipality, specifically, students' perception about the effects of the COVID-19 on different aspects of their learning.

Firstly, the outbreak of the COVID-19 pandemic has affected students' learning in diverse ways. According to Upoalkpajor and Upoalkpajor (2020), going to school is the finest public policy instrument accessible to promote skills. Thus, while school period can be entertaining and can promote social skills and social consciousness, the main importance of being in school is that it surges a child's capacity. As such, even an equally short time of missed school will have charges for skill growth.

Again, the main educational methodology employed in Ghana is face-to-face classroom teaching for almost all second cycle institutions of which Lashibi Community SHS and Tema SHS are no exception. Against this backdrop, it shows that closure of schools coupled with ineffective integration of technology in teaching and learning activities for learning to continue online uninterrupted meant that students could not continue with their studies. It is therefore indicated in Table 3 that, COVID-19 affected students' academic performance, their subject knowledge as well as their class projects. This finding supports a study conducted by Noori (2021).

Furthermore, the fourth item in Table 3 implies that COVID-19 pandemic affected the quality of students' learning. This response is affirmed by the findings of a study by Owusu-Fordjour, Koomson and Hanson (2020) who *"aimed at accessing the impact of Covid-19 on learning"* that, students were unable to study effectively from the house thus, making the online system of learning very ineffective. Thus, the pandemic really had a negative impact on their learning as many of them were

not used to effectively learning by themselves. The online learning platforms rolled out also posed a challenge to majority of the students because of the limited access to internet and lack of the technical knowhow of these technological devices by most Ghanaian students. Also, school provides a specified routine within which teaching and learning take place, students get the opportunity to be guided by teachers in their learning and also the opportunity to share their ideas, views in the form of whole class discussions and group work activities. All these were curtailed as the pandemic caused cessation of all forms of physical interaction between teachers and students. Additionally, in line with a study conducted by Dutta and Smita (2020), their findings showed that students became reluctant about their studies as there was no routine for studies.

Moreover, the next items in Table 3 indicates that, COVID-19 pandemic affected students' psychologically and consequently their motivation for learning. This finding conforms to the study by Wolf et al. (2021) on "*learning in the time of a pandemic and implications for returning to school: effects of COVID-19 in Ghana*" that there were inequalities in access to and engagement in learning activities during the time schools were closed. And that, specifically, children in private schools and children in higher socioeconomic status households engaged in remote-learning at higher rates and received more support from their schools and caregivers. Psychologically students were affected because realizing your fellow students in the private schools (who had already integrated technology in their teaching and learning activities) were actively learning while almost all public schools were closed down brought uncertainties and loss of motivation to learn in such students.

Dutta and Smita (2020) also found that, the COVID-19 indeed affected students psychologically. In that, they were under a lot of pressure, not only thinking about COVID-19 situations but also for their academic education. Along with the fear of being infected with COVID-19, students felt anxiety for the factors like being scattered, less motivated, unable to adapt new academic habits in this situation. Students were uncertain about the re-opening of schools, examination-time, promotion in a new academic year among others and therefore affected their need to learn.

#### **4.6. The Relationship Between Participants' Demographic variables and Their Responses**

As shown in Table 5, the mean was used to compare the differences in the responses of the participants for each variable. The results reveal that P-values for sex and course are 0.13 and 0.15 respectively which are greater than 0.05 (Significance value). Therefore, it can be concluded that neither the students' sex nor course offered have any significant effect on their responses. However, the results of One-Way ANOVA tests for both class and age demonstrate that P-value for class is 0.002 and for age is 0.049, which are less than 0.05 (significance value). Therefore, it is concluded that the respondents' class and age had a significant effect on their responses. This result confirms the findings of Noori (2021) that the respondents' class and age had a significant impact on their responses.

#### **4.7. Qualitative Analysis**

Under this section, firstly, the demographic characteristics of the respondents interviewed are given in the table below. These consist of characteristics of respondents in terms of sex, age, form, the school they attend and course. Ten (10) respondents as given by the maximal technique were interviewed to aid elicit responses for onward data analysis. However, to ensure anonymity, the participants of the study were therefore codified during the interview session with codes ranging from R1 to R10 respectively.





**Table 5: Demographic Characteristics of Respondents (Qualitative Data)**

Demographic Variables		Frequency	Percentage
Sex	Male	5	50%
	Female	5	50%
	<b>Total</b>	<b>10</b>	<b>100%</b>
Age	15- 20 years	6	60%
	21 years and above	4	40%
	<b>Total</b>	<b>10</b>	<b>100%</b>
Form	Form 2	3	30%
	Form 3	7	70%
	<b>Total</b>	<b>10</b>	<b>100%</b>
School	Lashibi SHS	5	50%
	Tema SHS	5	50%
	<b>Total</b>	<b>10</b>	<b>100%</b>
Course	Business	2	20%
	General Arts	3	30%
	Home economics	3	30%
	Visual Arts	2	20%
<b>Total</b>		<b>10</b>	<b>100%</b>

Source: Field Survey (2022)

Table 5 presents the demographic data of respondents of the study. The demographic data of the respondents was under the themes sex, age, form, school they attend and course. In terms of sex, 5 (50%) of the respondents were males while 5 (50%) were females, indicating that both male and female respondents were equal. On the age of respondents, the table revealed that the majority of the respondents were in the age bracket 15-20 years with 6 (60%) and then followed by the age brackets 21 years and above scoring 4 (40%) of respondents.

Moreover, in terms of form, 3 (30%) of the respondents were in form two (2) while 7 (70%) were in form three (3), which shows that majority of the respondents were in form three (3). Five students (100%) each attended Lashibi Community SHS and Tema SHS respectively. Finally, the courses offered by the respondents in Table 5 revealed that, majority of the respondents offered General Arts with 3 (30%) and Home Economics with 3 (30%) followed by Visual Arts with 2 (20%) and Business 2 (20%) respectively.

Also, the qualitative results of the study are analyzed to aid in achieving the third objective underpinning the study. Analysis is therefore done according to the research questions of the study, specifically to explore the academic, social and psychological challenges students faced during the COVID-19 period. Thematic analysis was employed to thematically analyse the results of the data generated qualitatively. Hence, the following themes were thus identified to be key for the analysis of the study.

1. Academic challenges
2. Social challenges
3. Psychological challenges

#### **4.8. Academic challenges**

COVID-19 had spread all over the world since January 2020 and hence affected every aspect of human endeavor especially students' learning or academic work. All participants admitted that, the announcement of closure of schools took them by surprise and as such greatly affected them academically. When several suspicious cases started coming up in Ghana, the president of the Republic of Ghana on 15th March 2020, announced a series of measures to curtail the spread of the virus in Ghana including the closure of all schools. One participant (R4) expressed that;

“I was unprepared and shocked by this sudden announcement of closure, but later I understood the importance of the decision”.

Noori (2021) intimate that, students had to rush home on short notice and so they could not even take all the necessary things with them. The entire academic and official activities of their schools were ceased abruptly. The students were unhappy, unsure and worried about their studies, classes, examinations and results. This was confirmed by the interview response as one participant mentioned that;

“I used to study regularly according to what the teachers teach in the class; follow lessons, do assignments and class projects. Hence, since classes was not ongoing, I stopped studying” (Interview data, R1).

Also, another participant (R2) expressed that;

“I had to go back home (village) and as such could not have a good learning experience. I also believe that the online learning platform introduced by MOE was not effective to me because in my village, there was no 3G or 4G coverage and the internet connection was very poor”.

Remote learning offers students with elasticity in where and when they learn. Students have more control in when and how they complete course learning activities. However, the online learning necessitates diverse qualities of students such as knowledge of technology use, time management and organization, and interaction using online technologies (Joosten & Cusatis, 2020).

The participants also faced academic challenges in the form of several learning disruptions. They responded that there was no motivation to study at home as there was no need to follow any scheduled routine for study. Participants R6 and R8 respectively responded that;

“COVID-19 damaged my learning style and concentration for gaining new knowledge. I used to work with my classmate to prepare class projects”.

“I used to read over my notes, but my learning outcome was very low because there was no pressure from the teacher, so I did not study enough”.

Most of the participants responded that, they were engaged in various works to help their parents or guardians and could not even learn. Hence, they could not even remember the topics they already read in classes, and also, they gradually lost the

urge to learn new academic lessons. This was confirmed by a participant who expressed that;

“I had to go help mom sell foodstuffs in Ashaiman market and so did not have time to learn” (interview data, R10).

Some of them responded that, they could not bring all their academic books and learning materials from the schools. Some students complained about their home environment for not being suitable to study. One of the participants (R9) commented;

“My house is noisy and so I could not study at home. I used to study at the library or in class during reading lessons”.

#### **4.9. Social Challenges**

All the participants expressed missing their school environment and social interactions with their classmates and teachers so much. They responded that they were used to doing group studies with classmates where they could share ideas and solve challenging academic problems. Participant (R3) expressed that;

“I used to study with my friends. In a group discussion, it takes me less time to understand many difficult topics. Group studies was not possible because of the pandemic and hence I lost my motivation to study”.

Also, one of the participants (R4) responded that;

“I used to engage extra-curricular activities like football, volley, sports among with my classmates which helped me. Due to COVID-19, I could not even play with my classmates during break time”.

Participants expressed that, they were unable to contact their classmates regularly, which interrupted the studies. Though sometimes they talked over the phone or social sites, most of the participants admitted that lack of physical appearance made the conversations uninteresting. They also missed the previous interactions with teachers for study purposes. It was found that less social interactions with friends and teachers disrupted their motivation to study as one participant responded that;

“I used to go to my teachers to seek further clarification on a concept I was finding it difficult to understand. My teachers also served as a source of motivation for me as seeing and listening to them gave me more hope to study hard. Because of the pandemic, all these were not possible” (interview data, R5).

Some participants also expressed that COVID-19 pandemic has affected their communicative skills. This is evident as one of the participants confirmed that;

“I used to stay indoors at home without going out. Because of this home quarantine, I do not even like to converse with anyone as I used to. I think in this way, most of us would forget to open up freely with each other, which can cause the communication problems” (interview data, R5).

#### **4.9.1. Psychological Challenges**

Stress was the most mentioned problem by the participants. Most of the participants responded that, they were scared of being infected with COVID-19, along with felt anxious, were less motivated and unable to study during the pandemic period. They were also not certain about the re-opening of class and examination-time, the

publication of results, and promotion in a new academic year. One of the participants confirmed this by expressing that;

“I was constantly stressed and afraid of my next move. I was always thinking of when schools were going to resume and hence affected my motivation to even learn” (interview data, R1).

They were also concerned, there would be huge pressure on them to complete their various program contents quickly since the pandemic had taken all their time. Some female participants were under another personal stress. Their families were pressurizing them to engage in trade and forget about school. A participant (R6) stated that;

“My parents in the village wanted me to engage myself fully in farming. They were not willing to send me back to school should we resume. This then put a lot of pressure on me as I did not know what to do.”

Most of the participants responded that their daily routines such as sleeping, eating among others changed due to COVID-19. Some of them said since they were in the house, they slept a lot during the day but struggled in the night, were physically inactive. majority of the participants identified these problems as reasons for ignoring and not being enthusiastic about continuing their studies at home. One of the participants said;

“I used to be very active since I engaged in a lot of activities in school. This helped me to study effectively and also relieved me of any stress. Due to COVID-19, I could not do all that” (interview data, R8).

#### 4.9.2. Discussion of Qualitative Results

The effects of COVID-19 on the teaching and learning process at all levels of education particularly at the secondary level in Ghana cannot be overemphasized. Several unprecedented measures taken by government to curtail the spread of the disease, including the closure of schools and adopting online education, to a larger extent affected the education system and students' lives.

From the qualitative data (interview), it showed that, the participants were not happy but rather shocked by the sudden decision of government to close all educational institutions, which concurred with the results of the previous study by Dutta and Smita (2020).

The qualitative data also revealed that, the prolonged closure of schools due to COVID-19 adversely affected students' learning. Some could not follow the daily routine to study while others were engaged in all manner of economic activities to either help their parents or fend for themselves. They encountered several disruptions including no access to the online learning platform introduced by the MOE due to poor internet connectivity, no access to the school library academic books coupled with disturbance in the home. This finding is in line with that of Owusu-Fordjour et al., (2020) but parallel to that of Kedraka and Kaltsidis (2020).

However, from the participants and consistent with previous study by Dutta and Smita (2020), it revealed that, the COVID-19 pandemic caused several social challenges to them. According to Owusu-Fordjour et al., (2020), group studies are essential for making concepts easier and academic development. But students'



regular group studies with classmates, participation in extracurricular activities and face-to-face interactions with friends and teachers were not possible due to the pandemic, which affected their desire to study. Those students who even had access to data packages and good network connectivity in their homes were found spending more time on social sites like Facebook, Instagram, and watching TV, movies, videos on Youtube, playing computer, or mobile games among others (Pan, 2020).

Finally, the daily record of COVID-19 cases along with the feeling of uncertainty and anxiety as to when students will resume studies affected participants psychologically. Consistent with Cao et al., (2020) he found out that, the delay in studies, examinations, results, and promotions to new classes or forms raised stress in students. From the study, participants developed uncertainty, frustration, disappointment, anxiety and stress which affected their motivation to study. As a result of these situations caused by the pandemic, some participants found themselves in undue pressure from their parents to quit school and help them in their work which made them emotionally vulnerable.

#### **4.9.3. Chapter Summary**

This chapter analysed and discussed the data collected. The data revealed the effects of COVID-19 on SHS students' learning, analysis and discussion on the results to give meaning and achieve the objectives of the study were done. The next chapter however, presents the findings, conclusions and recommendations for the study.

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### **5.0. Introduction**

This chapter presents the summary of findings, conclusion and policy recommendations as well as the direction for future research. While the summary briefly captures the overview of the research problem, objectives, methodology as well as the findings of the study, the conclusion highlights the overall findings of the study in relation to the research questions. Finally, this chapter presents the recommendations and the direction for future research.

#### **5.1. Summary of Findings**

Education has been the pillar of development of every country, being one of the key drivers of the development and growth of all countries. Unfortunately, with the outbreak of COVID-19, Ghana's education system was affected by several challenges ranging from changes in the education curriculum to closing down the education system due to widespread pandemic diseases (Owusu-Fordjour *et al.*, 2015). The main focus of the study was to examine the effects of COVID-19 on Senior High School students' learning in Tema West Municipality, including specifically to determine the relationship between participants' demographic variables, i.e., gender, class and their responses and to explore from the perspectives of students the challenges faced during COVID-19 period.

Based on the objectives raised for the research, the following findings were drawn;

- i. The first research question sought to examine the effects of COVID-19 on SHS students' learning in Tema West Municipality. It emerged from the study that, due to abrupt closure of schools, respondents (80%) were not taught all the topics while about (34%) of the students responded that they did not have better knowledge of using technology during the COVID-19 period. Majority (53.5%) of the respondents' academic performance were indeed affected by COVID-19 as shown from the study.
- ii. The second research question examined the relationship between participants' demographic variables and their responses. The study found that, the demographic variables sex, age, form and course had p-values of 0.13, 0.049, 0.002 and 0.15 respectively. Thus, the students' sex and course offered had no effect on their responses while their class and age had significant effect on their responses.
- iii. The third research question sought to explore from the perspectives of students the challenges faced during COVID-19 period. The study revealed that, all participants admitted that, the announcement of closure of schools took them by surprise and as such greatly affected them academically. Participants expressed missing their school environment and social interactions with their classmates and teachers so much. Stress was the most mentioned problem by the participants from the study. Most of the participants responded that, they were scared of being infected with

COVID-19, along with felt anxious, were less motivated and unable to study during the pandemic period.

## **5.2. Conclusions**

COVID-19 pandemic has spread its adverse effects on students' education. The measures like social distancing, quarantine, closure of educational institutions which were taken to reduce the transmission of the virus have impacted students' academic learning to a great extent. This pandemic has therefore had a detrimental effect on the conventional secondary education system.

Based on the objectives of the study as well as the results and findings, the study conclude that indeed the direction and magnitude of the effects of COVID-19 on students' learning vary with countries and even levels of education and therefore re-emphasizes this study's argument that the true effect of COVID-19 cannot be ascertained when findings from advanced countries are used to inform policies for developing countries like Ghana. For instance, Muftahu (2020) explored the implications of the Covid-19 pandemic to higher education and found out that, the pandemic encouraged students to complete their education requirements through online learning while this study found a negative effect on students' learning such that overall, online learning was not beneficial to students in Ghana.

Again, this study concludes that through the use of the independent samples t-test, the respondents' demographic variables sex and course offered had no effect on their responses. Thus, the responses they gave during the data collection process has no relationship with whether they are male or female as well as the particular

course they offer. However, the one-way ANOVA tests showed that respondents' class and age had a significant effect on their responses. This implies that, their responses during the data collection stage was dependent on their age and the class. Finally, in line with Creswell et al., (2012) that an equal emphasis should be given to both quantitative and qualitative approaches in investigating phenomena thereby providing in dept understanding and with the use of the mixed method, the conclusion drawn is that indeed the pandemic affected students 'learning in diverse ways. Students faced academic, social and psychological challenges during the COVID-19 period as espoused in the study. For instance, all the respondents were not motivated to learn and as well faced with uncertainties. The findings of this study would help the students, teachers, educationists and government officials associated with secondary-level education in Ghana to obtain an in-depth understanding of the numerous impacts of COVID-19 on students' learning.

### **5.3. Recommendations**

The following recommendations are made based on the results and findings of this study;

- i. Firstly, educational managers and stakeholders should develop policies and strategies such as provision of technical resources for teaching and learning as education contingency measures that can address future pandemic and support sustainable learning thereby assisting educational managers to improve the quality of education. Also, the integration of emerging technologies in the teaching and learning process is key in achieving an effective online learning. Both educators or teachers and students should be

trained on the technical knowhow of these technological devices to enhance and foster quality education.

- ii. Furthermore, government of Ghana together with the Ministry of Education should ensure adequate provision of logistics such as computers, data, internet connectivity, light among others in especially schools in the rural areas to help facilitate teaching and learning (that is both the traditional face-to-face and online learning).
- iii. Finally, there is the need for teachers, educationists, government officials and other stakeholders to have an in-depth understanding of the numerous impacts of COVID-19 on students' learning especially at the secondary school level. Thus, students were not affected by COVID-19 only academically but also socially and psychologically. This will assist educators to formulate policies tailored towards addressing all the needs of students.

#### **5.4. Limitations of the Study**

The study should have covered all Senior High Schools in the municipality in order to make a general conclusion about the findings. Since the study sampled only the two government schools within the Tema West municipality, it limits the generalization of the findings.

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APPENDICES  
APPENDIX A

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size, *S* is sample size.

Source: Krejcie & Morgan, 1970



**APPENDIX B****Reliability value of questionnaire items.**

Category	Number of Items	Cronbach's Alpha
Teaching	6	0.742
Learning	3	0.813
Students' achievement	4	0.816
Students' feelings	2	0.728
<b>Overall</b>	<b>15</b>	<b>0.775</b>

Source: as generated by SPSS V.20

**APPENDIX C****Questionnaire for Form Two and Three Students****UNIVERSITY OF EDUCATION, WINNEBA****FACULTY OF EDUCATIONAL STUDIES****DEPARTMENT OF EDUCATIONAL FOUNDATIONS****SECTION A: Your Background Information****Instruction: Please tick (✓) the column that is applicable to you**

1. Your gender: Male [  ]      Female [  ]
2. Your age range:
  - a. Below 15 years      [  ]
  - b. 15yrs – 20years      [  ]
  - c. 21yrs and above      [  ]
3. Your form:
  - a. Form 2      [  ]
  - b. Form 3      [  ]

4. Your course, please indicate
  - a. Business
  - b. General Arts
  - c. Home economics
  - d. Visual arts
  - e. General science

**Section B: Students' experiences of teaching and learning during the COVID-19 pandemic.**

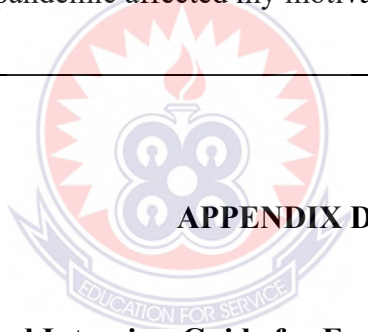
This section gathers your views on the students' experiences of teaching and learning during the COVID-19 pandemic. Please tick (✓) to indicate your level of agreement or disagreement to each of them. *Let SA represent Strongly Agree (5), A represent Agree (4), U represent Uncertain (3), D represent Disagree (2) and SD represent Strongly Disagree (1).*

S/N	Statement	SD	D	U	A	SA
1.	I had contact with my teachers through online platforms.					
2.	I was aware of platform introduced by the Ministry of Education and Ghana Education Service					
3.	I received feedback from my teachers					
4.	I received support from my teachers					
5.	I was taught all the topics for the semester					
6.	Overall, online teaching helped me academically					
7.	I had access to online classes during the COVID-19 pandemic.					
8.	I used different learning sources during the COVID-19 pandemic.					
10.	I had better knowledge of using technology.					
12.	I worked with my groupmates and classmates.					
13.	My classmates supported me during the COVID-19 pandemic					

**Section C: The effects of the COVID-19 on SHS students' learning**

This section gathers your views on the students' perception about the effects of the COVID-19 on different aspects of their learning. Please tick (✓) to indicate your level of agreement or disagreement to each of them. *Let SA represent Strongly Agree (5), A represent Agree (4), U represent Uncertain (3), D represent Disagree (2) and SD represent Strongly Disagree (1).*

S/N	Statement	SD	D	U	A	SA
1.	COVID-19 pandemic affected my academic performance.					
2.	COVID-19 pandemic affected my subject knowledge.					
3.	COVID-19 pandemic affected my class projects.					
4.	COVID-19 pandemic affected the quality of my learning.					
5.	COVID-19 pandemic affected me psychologically.					
6.	COVID-19 pandemic affected my motivation for learning					

**APPENDIX D****Semi-Structured Interview Guide for Form Two and Three Students****UNIVERSITY OF EDUCATION, WINNEBA****FACULTY OF EDUCATIONAL STUDIES****DEPARTMENT OF EDUCATIONAL FOUNDATIONS**

Structured Interview Guide on the challenges faced by students during the COVID-19 period (from their perspective)

- A. Questions to identify the academic challenges students faced during the COVID-19 period.
  - a. How did you cope with studies at home when schools were closed?
  - b. Were you able to learn regularly as required?
  - c. In what way were you able to complete your school projects and assignments?

- d. In what way did the online studies introduced by MoE and GES pose a challenge to you?
  - e. How was your learning style and performance affected?
- B. Questions to establish the social challenges students faced during the COVID-19 period
- a. How were you able to do group studies with your friends?
  - b. In what way did social distancing in school affect you?
  - c. How did you receive feedback from classmates and teachers?
- C. Questions to establish the physical and psychological challenges students faced during the COVID-19 period
- a. In what way did your daily habits like eating, sleeping etc change and what health problems did it bring to you?
  - b. How did you feel when schools were about resuming?
  - c. What do you think motivated you to continue studying?
  - d. In what way did you feel your future will be affected, specifically your educational goals?
  - e. In all, how did you feel about online learning?