UNIVERSITY OF EDUCATION, WINNEBA

SCHOOL ATTENDANCE, DROPOUT, AND ACADEMIC PERFORMANCE IN MINING AREAS: THE CASE OF SELECTED JUNIOR HIGH SCHOOLS IN THE ATWIMA KWANWOMA DISTRICT

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SEPTEMBER, 2019

DECLARATION

STUDENT'S DECLARATION

I, JOHN PAUL DUGHAN, declare that this thesis, 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 that it has not been submitted, either in part or whole, for another degree elsewhere.

SIGNATURE: ……

DATE: ……

SUPERVISOR'S DECLARATION

We hereby declare that the preparation and presentation of this work were supervised in accordance with the guidelines for supervision of thesis as laid down by School of Graduate Studies, University of Education, Winneba.

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DEDICATION

To my parents, Mr. and Mrs. Martin E. Dughan, and to my dear Christiana Manu.

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ABSTRACT

This study sought out to investigate the influence of illegal mining on school attendance, dropout and academic performance of junior high school pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana. In order to achieve the purpose of the study, a convergent mixed method design was employed. The sample size for the quantitative study was 105, comprising 70 pupils and 35 parents. In the qualitative phase, a sample size of 8 comprising 4 pupils and 4 parents were employed. The researcher used questionnaire and interview guide as the primary tools for collecting data. The questionnaire and interview guide were employed to collect quantitative and qualitative data respectively. The quantitative data were analysed using the Statistical Product and Service Solution, SPSS version 20 whereas the qualitative data were analysed using the thematic approach. Among the findings of the study, it was revealed that most of the pupils acknowledge the fact that they often absent themselves from class and go into mining without official excuse or permission. It was again revealed that, illegal mining activities contributed statistically significantly to pupils' poor academic performance in Social Studies. The study recommended that the Directorate of the Ghana Education Service at Atwima Kwanwoma District and traditional leaders should be in constant dialogue with members of the communities, especially parents, to appreciate the value of formal education in order to ensure that their children stay in school and study. It was suggested that further research be conducted in other basic schools in the country where illegal mining activities are carried out to give the general overview regarding the influence of illegal mining activities on school attendance, dropout and academic performance of junior high school pupils and to come out with holistic approach in curbing the situation.

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter discusses the background to the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, delimitations, organisation of the study and finally operational definition of terms.

1.1 Background to the Study

Mining is the extraction of minerals and precious metals from the earth (Adu-Gyamfi, 2014). Some minerals extracted from the earth are diamond, bauxite, manganese and gold. With a reasonably well-known and attractive mineral resource base, a significant mining investment has been attracted into the country over some 20 years of stable multi-party democracy. The mining sector has therefore been an important part of our economy, with gold accounting for over 90% of the sector (Akabzaa, 2007). Ghana is the second largest gold producer in Africa and the 9th largest producer in the world. The sector directly contributed 38.3% of Ghana's total corporate tax earnings, 27.6% of government revenue and 6% GDP in 2011. The sector also employs 28,000 people in the large scale mining industry whilst over 1,000,000 people are engaged in the small scale gold, diamonds, sand winning and quarry industries (Ankutse, 2015). In 2011, Ghana produced 3.6 million ounces of gold, the highest ever in the history of the country. This resulted in export revenues of over US$5billion. It is significant to note that small-scale miners contributed some 28% of the total gold production in 2011. Total Direct Investment (TDI) into the minerals and mining sector from 1983 to 2011 amounted to US$ 11.5billion (Aryee, 2012).

In Ghana, small-scale mining mostly of diamond and gold has expanded dramatically in recent years contributing significantly to the improvement of local economies and gross foreign exchange (Amankwah & Anim-Sackey, 2003). Ghana is currently Africa's second largest gold producer after South Africa, with gold exports accounting for more than 40% of total export earnings (Airo, 2010; Berger, 2008). Over the past ten decades, Ghanaian gold production from small-scale mining activities has risen tenfold and doubled since 1998, accounting for an estimated contribution of $461.1 million to the national economy since 1989 (Yakubu, 2002).

Due to these large mineral deposits, mining in Ghana has become a significant economic activity going back to many years. Apart from gold, diamond, bauxite, iron, limestone, salt, and various other industrial mineral were also exploited. There is also a growing potential for commercial gas and oil exploitation, with announcements of significant discoveries of off-shore oil in June 2007, and exploitation started in 2010. Gold, however, is by far the most dominant mineral currently being exploited. Gold accounts for, on the average, 90% of total value of minerals won (Akabzaa, 2007). Researchers have found ample evidence to suggest that small-scale artisanal mining in Ghana started some 2000 years ago (Owusu & Dwomoh, 2012). It was the mineral wealth of ancient Ghana that made the ancient empire of Ghana in the 7th and 8th century AD. According to historians, Portuguese sailors who first visited Ghana in 1470 were bewildered at the amount of gold dust, nuggets, and ornaments found in the country and had to name it the Gold Coast appropriately (Afrenya, 2002). The forefathers of Ghana mined gold and diamond on small scale before the white man arrived on the shores of Ghana as noted above.

Small-scale mining may be legal (registered) or illegal (not registered). Where they are registered there is some level of supervision, hence moderate consideration for environmental concerns (Iddirisu & Tsikata, 1998). Nevertheless, much destruction is done to the environment in the sense that activities done here are more vigorous and relatively higher. In situations where small scale mining activities are not registered, there is no monitoring, hence these miners are left unchecked, and the degraded environment receives no remediation. In spite of the economic strides made by mining in Ghana and in spite of the prioritized economic considerations given by governments coupled with the corporate social and environmental responsibilities performed by the mining industry, mining still has a direct or indirect adverse effects on the lives of children, more especially on their education by pulling them out of the classroom into the labour market.

It is well known among the Ghanaian public that exportation of precious minerals such as gold, diamond and manganese forms the second highest foreign-exchange earner to Ghana apart from cocoa but, it is said that the way and manner these minerals are being mined in the various communities in Ghana cause more harm than good to the inhabitants especially the youth (Owusu & Dwomoh, 2012). Furthermore, it is said that the illegal mining activities have been affecting standard of education among the youth in the communities and as such reducing enrollment in Ghanaian schools. For example, a research revealed that pupils who registered to write the 2012 Basic Education Certificate Examination (BECE), refused to write the Mock examinations and also exempted themselves from school to engage in "galamsey" activities (Mensah, 2012). Most of the children involved come from poor homes. They initially start mining as part-time to help them pay and purchase petty things for school but many of them end up abandoning school altogether, as the attraction of

making money is seemingly better for them than the perception of long-term schooling. According to Thorsen (2012), a third of all children in West and Central Africa are estimated to work full- or part-time, paid or unpaid. Many of these children are involved in hazardous and harmful activities in mines. Even if the work itself is not hazardous, many working children do not have access to education or drop out of school due to the opportunity costs for parents of keeping children in school and out of work. However, some children do combine work and school and earning an income may enable them to continue their schooling. Nevertheless, the hard physical work and long working hours in mining sites is one reason among many why children may have difficulties in keeping up with school work.

Over the past years, Ghana has been confronted with the negative effects of illegal mining in her communities. Ankutse (2015) in a study noted that, some districts (e.g., Asutifi) are experiencing the repercussions of a somewhat negative influence of mining on children's performance, enrolment and retention in schools. According to Ankutse (2015), the major communities within the district have raised great public outcries on the seriously mining-led problems that threaten to destroy the human capital of the communities in the near future.

For example, it was revealed from a research that was conducted in one of the schools in 2008 that, seven out of fourteen pupils, who sat for the Basic Education Certificate Examination (BECE), passed and gained admission into Senior Schools but in 2011 out of 44 pupils who sat for the examination only five passed (Mensah, 2012). The research also revealed that pupils who registered to write the 2012 Basic Education Certificate Examination refused to write the Mock exams and also exempted themselves from school to engage in "galamsey" activities.

The most outstanding among these mining-led problems that attract great concerns in the area are the increase in school drop-out and the poor performance of children in schools, alcoholism and teenage pregnancy among school children. Most of the children involved come from poor homes. They initially start mining as part-time to help them pay and purchase petty things for school but many of them end up abandoning school altogether, as the attraction of making money is seemingly better for them than the perception of long-term schooling.

In another forum organized by Action Aid at Kenyasi in Asutifi District in the Brong Ahafo Region of Ghana, the District Director of Education said, some 200 school children absent themselves from school daily to do all kinds of works in illegal mining (galamsey) site. As a result of this alarming and seemingly uncontrollable trend, about 14 girls became truants and 21 girls were impregnated who later became school dropouts in the previous 2007/2008 academic year (Ammanor, 2009). Illegal mining has directly or indirectly induced school children to engage in all forms of commercial and economic activities such as food vending, sale of hard drugs, sale of ice water, hawking, sale of alcoholic beverages and kerosene.

The most outstanding among these mining-led problems that attract great concerns in the area are the increase in school drop-out and the poor performance of children in schools, alcoholism and teenage pregnancy among school children. Looking from these two problems identified above, one is tempted to investigate the impact of illegal mining on the standard of education in Ghana as well as the inhabitants of those in the various communities where this practice tends to be dominant.

A survey conducted by the Talensi-Nabdam District Assembly of Ghana in 2007 revealed that as many as 658 children who were supposed to be in the classroom or

learning various trades were working in the mines (Ankutse, 2015). The mines employ the services of children to separate gold dust from pounded rocks extracted from the mines. Instead of finding their way to the classrooms, these children make their way to the mines and no wonder the district has witnessed a decline in the performance at the Basic Education Certificate Examination (BECE) level (Glover, 2010). This situation indicates a significant departure from sustainable development agenda that seeks to meet the needs of the present generation without compromising the ability of future generations to meet their own needs (Ananga, 2010).

Undeniably, a fair number of investments have gone into the promotion of basic education in Ghana. However, there are doubts as to whether these initiatives are necessarily having the desired impact. Example, seeing the low level of enrolment in schools especially in mining communities, the Government of Ghana has implemented and will continue to implement a number of programmes in collaboration with stakeholders, which intend to directly remove all children from the labour market. Prominent among these is the full implementation of the Free Compulsory Universal Basic Education (FCUBE) policy. This policy aims to use free attendance at public basic schools to disengage children from child labour and get them into schools (De Lange, 2007; Okyere, 2012). The Capitation Grant was also designed to relieve parents of the burden of paying tuition fees in public schools (Little, 2010). The School Feeding Programme (SFP) that equally aims (in part) to boost enrolment and retention in basic schools was also introduced. Other programmes like Free Transportation for school children in the Metro Mass Transit Busses, Free school uniforms and other learning materials were given free to children, all with the aim of promoting children's education which also serve as an expressway for removing children from mining-led child labour.

In a few decades, children's right advocates have instituted a plethora of education related campaigns aimed at getting children out of the labour market. For instance, the International Labour Organisation (ILO) World Day against Child Labour in 2008 was instituted to highlight the adverse impact of child labour on children's education and on their development in general (International Labour Organisation, 2008). Similarly, other researchers (e.g., Heady, 2003; Okyere, 2012) have also noted the adverse effect of child labour on children's education and on the development of the nation at large. All these educational policies and programmes are good in their places but as to whether they have brought significant educational changes in mining communities of Ghana remains an unanswered question. This research, therefore, seeks to investigate the influence of illegal mining on school attendance, dropout, and academic performance of junior high school pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana.

1.2 Statement of the Problem

Many developing countries in sub-Saharan Africa with abundant resources are confronted with the issue of 'resource curse' (Ankutse, 2015). Illegal mining activities which is locally known in Ghana as galamsey or mechanism to extract gold and other mineral resources appears to be on the rise with its attendant effects especially in Atwima Kwanwoma District in the Ashanti Region of Ghana. Atwima Kwanwoma District in the Ashanti Region of Ghana appears to be one of such districts that is experiencing the repercussions of a somewhat negative influence of mining on children's performance, enrolment and retention in schools.

The number of galamseys in Ghana is unknown, but it is believed to be from 20,000 to 50,000 and most of them operate in communities where there are substantial

reserves of gold deposits and usually within the environs of the larger mining companies (Annan, 2015; Adjei, 2017). Most young people, including children, are notable for engaging in such act with the idea of getting quick money. According to Annan (2015), many children of school going age have abandoned classrooms and are now into full-scale illegal mining activities, in view of the monetary benefits that come with these activities, despite the associated risks.

Owusu and Dwomoh (2012) in a study on the impact of illegal mining on the Ghanaian youth showed that, illegal mining activities have negative impacts on the youth's school attendance, dropout and academic performance. Atwima Kwanwoma District of Ghana appears to be one of such districts with illegal mining activities. However, it appears little attention has been paid to the influence of illegal mining activities on school attendance, dropout, and academic performance of pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana.

1.3 Purpose of the Study

The purpose of the study was to investigate the influence of illegal mining on school attendance, dropout and academic performance of junior high school pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana.

1.4 Objectives of the Study

The objectives of the study were to:

1. Investigate the extent to which illegal mining activities influence school attendance in junior high schools in Atwima Kwanwoma District in the Ashanti Region of Ghana.

2. Explore how illegal mining activities contribute to school dropouts among junior high school pupils in Atwima Kwanwoma District in the Ashanti Region of Ghana.
3. Determine the extent to which illegal mining activities influence the academic performance of junior high pupils in Atwima Kwanwoma District in the Ashanti Region of Ghana.

1.5 Research Questions

The study was guided by the following questions:

1. To what extent do illegal mining activities influence school attendance in junior high schools in Atwima Kwanwoma District in the Ashanti Region of Ghana?
2. How have illegal mining activities contributed to school dropouts among pupils at junior high schools in Atwima Kwanwoma District in the Ashanti Region of Ghana?
3. To what extent do illegal mining activities influence the academic performance of junior high school pupils in Atwima Kwanwoma District in the Ashanti Region of Ghana?

1.6 Hypotheses

The following hypotheses were formulated and addressed:

H_O1: Junior High School pupils' attendance is not influenced by the illegal mining activities in Atwima Kwanwoma District in the Ashanti Region of Ghana.

Ha1: Junior High School pupils' attendance is influenced by the illegal mining activities in Atwima Kwanwoma District in the Ashanti Region of Ghana**.**

H_O2: Junior High School pupils' academic performance is not influenced by the illegal mining activities in Atwima Kwanwoma District in the Ashanti Region of Ghana.

Ha2: Junior High School pupils' academic performance is influenced by the illegal mining activities in Atwima Kwanwoma District in the Ashanti Region of Ghana**.**

1.7 Significance of the Study

The attraction of children into mining sites can draw children out of schools and may jeopardize the human resource capacity of the study area in the near or distant future. This study would help to uncover the real causes and pattern of the fallen standards of education in the face of vigorous mining activities. The study would add more information to existing literatures on the measures to be taken to remove or reduce the movement of children into the mining sites. It would also help to check whether efforts to provide educational support have proved sufficient in discouraging children from engaging in arduous mining activities.

1.8 Delimitation of the Study

There are specific delimitations to this study. The primary delimitation is that; the study is meant to focus on only academic performance of pupils in Social Studies. Also, only perspectives of parents who have their children engaged in related illegal mining activities at the Junior High School level were explored.

1.9 Organisation of the Study

This study was organised into five chapters. Chapter One presents the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, delimitations of the study, organisation

of the study and operational definition of terms. Chapter Two deals with literature review, that is, the review of relevant literature on topics related to subject under study. Chapter Three presents the methodology employed in the study. This captures the researcher's methodological position, research design, research setting, population, sample and sampling techniques, research instruments, trustworthiness, pre-testing, data collection procedures, data analysis procedures, ethical consideration and limitations**.** Chapter Four focuses on data presentation, analyses and discussion of results. Chapter Five presents a summary of findings, conclusions and recommendations based on the findings of the study.

1.11 Operational Definition of Terms

School attendance: The extent to which pupils are regular and punctual at school.

School Dropout: A situation whereby a child under school-going age drops out of the education process or/and a situation whereby pupil has not attended school for six months and thus is unable to meet the demands set for basic education.

Academic Achievement: A learning outcome that shows the level of progress that pupils are making at the different level of progression in a given study subject.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Overview

This chapter reviews the literature relevant to the study. It captures both theoretical and empirical frameworks relevant to the study. The review has been organised under the following subheadings:

1. Theoretical Framework on Human Needs.
2. Small-Scale Mining in Developing Countries.
3. Mining Activities and their Influence on Pupils' School Attendance.
4. How Mining Activities Contribute to School Dropouts Among Junior High School Pupils.
5. Mining Activities and their Influence on Pupils' Academic Performance at School.
6. Summary of the Literature Review.

2.1 Theoretical Framework on Human Needs

A need has been defined as a hunger that compels action for its satisfaction. It ranges from basic survival needs that are common to all human beings and are satisfied by necessities, to cultural, intellectual, and social needs that depend on situations. Needs are said to be the drivers of human action. People have needs depending on their circumstance and there have been various attempts at explaining human needs in several settings and in various communities.

The word "need" is used in a variety of different idiomatic usages, both as a noun and as a verb (Jackson, Jager, & Stagel, 2004). As a noun, need comes with three generic meanings: namely needs as an internal force that drives or guides action, then needs as an (external) environmental requirement for achieving an end, and then needs as

justified requirements for performing behavior (Gasper, 1996; Jackson et al., 2004). Jackson et al. (2004) wrote that most modern needs theoretical frameworks such as Maslow's hierarchical ordering of needs and Alderfer's Existence Relatedness and Growth theory draw on the first meaning of needs. The usage of needs in these theories is basically concerned with illuminating the links between motivation, values, and behavior. Such a usage of needs is located within various branches of psychology, which differs from the conventional economic approach that regards needs as subjective desires and preferences that can be satisfied through consumer choices. For this particular study, Maslow's hierarchy of needs theory and Alderfer's ERG theory will provide the theoretical framework.

Maslow's hierarchy of needs theory has categorized individual needs into five categories (Maslow, 1971). These are: Physiological, Safety, Love/Belonging, Self-esteem, and Self-actualization. These needs are hierarchical and begin with the physiological through self-actualization. Physiological needs refer to the lower level needs like food, shelter, breathing, water, excretion, etc. These needs as the name implies are needs that the human physical body demands so that it functions normally. Safety needs are those that provide security for the individual in terms of body, health, employment, and crime. The individual tries to ensure that the things that he or she has inherited or worked for to make life comfortable are secured and not compromised in any way. Love or belonging needs are those needs that the individual has to have to feel that they are part of a group, family, community, or fraternity. These needs include friendship, sexual intimacy, and family. Self-esteem needs are those that give the individual confidence, respect for others, and respect from others. Self-actualization is the need that the individual has with regards to morality, creativity, spontaneity, etc. (Maslow, 1971).

Maslow's hierarchy of needs theory has been criticized based on the fact that individuals can have affection even if their physiological needs are not fully satisfied. For authors such as Jackson et al. (2004), Maslow's theory over-emphasizes the individualistic nature of needs-satisfaction and understates the importance of society, culture, and the natural environment by treating these as secondary in importance to individual motivation. Furthermore, the claim that only sufficiently well-off people can achieve self-actualization is often seen as problematic because poor people in reality may also be able to develop well their individual potential. Alongside some of these criticisms is the argument that individuals can pursue multiple needs at the same time (Anney, 2014).

In response to the limitations of Maslow's hierarchy of needs theory, Alderfer (1969) proposed a modification of the theory by first proposing three levels of needs instead of five. For Alderfer (1969), the three levels are the Existence, Relatedness, and Growth levels (ERG). The physiological and safety needs are categorised as existence needs, the love or belonging and esteem needs are classified as relatedness needs, and self- actualization as growth needs.

Maslow (1971) stated that when a lower need is satisfied, the individual then moves on to trying to satisfy the next higher need and that when an individual at a higher need level is faced with a situation that results in a deficiency in a lower need, the individual will suspend pursuing the higher need and pursue the lower need. If the lower need is satisfied, then the individual prioritises the next higher need. In other words, it was not possible for an individual to pursue more than one need concurrently. Alderfer (1969) maintained a different position and argues that an individual can pursue more than one level of need simultaneously.

Alderfer's ERG theory further proposed a frustration-regression component. This component suggests that an already satisfied need can become activated when a higher need remains unfulfilled. Thus, if a person is continually frustrated in his or her attempts to satisfy growth needs for instance, relatedness needs can again surface as key motivators.

Alongside the theory on needs, this study also uses the concept of sustainable livelihoods to discuss how people draw on different assets and undertake different activities to respond to variations in their livelihoods due to the incidence of mining. Hilson and Potter (2003) defined a livelihood system as comprising the capabilities, assets (including both material and social resources), and activities required for a means of living. A livelihood strategy connotes a combination of assets and activities to make a living. A livelihood system or strategy encompasses not only activities that generate income but many other kinds of elements, including cultural and social choices (Ellis, 2000). For Ellis (2000), sustainability is achieved when a livelihood "can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base." In the context of mining, the stresses and shocks refer to the changes that occur at a setting as a result of mining related activities. Most often mining communities encounter displacements from farmlands and this has consequences for livelihoods and level of vulnerability, especially those who are unable to cope or adapt to the changes brought in by mining. The outcomes in terms of vulnerability will have consequences for the level of needs and development.

2.2 Illegal Small-Scale Mining (Galamsey) Activities in Ghana

According to Bach (2014), artisanal small-scale gold mining has been practiced in

Ghana since around the 4th century. In the beginning it was done in very primitive ways which can be divided into three categories: shallow pit, deep shaft and alluvial (Donkor, Nartey, Bonzongo & Adotey, 2006). The latter was the most extensively used, and is a process which entails retrieving sediments from rivers containing gold particles, which was then washed multiple times before using mercury to creating an amalgam consisting of mercury and gold, which is then burned in order to leave pure gold behind (Botchway, 1995). Today, the so called galamsey is conducted in very similar manners, both because it does not require much equipment but also due to the activity being closely connected to the land and the people's ancestors (Bach, 2014).

However, in addition to working in rivers, it is now also normal to use the same method on land, in so-called surface mining operations (Hilson, 2002). Bach (2014) established that even though it used to be rather difficult to get hold of, mercury has been used by many galamsey since the advent of Ghanaian gold mining. In 1932 the colonial rule made the use of mercury illegal, as its widespread use made Ghanaians prefer working in their own mines rather than for the Europeans (Armah et al., 2013). Thus, practically the whole small-scale mining sector was made illicit. It was not until the implementation of the mercury act of 1989, that the buying and usage of mercury for mining was legalized, thus formalizing the sector causing a new gold rush (Donkor et al., 2006).

About ten years ago, the small-scale mining sector accounted for around 20% of Ghana's total gold output (Hilson, 2003). Currently, Ghana, as well as many other Sub-Saharan countries has liberalized their mining investment codes to attract more capital (Campbell, 2003; Pegg, 2006). This in turn has had devastating implications for rural communities. Examples of such are displacement (often implying loss of

farmland), leading to increased unemployment, which again leads many into being galamsey miners (Banchirigah, 2008, p.30, 31). Today, a large part of those working in the small-scale mining sector operate illegally. According to Hilson (Ellis, (2000), it is estimated to be around 30,000 legal small-scale miners, and as much as 170 000, or more, illegal. By a more recent source, it is estimated that around 265 000, or 85% of small- scale miners were unlicensed (Carson et al., 2006). Another source stated that as much as 1 million operate illegally (Banchirigah, 2008). Thus, the number can be seen to rapidly increase.

In Ghana, the mining policy processes themselves are characterized as having a very low degree of public participation, as well as parliamentarians lacking resources and skills to understand the complex issues regarding mining. This further combines with a situation where politicians very seldom are replaced when responding inadequately to the needs of the country's development, making improvements in governance difficult (Aryee et al., 2003).

The discourse of illegal small-scale miners in Ghana can be portrayed as generally highly negative, focusing on the galamseys' role as irresponsibly using mercury in their extraction of gold with no concern for the communities' health and environment. This is paired with a situation where many officials tend to view small-scale miners, and particularly galamsey, as an obstacle to development. The sentiments are often that the small-scale miners spoil the investment potential the country can realise from the large-scale mining companies.

In 1989, when small-scale mining was formalized, those practicing traditional small-scale mining without a license, as had been done in several centuries, suddenly turned into illegal workers. With few alternative sources of income, low ability to register

due to bureaucratic delays, and no access to education regarding how to mine more efficiently and environmentally sound; these miners are now characterized as a highly marginalized group. Another main source of inability to register is that most land set off for mining is already assigned to large- scale mining companies, forcing locals to pursue illegal mining. By making miners' operations illicit, it also undermines awareness rising of mining's environmental- and health effects. Thus, it is argued that criminalizing miners in this way, without offering proper alternatives is not a viable solution to the issue (Tschkert & Singha, 2007).

The general illegal mining operations, can be said to have a bad influence on the investment environment for legal and bigger mining companies. To mitigate this, corporations have invested in organizations working to promote alternative activities to the mining. Examples of such are cassava harvesting, farming and poultry rearing, which have been done with limited success (Banchirigah, 2008). Further, according to Hilson, most locals are reluctant to undergo training to become registered legal miners (2001). This is hypothesized as rooted in the fact that governmental policy processes have not been done with sufficient stakeholder participation. It is even reported that many managers and mine engineers state that efforts taken with regards to policymaking and implementation in the mining sector has been done very poorly (Hilson, 2001). However, in the academic sphere one is starting to realize that what is needed to deal with the galamsey sector is an integrated approach that provides space and support for active community participation (Tschakert & Singha, 2007).

2.3 Mining Activities and their Influence on Pupils' Attendance in School

Education is a key to the realization of most of the goals and targets of the global Sustainable Development Goals (SDGs). The World Conference on Education for all

held in March, 1990 in Jomtien, Thailand, marked a new beginning in the worldwide journey to universalize basic education and wipe out illiteracy (Haddad et. al., 1990). Again, it is captured in the global Sustainable Development Goals which aim at achieving universal basic education for children everywhere able to complete a full course of basic schooling. It is also particularly well reflected in Ghana's 1992 constitution which provides for education to be free, compulsory and available to all (Government of Ghana, 1992). Nonetheless, according to UNESCO, 2007, hundreds of millions of children tend to drop out of school each school passing year.

The International Labour Organisation (ILO) (2008) has indicated that the prevalence of children in mining is growing. The Organisation's background document for the World Day against Child Labour was on eliminating Child Labour in Mining and Quarrying. Children in mining have become a focus of attention as its links to many of the worst forms of child labour on the African continent which has become very obvious. Children are in mining for several reasons – family disintegration through poverty or HIV/AIDS as well as war and conflict; traditional expectations of children as income earners; negligence and premature independence from parental control. ILO/IPEC (2004) has undertaken a number of quite detailed studies into child labour in Ghana, as part of multi-nation studies.

Local communities at the fringes of mines have suffered and continue to suffer various degrees of adverse impact of mining operations. Some communities have suffered militaristic attacks, others have had their water sources polluted, their land destroyed, and many of them continue to suffer low and inadequate compensation packages. Concerns have also been expressed about inadequate housing, youth unemployment, family disorganisation, school dropouts, prostitution and drug abuse

associated with the mining boom. In most cases these impacts affect people of different age groups and gender differently. Due to the sub-sectors' remoteness, informal character and mobility, the number of children involved in mining and quarrying activities is difficult to measure. However, the ILO estimates that nearly 1 million children under the age of 5 to 17 years of age work in the mines and quarries. Saiduddin (2003) in a study of junior high pupils stipulated that there is a positive correlation between achievement and attendance. One article explains, "When many are absent or chronically tardy, achievement levels suffer" (p. 1). Ananga (2011) explained that the results of his research signify that enhanced rates of class attendance were connected to enhanced academic performance and the stresses on the academic remuneration of class attendance were also efficient. Roby (2004) in a study of attendance and achievement in Ohio schools believed the positive impact of fine school attendance on academic attainment might be superior to what people have in the past believe. Gump (2005) identified a tough negative correlation between absences and final grades. Furthermore, Gump postulates that pupils who desire to succeed academically ought to attend class, and that teachers must promote attendance. This suggests that there is a positive correlation between examination performance and attendance.

School attendance, therefore, refers to the habitual practice of act of being present at school. Attendance rates to school are often used as indications of positive a tool for monitoring. Whilst truancy is frequently a feature of pupil's debate, there is a lack of available data on its frequency. It is possible to infer over all trends that showed a gradual increase in attendance rates from the dip experienced in the year following the raising of the school leaving age. According to him, these surveys, however, were not able to distinguish between absence due to illness and absence due to truancies and

therefore, can only provide a general indication of improved 'average' attitude such as the proportion of pupils chosen to remain beyond statutory leaving age or a further education college.

2.4 How Mining Activities Contribute to School Dropouts among Junior High School Pupils

A great deal of Ghana's success in growing school attendance has been counteracted by high drop-out rates and even though there is a close to gender parity in admittance to school at lower levels, transition rates to junior and senior high school do not show as much promise (Adu-Gyamfi. 2014). The notion of dropout is a most elusive and complex issue to define. A child might stop attending school, but only for a brief time before resuming his or her education, which to begin with makes any attempt at coining a suitable term based on duration of withdrawal generally difficult (Ananga, 2011).

In defining dropout, UNESCO (2005) proposed the description 'early school-leaving', going on to argue that this means existing the formal education system without completing the cycle or programme that was started. Organisation for Economic co-Operation and Development (OECD), focus on identify, suggesting that a dropout is a pupil who leaves a specific level of the education system without first achieving the appropriate qualification (OECD, 2002). Similarly, Marrow (1987) defined a dropout as any student previously enrolled in a school, who is no longer actively enrolled as indicated by fifteen days of consecutive unexcused absences, who has not satisfied local standards for graduation, and for whom no official request has been received signifying enrolment in another state-licensed educational institution.

Although Marrow's definition appears to be more satisfactory as it goes further in setting conditions that must first be met before a pupil qualifies as a dropout, its universal application to different contexts may pose serious problems and might not reflect the true picture of the phenomenon. For example, if the 'fifteen days of consecutive unexcused absences' rule were to be taken as the sole determinant of dropout status, several Ghanaian pupils whose attendance was tracked would qualify (Ananga, 2011).

Moreover, in Ghana, there are instances in which pupils migrate to other communities, where they gain admission to private or public schools without necessarily obtaining any official leave to do so. This suggests that if Marrow's definition is universally applied, such pupils have technically dropped out whereas in reality, they are still pursuing their education.

According to Acheampong et. al. (2007), a dropout is a child who has enrolled in school but is no longer currently attending, although it is possible that such a child may re-enter the education system at some stage. A dropout according to Ananga (2011), is any younger or older school age pupil who attendance in the immediate past term was less than 40%. Ananga further describe a dropout as any school age pupil who stopped schooling for more than one term without excuse from teachers. However, in recent times school dropout has become a serious canker in Ghanaian societies, especially in illegal mining communities. Dropping out of pupils from school has turned into a difficult issue in many places around the world (Young and Chavez, 2002). In many African countries, the opportunity cost of investment in the educational sector is exacerbated by continual school dropout particularly at the basic level. Africa was reported the highest dropout rate in the world with approximately

42%. Within the sub-region alone, about 10million boys and girls also dropped out of school (GNA, 2013). Various governments have paid much attention to increase school enrollment, attendance and academic performance within the various districts of Ghana. Recent progress in the rollout programme of Free Senior High School by the Government of Ghana inspires hope of further progress.

For human development to contribute to national development, improving learning outcomes for the poorest half of Ghanaian children offers a key opportunity and challenge. To give meaning to the access and participation component of the Free Compulsory Universal Basic Education programme, the Ghana Education Service has made a lot of inroads in the area of infrastructural provision for schools at the dawn of the 21st Century. It is an established fact that those employed in the small-scale mining in this district are mostly either illiterate or semi-literate (Ankutse, 2015).

These miners appear to attract their young ones of schools age into the mining activities either as a means of offering a helping hand or as a kind of training them to be able to take up from them when they retire. To aggravate the problem, it appears these pupils themselves have not concluded whether they will attend school or not and finally end up in the illegal mining activities. They also have the quest for money and riches. Some pupils subsequently leave school to engage in galamsey because they perceive it to be a more lucrative venture. They prefer to mine for gold than to "waste their time" in the classroom. According to Owusu and Dwomoh (2012), some galamsey miners place priority on galamsey than education. Once they engage in the act and start to reap some benefit from it, they get inclined to stay and continue mining.

Also, research has established that parental attitude and encouragement has a great deal of weight on pupils' education and height of success attained in education. Parents and community attitudes towards education are largely influenced by traditional beliefs. Ghanaian children continue to face barriers to accessing and completing education that result in drop-out, whereby children fail to complete their full cycle of basic education (Akyeampong, Djangmah, Oduro, Seidu, & Hunt, 2007). Canagarajah & Coulombe (1997) stated the families have a role to play in a child's decision to school or work. Father's education has a significant negative effect on child labour the effects is stronger for girls than boy to them estimations also show that father's with very high level of education are likely to have a negative effect on the livelihood of working while mothers' education seems to influence only schooling participations than working. Canagarajah and Coulombe further emphasised that the presence of fathers at home is likely to affect the child's likelihood of going to school as opposed to work.

Amponsah-Tawiah and Dartey-Baah (2011) stated that it has been argued in the past that ages and presence of gender of siblings have a strong effect on schooling and work pattern of members of the household. In Amponsah-Tawiah and Dartey-Baah survey, it was found that in the school equation, there is a positive marginal effect on school participation. As subjects of undesirable socio-cultural expectations within the household and community, most girls take on much of the burden of sustaining the family in terms of labour, child-care and income generation, and are extremely vulnerable in the face of persistent poverty.

There are influences of demand factors associated with pupils' dropout. With regards to the influence of children's backgrounds on access to education, much of the empirical research has focused on the structural characteristics of families, such as socio-economic status and family structure. Research has consistently found that socio-economic status - income predicts school achievement and dropout behaviour of children (Hunt, 2008; Pong & Ju, 2000). Also, the family arrangement type from which the child is coming is found to influences access. For instance, children from single-parent and step families are found to be more likely to drop out of school than children from two-parent families (ILO/IPEC, 2004). The effect of parental income is generally thought to support human capital theory. Human capital theory argues that, parents make choices about how much resource to invest in their children based on their objectives, resources, and constraints which, in turn, affect their children's tastes for education (OECD, 2002). Where parental income is lacking or low, parents are unable to provide resources to support their children's education. There is relationship between poverty and school disruption (Hunter and May, 2003; Colclough, Rose & Tembon, 2000). Colclough et al., (2000) found in a study that:

> *Amongst those out-of-school, the mean wealth index for school drop-outs was generally higher than for those who had never enrolled...Children at school were, on average, from better-off households than those who had dropped out, who were, in turn, from richer backgrounds than school-age children who had never enrolled (ibid: 16).*

In most cases, poor households have a lower demand for schooling than richer households; moreover, the costs of schooling to the poor are more difficult to meet than for richer households (Colclough et al., 2000). In its analysis of poverty in Ghana, Ghana Poverty Reduction Strategy (GPRS) captures it as existing in three dimensions – income or consumption poverty, lack of access to basic services, and as

an impediment to human development (Ananga, 2011). According to Ananga (2011), all three dimensions are considered to negatively affect the demand for education by people from poor households, a situation that results in low levels of participation in education.

Poverty is considered to be a major factor in the impediment of enrolment and retention in Ghanaian schools (Ananga, 2010, 2011; Canagarajah & Coulombe, 1997). In Ghana, most out-of-school children, both those who have never enrolled and those who have dropped out come from economically deprived households. According to a Ghana child labour survey report, child workers claimed to be working to raise the money to go to school (Ghana Statistical Service, 2003). Household poverty may be regarded as affecting dropout by its resonating effects that trigger most other factors that are responsible for dropping from school.

It has been argued that when parents turn to their children to contribute to the household income in times of economic difficulty, in the context of severe cultural constraints and the discriminatory treatment of girls, boys may have a greater ability to take on such a responsibility (United Nations Development Fund for Women, 2000). This was found to be the case in the study area, where, by the age of 12 to 17 years, most boys were actively employed in the informal labour market in order to support themselves and their families. This finding is corroborated by a study suggesting that a prevalent cultural perception of masculinity encourages a higher dropout rate in boys.

In the determinants of school participation, it has been established that the influence of household poverty affects enrolment and attendance particularly due to direct and indirect costs of schooling. According to Huisman and Smits (2009), the costs of

schooling including the direct costs of books, school fees, uniforms and travel costs as well as the indirect - opportunity costs of the children not being able to help at home, in the household or at the family business, or to earn money in the labour market are found to influence dropout (Ananga, 2011; Admassie, 2003; Hunter & May, 2003). Therefore, the cost of school fees is considered to be one of the reasons why poor households withdraw their children from school. Although payment of school fees may not be the main reason behind dropping out in some educational systems because school do not charge children any fees for example in Ghana. Hunt (2008) pointed out that, poor households sometimes withdraw their children from school as part of their coping strategy, often in order to work, save on indirect costs or to free up other household members to work (Huisman & Smits, 2009). There is therefore a relationship between household poverty and dropout. Hunter and May (2003) however argued that financial capital (parental income) is insufficient to explain the connection between family background and non-attendance and dropout. The next section looks at social capital - structure and arrangement in the household and dropout.

In addition to the influence of social capital, household structure in respect of dropout, poverty, location, gender and age often interact with seasonal obligations and child labour to influence access to education and withdrawal (Hunt, 2008). Studies have found that there is a trade-off between child labour and child schooling (Akyeampong & Ananga, 2010; Ananga, 2010, 2011). It is however important to note that while the evidence on the link between household poverty and child labour as a cause of dropout may be described as a weak one, the literature points out the harmful effects of child labour on learning outcomes of children (Admassie, 2003; Hunt, 2007) which sometimes results in dropout. Hunt, (2008) highlighted the links between poverty and

child labour and show how it results in children being pulled and or pushed out of school to work in the labour markets (Admassie, 2003; Canagarajah & Coulombe, 1997). Research shows that households in developing countries adjust the school attendance and labour force participation of their children to absorb the impact of negative shocks (Blunch & Vemer, 2000). For instance, rural Ghanaian parents facing an unexpected decline in crop income withdraw their children from school. According to Hunt (2008), children's work-type has implications for initial and sustained access to schooling. It should be noted that the operational definitions used to identify a child worker differs in many contexts and research studies.

The opportunity cost of a child's time often increases with age, and as a child grows older, the probability of dropping out of school increases (Admassie, 2003; Blunch & Verner, 2000). The influence of child labour on school attendance and dropout may be regarded as opportunity cost in the calculus of decision making on schooling. It has also been argued that, child labour may allow improved access to education, since children are able to make earn money to pay the direct cost of their schooling (ILO/IPEC, 2004). For example, it was found that relatively large numbers of children migrate independently to the cocoa growing areas of Ghana to work, and that some of these children migrate in order to further their education, either moving to be able to attend school or to be trained in a vocation, or migrating for work to get the money needed to attend school (Hashim 2004; Ghana Statistical Service, 2003). Nevertheless, the fact remains that in the majority of cases, child labour affects regular school attendance and usually leads to dropout. Whatever the form child labour takes, it builds pressure on the children's schooling time. Hunt (2008) argued that children become irregular in school attendance when children combine schooling with work. The influence of child labour and other demand side factors on dropout

notwithstanding, it is argued that the school has the potential to implement protective mechanisms that increase attendance levels and prevent pupils from dropping out (UNESCO, 2007).

2.5 Mining Activities and their Influence on Pupils' Academic Performance at School

Academic performance refers to how students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers. It can as well be said to be the ability for pupils to study and remember facts and being able to communicate their knowledge either verbally or written down on paper. The concept of poor academic performance varies in its definition. Diaz (2003) considers poor academic performance or academic failure as the situation in which the subject does not attain the expected achievement according to his or her abilities, resulting in an altered personality which affects all other aspects of life. Some indicators of poor academic performance are low Grade Point Average (GPA), poor class participation, poor coordination among teachers and students, and absenteeism. Regular attendance may lead to high academic's performance. It encourages students to organise their thinking by comparing new ideas. Regular attendance makes students submit assignment, enhances collaboration among pupils and teachers, increase the test score of pupils improve the students Grade Points Average (GPA), increase the student confidence, increase their understanding of basic concepts. This means that most of the causes of poor performance in schools can be solved by improving attendance and reducing absenteeism.

Defining and measuring the quality of education is not a simple issue and the complexity of this process increases due to the changing values of quality attributes associated with the different stakeholders' viewpoint. The other important factor

playing a part in the quality of pupils` performance is the learning- teaching environment, which can be approached in two ways (Gump, 2005):

i) Teaching Technology

a. Teaching and Learning Practices: Interaction between Teachers and Pupils; Materials and Resources used in the Classroom (e.g., ICT); The Nature of Learning Tasks Done by pupils. b. Academic Standards and Assessment Practices: Curriculum content and graduation requirements; Methods for Assessing Pupil Progress (e.g., Tests, homework) c. Class Size and Teaching Loads.

ii) School Environment

a. Partnerships: Parental and community involvement b. Peer effects c. Internal organisation of schools, leadership, and academic norms d. Safety e. Quality of facilities. The above indicates that the quality of teaching, learning achievement and teacher quality all have within them complex, closely related micro- and macro level elements of observable qualities, also elements that cannot be or can only indirectly be observed; while there are additionally factors making up the teaching environment (teaching technology, school environment).

The notable role of teacher quality is emphasised via a number of research results, and we can see that other school activity parameters, like financial conditions, the number of pupils per class, school structure or equipment, hardly have any detectable effect (Heemskerk, 2005). Thus, the existence of teaching technology and equipment in itself is no guarantee of quality education, i.e. such items will only have a favourable effect if the school employs quality teachers as well. Infrastructural parameters do not influence achievement directly, yet they do communicate the effect of other, non-observable factors, and they also determine existing opportunities and limitations

quite well. From the point of view of pupil and school achievement, teachers` professional qualities and dedication are of the utmost importance, together with the applied teaching practices and methods; and these, in an optimal case, will be coupled with a knowledge of pupils` attitudes and motivations and the use of information technology (Jing-Lin, Gang & Wei, 2009).

According to research data examining teaching practice indicators, pupil achievement can be linked to the characteristics of classroom practice. It is true, however, that this only explains a small part of any achievement scattering, a reason for which might be the fact that the indicators of classroom practice correlate with other, non-observed teacher characteristics (Jin-Lin et al., 2009). Research data also indicates that pupils` cognitive and deductive abilities are developed much more effectively if teachers have a constructivist attitude as opposed to an immediate knowledge-transfer one (Asiedu-Addo, 2009).

Teachers` professional communities and cooperation between teachers also influence pupil achievement positively; furthermore, the existence of professional communities and cooperation reduces the size of the abyss between performances determined by ethnic and socio-economic status (Moore, 2005). Carranza, You, Chhuon and Hudley (2009) analysed on successful schools indicate that although the success of schools is very much determined by the composition of pupils, it depends on the devotion, attitudes and activity of directors, other heads and teachers to the same degree.

Research has shown that parents connections with the school, their expectations of the school and their attitudes to learning are also factors weakening or strengthening educational achievement and the motivations and ambitions of pupils (Carranza, et al., 2009). Besides other factors, socioeconomic status is one of the most researched and

debated factors among educational professionals that contribute towards the academic performance of pupils. The most prevalent argument is that the socioeconomic status of learners affects the quality of their academic performance. Most of the experts argue that the low socioeconomic status has negative effect on the academic performance of pupils because the basic needs of pupils remain unfulfilled and hence they do not perform better academically (Howard, 1994). The low socioeconomic status causes environmental deficiencies which result in low self- esteem of pupils.

Given the fact that any pupil can have poor academic performance, the trouble appears critical when this becomes a trend. Pupil's academic performance has been identified as the outcome of education and the degree to which a pupil has attained the objectives of his or her institution (Agarana & Ehigbochie, 2015). There are various reasons for pupils' poor academic performance based on the geographical area they are living in, pupils' cultural and historical background, the educational approaches and the common knowledge of pupils. Moore (2005) defined poor school performance as a school achievement below the expected for a given age, cognitive skills, and schooling. Moore classified the causes of poor school performance to two macro groups: i) pedagogical difficulties; and ii) diseases and associated disabilities. They believe that pushing pupils beyond their capabilities, skills and interest might lead to lack of interest, demotivation and distraction which in turn results in frustration, failure, low self-esteem besides family and school stress.

Asiedu-Addo, (2009) categorized the factors that affect learners' performance into three groups: biological (pupil-born factors), psychological and social factors. They believe that biologically some pupils are below average in IQ among their peer age group. From psychological perspective we need to know whether our pupils are

actually ready to learn and/ or like to learn. And socially, is the environment conducive and stimulating enough for ideal learning? Do pupils have access to necessary materials that could help them to improve and learn better? Howard (1994) in a study proposed several reasons for children's low performance among which are medical problems, below average intelligent, specific learning disability, emotional problems and environmental causes. They believe that to solve this multi-varied and cross-linked problem, the focus should move from the class to the family, to the environment and to the social world of pupils.

Kamla Raj as cited in Bowen (2005) have established that, pupils who attend classes more regularly seem to be more successful in their studies than those who regularly absent themselves from school. In addition, pupils that attend class regularly are more likely to remember well the information and apply the knowledge effectively throughout their life. Empirical evidence confirms that, absenteeism produces the high level of problems and failure among pupils. It appears that absenteeism brings out hundreds of cases of negative impact on the building of the future of pupils (Bowen, 2005).

Adu-Gyamfi's (2014) findings of study has revealed that indeed illegal mining activities partake by pupils do have negative effect on school attendance and academic performance and it was established that pupils who come to school regularly perform tremendously while the absentee pupils perform poorly. The study recommended that parents must educate their wards and be aware that it is their responsibility to bear the cost of their children's needs. Carranza, You, Chhuon and Hudley (2009) investigated the causes of poor academic achievement among the pupils of the main stages in selected schools in America, 100 teachers were selected

randomly to fill in a 30- item questionnaire. The results of her study show that the reason for low academic performance fall under the following themes: focus of the pupil (89.60%) was the first place followed by the school hub (79.00%) followed by the family.

Adu-Gyamfi (2014) in a study assessed the effect of illegal mining on school attendance and academic performance of junior high school pupils in the Upper Denkyira West District of Ghana. Descriptive survey was used for this study and research instruments used were questionnaire and interview. Thirty teachers and 150 pupils making 180 respondents were used for the study. Stratified random technique was used to select the five schools in the district and the respondents were selected through simple random sampling technique. Findings of study has revealed that indeed illegal mining activities partake by pupils do have negative effect on school attendance and academic performance and it was established that pupils who come to school regularly perform tremendously while the absenteeism pupils perform poorly. The study recommended that parents must educate their wards and be aware that it is their responsibility to bear the cost of their children's needs.

2.6 Summary of the Literature Review

A need has been defined as a hunger that compels action for its satisfaction. They range from basic survival needs that are common to all human beings and are satisfied by necessities, to cultural, intellectual, and social needs that depend on situations.

Jackson et al. (2004) write that most modern needs theoretical frameworks such as Maslow's hierarchical ordering of needs and Alderfer's Existence Relatedness and Growth theory draw on the first meaning of needs. The usage of needs in these theories is basically concerned with illuminating the links between motivation, values,

and behavior. Such a usage of needs is located within various branches of psychology, which differs from the conventional economic approach that regards needs as subjective desires and preferences that can be satisfied through consumer choices. For this particular study, Maslow's hierarchy of needs theory and Alderfer's ERG theory will provide the theoretical framework.

Saiduddin (2003) in a study of junior high pupils stipulated that there is a positive correlation between achievement and attendance. One article explains, "When many are absent or chronically tardy, achievement levels suffer" (p. 1). Ananga (2011) explained that the results of his research signify that enhanced rates of class attendance were connected to enhanced academic performance and the stresses on the academic remuneration of class attendance were also efficient.

A great deal of Ghana's success in growing enrolment has been counteracted by high drop-out rates and even though there is a close to gender parity in admittance to school at lower levels, transition rates to junior and senior high school do not show as much promise (Adu-Gyamfi, 2014). It is an established fact that those employed in the small-scale mining in this district are mostly either illiterate or semi-literate. These miners appear to attract their young ones of school age into the mining activities either as a means of offering a helping hand or as a kind of training them to be able to take up from them when they retire.

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are living in, pupils' cultural and historical background, the educational approaches and the common knowledge of pupils. Moore (2005) defined poor school performance as a school achievement below the expected for a given age, cognitive skills, and schooling. Moore classified the cause of poor school performance into two macro groups: i) pedagogical difficulties; and ii) diseases and associated disabilities. Moore, again, believes that pushing pupils beyond their capabilities, skills and interest might lead to lack of interest, demotivation and distraction that in turn results in frustration, failure, low self-esteem besides family and school stress.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Overview

This chapter presents the methodology that guides the study. Specifically, the chapter covers research design, study setting, population (target and accessible), sample, sampling technique, data collection instruments, issues of validity and reliability, trustworthiness of the data, data analysis, ethical considerations and finally, limitation of the study.

3.1 Researcher's Methodological Position

Research paradigm is the philosophical or motivation for undertaking a study (Cohen, Manion & Morrison, 2007). The study is located basically in the pragmatic paradigm. Pragmatism is not committed to any one system of philosophy, but focuses on 'what' and 'how' of the research problem. The mixed method approach was employed in the study. In general, pragmatists believe in employing research methodology that involves collecting, analyzing, and interpreting quantitative and qualitative data in a single study or in a series of studies that investigate the same underlying phenomenon. Hence, the study employed mixed methods approach due to the nature of the research questions and advantages derived from applying two different approaches in garnering the required data. This design, according to Creswell (2012), involved combining or integration of qualitative and quantitative research data in a research study.

These two approaches allowed the researcher to study the influence of illegal mining on school attendance, dropout, and academic performance of junior high school pupils, both quantitatively and qualitatively. Basically, no single approach either

qualitative or quantitative method can perfectly be effective and so, each method can be improved significantly through triangulation of data from various sources (Yin, 2014). Creswell (2012) also postulated that a mixed methods design is useful when the quantitative or qualitative approach, each by itself, is inadequate to best understand a research problem and the strengths of both quantitative and qualitative research (and its data) can provide the best understanding. Hence, the design helps to triangulate and corroborate findings from teachers in the study.

3.2 Research Design

A research design is a plan that describes the conditions and procedures for collecting and analyzing data (McMillan & Schumacher, 2010). In research design, it is believed that a good and careful design ensures that the research is valid and could yield consistent results every time (Yin, 2014). In general, there are several established research designs that a researcher could choose from: comparative design, cross-sectional design, longitudinal design, case study design or the traditional experimental design (Creswell, 2012). However, social phenomena have to do with extremely varying human conditions in different environments that make it difficult for social science researcher to choose appropriate research approach and methods to investigate the specific problem concerned.

In view of this, the study employed convergent mixed method design. Convergent mixed method design is an approach to research where the researcher collects both quantitative and qualitative data, analyses them separately, and then compares the results to see if the findings confirm or disconfirm each other (Creswell, 2012). Mixed methods researchers call this side-by-side approach because the researcher makes the comparison within a discussion, presenting first one set of findings and then the other.

The key assumption of this approach is that both quantitative and qualitative data provide different types of information, often detailed views of participants qualitatively and scores on instruments quantitatively, and together they yield results that should be the same. It builds off the historic concept of the multimethod where a phenomenon can best be understood by gathering different forms of data.

Researchers of mixed methods argue that the intent of quantitative and qualitative research differ (one to gain in-depth perspective and the other, to generalize to a population) and that each provides adequate count. The interpretation in the convergent approach is typically written into a discussion section of the study, whereas the results section report on the findings from the analysis of both the quantitative and qualitative databases. This method is deemed appropriate as it is used to confirm, cross-validate or corroborate findings. This enables the researcher to overcome a weakness in one method with the strengths of another. It can also be useful in expanding quantitative data through collection of open-ended qualitative data.

3.3 Setting

The study was conducted in some selected public junior high schools in the Atwima Kwanwoma District in the Ashanti Region of Ghana. Atwima Kwanwoma District is one of the two hundred and sixteen (216) Districts in Ghana and one of the thirty (30) Districts in the Ashanti Region. The District is located on Latitude 6o 24” N and 6o 43” North and Longitude 1o 15” and 1o 46” West. It has a total land size of 251.51 sq. km constituting 1.4 percent of the total land area of Ashanti region. The district capital, Foase is approximately 20 kilometres from Kumasi. Other major settlements

include Ahenema Kokoben, Trede, Twedie, Trabuom, Nweneso No.1, Atwima Boko, and Brofoyeduro among others. There are sixty-four (64) settlements in the district. The District has dual characteristics, which include; peri-urban features around the fringes of Kumasi and rural features in the hinterland. It is located in the central portion of Ashanti Region, bounded to the North by Kumasi Metropolitan Assembly, South by Amansie West District, East by Bosomtwe District and West by Atwima Nwabiagya District. On the school attendance profile for Atwima Kwanwoma District's population 3 years and older, 82,266 persons aged 3 years and above, 45.1 percent had attended school in the past or were in school, with 42.3 percent being in school at the time of the census while 12.6 percent have never attended school. Females were less likely to have attended school in the past than males: 43.7 percent for females and 46.7 percent for males. Meanwhile, females who have never attended school are twice (16.7%) their male counterparts (8.2%) (Ghana Statistical Service (GSS), 2014).

3.4 Population

A target population is the larger group that one aspires to apply findings (Yin, 2014). The target population of the study was all pupils at the public junior high schools, and parents, in the Atwima Kwanwoma District in the Ashanti Region of Ghana.

The accessible population of this study was all the pupils at Nweneso 1 D/A, Nweneso 2 D/A, and Nweneso 3 D/A Junior High Schools, and parents, in the Atwima Kwanwoma District in the Ashanti Region of Ghana.

The population distribution of pupils in the three selected schools were explored and the details are illustrated in Table 3.1.

Table 3.1: Population Distribution of pupils in the three selected schools in Atwima Kwanwoma District

School	Male	Female	Total
Nweneso 1 D/A	106	81	187
Nweneso 2 D/A	84	46	130
Nweneso 3 D/A	39	38	77
Total	**229**	**165**	**394**

Source: District Education Directorate (2018).

From Table 3.1, the data show that, the population distribution of pupils in Nweneso 1 D /A JHS was one hundred and eighty-seven (187), comprising of one hundred and six (106) males and eighty-one (81) females. Nweneso 2 D/A JHS had a population distribution of eighty-four (84) males, and forty-six (46) females, making a total of one hundred and thirty (130) pupils. The population distribution of pupils' in Nweneso 3 D/A JHS was seventy-seven (77), comprising of thirty-nine (39) males, whereas thirty-eight (38) were females.

3.5 Sample

A sample is a small portion of a target population (Yin, 2014). In the study, a sample size of 105 comprising 70 pupils and 35 parents were used in the quantitative phase. According to Asamoah-Gyimah and Duodu (2007), a sample of 10% to 30% to the accessible size is desirous in quantitative study. Hence, 27% (n = 105) of the accessible population was deemed appropriate for the study. In the qualitative phase, a sample size of 8 comprising 4 pupils and 4 parents were employed. Yin (2014) proposed six sources of evidences in qualitative study, therefore, 8 participants are deemed appropriate.

3.6 Sampling Technique

Different sampling techniques were employed to select respondents for the study. Purposive sampling was used to select three junior high schools namely: Nweneso 1 D/A, Nweneso 2 D/A, and Nweneso 3 D/A. These schools were located at the illegal mining communities and that; they receive the immediate impact of the mining activities in the Atwima Kwanwoma District of Ghana. This was adopted because of their knowledge in the phenomenon under investigation and the need for them to clarify issues that were seen contradictory.

Pupil participants were selected using snowballing approach. Few pupils who were engaged in illegal mining activities were used to reach out to the masses. The parent participants were selected through the simple random sampling approach. In this process, households assigned with numbers from the three selected schools were written on slips of papers, mixed thoroughly in a container and drawn as a lottery one after the other until the required number of respondent was obtained.

3.7 Research Instrument

The study employed questionnaire (4-point Likert scale), semi-structured interview, and document analyses in gathering the required data.

3.7.1 Questionnaire

A questionnaire is a research instrument consisting of series of questions that is administered to generate information about the trends in attitude, opinions, behavior or characteristics of a group of respondents (Creswell, 2012). Questionnaire was the first instrument used to collect data in the study. The questionnaire was used to collect quantitative data on effects of illegal mining on school attendance and academic performance of junior high school pupils. Kusi (2012) asserted that, most research

participants feel more comfortable responding to pre-determined response than items that require them to express their views and feeling. Accordingly, the items on the questionnaire were close-ended and required participants to check a box to show their degree of acceptance to each item.

The researcher considered questionnaire as an appropriate instrument for the study due to the fact that it is a common and familiar data collection instrument that is widely used in educational research in teacher knowledge. Similarly, it also serves as a means of minimizing bias and requires less time to administer (Denueme, 2016). Despite the numerous benefits of questionnaires, they also carry with them some challenges. They often have low response rates, cannot delve deep into respondents' opinions and feelings (Alhassan, 2006). Notwithstanding the challenges associated with it usage the researcher weighed the advantages over the challenges and considered it as the best instrument for the collection of quantitative data for the study. The questionnaire consisted of four sections: A, B, C and D. Section A comprised demographic items such as age range, sex and education level. Sections B, C, and D comprised items that used a 4-point Likert scale (labeled strongly disagree, disagree, agree, strongly agree) that related to influence of illegal mining on school attendance, dropout and academic performance of pupils.

3.7.2 Semi-Structured Interview

Being aware that questionnaires alone cannot provide an in-depth understanding of the phenomenon, interviews were also conducted. According to Creswell (2012) an interview is an interactive process between a researcher and a subject in which the researcher poses a question and records answers supplied by the subject. Similarly, Mitchell and Jolley (2010) also perceived interview as a survey in which a researcher

orally asks participants questions. Denscombe (2010) asserted that "although there are a lot of superficial similarities between a conversation and an interview, interviews are actually something more than just a conversation" (p. 172). Denscombe further identified three categories of interviews namely; structured interview, semi-structured interview and unstructured interview.

Structured interview involves tight control over the format of questions and answers. It is more or less like a questionnaire administered face-to-face with a respondent with which the wording of questions, order of questions and range of answers are all standardized. For the semi-structured interview, the interviewer is flexible and provides room for the interviewee to speak widely on the phenomenon. Finally, unstructured interview are open and provides room for both interviewer and interviewee to deliberate at length on the topic (Denscombe, 2010).

In this study, a semi-structured interview was used to collect qualitative data on the influence of illegal mining on school attendance, dropout and academic performance of junior high school pupils. The interview enabled participants to express their views and concerns freely and explicitly. Wisker (2009) pointed out that, if one decides to use interviews, one has to decide on whether one will take notes (which is distracting) during, or whether one will tape (accurate but time consuming) the interview. The other alternative is to rely on one's memory to recall what has been said or to ask the respondents to write down their answers (Tambara, 2015). Despite the arguments Wisker (2009) raised, the researcher blended all the three alternatives in the course of interviewing participants in order to collect accurate data on the influence of illegal mining on school attendance and academic performance of junior high school pupils. The interview guide was designed based on emergent issues from literature. Four

Parents, and four pupils in this study were also interviewed with the help of interview guide.

3.7.3 Documentation

The study also dwelled on secondary sources of data, mainly data that already existed. To examine trends in pupils' school attendance, dropout, and academic performance, the researcher reviewed documents on pupils' school attendance, and dropout in the selected schools for the second term of the academic calendar. Pupils' performance in Social Studies subject in the second term was also reviewed to capture their academic performance. Kusi (2012) described document as a good place to search for answers, which also provide an effective means of checking primary data gathered through interviews. The use of these document help to augment other data sources and enabled me to crosscheck details of pupils' school attendance, dropout and academic performance obtained in the questionnaire and interviews as a form of triangulation.

3.8 Validity and Reliability of the Quantitative Instrument

8.3.1 Issue of Validity

Validity refers to the extent to which the instrument accurately measures a desired concept in a quantitative study (Tavakol & Dennik, 2011). In determining the content validity of the survey questionnaires, the researcher presented the drafts to the researcher's supervisors at the University of Education, Winneba to assess the questions. This is because, the inputs of research supervisors are vital in determining content validity since it relies on expert judgment.

3.8.2 Issue of Reliability

Reliability relates to the consistency of a measure (Tavakol & Dennik, 2011). A participant completing an instrument meant to measure motivation should have approximately the same responses each time the test is completed. In ensuring reliability, the researcher piloted the study among pupils and parents who were not part of the selected sample. The internal reliability of the questionnaire was determined with the help of the Statistical Product and Service Solution (SPSS) version 20. According to Tavakol and Dennik (2011), Cronbach's alpha is an important and most common means of evaluating the internal consistency of a research statistical instrument. Kothari (2004) offered the following guidelines regarding interpretation of Cronbach's alpha scores: ≥ 0.9 is excellent, ≥ 0.8 is good, and ≥ 0.7 is acceptable, ≥ 0.6 is questionable, ≥ 0.5 is poor, and ≤ 0.5 is unacceptable. Using this guide of the Cronbach's alpha score, the reliability test results of the research instrument yielded 0.72 which is acceptable.

3.9 Trustworthiness of the Qualitative Study

Trustworthiness is used to evaluate the worth of the qualitative data. To establish the trustworthiness of a qualitative study researchers, have to ensure: credibility, transferability, dependability and confirmability of qualitative findings (Gall, Gall & Borg, 2007). In this study the researcher adopted Gal et al. (2007) model of establishing trustworthiness as a means of evaluating the worth of the study. The model was adopted due to the fact that it is developed conceptually and is widely used by qualitative researchers.

3.9.1 Credibility

Credibility is defined as the confidence that can be placed in the truth of a research finding (Anney, 2014). To ensure credibility of the present study, the researcher spent sufficient time in the various sampled schools and with participants to gain insight into the context of the study (prolonged engagement), presented collected data to participants to verify (member checking), and finally exposed the collected data to colleagues for constructive criticism (peer debriefing). Feedback from colleagues was used to improve upon the quality of the results.

3.9.2 Transferability

Transferability is explained to mean the degree to which qualitative results can be applied with participants in other context (Bitsch, 2005). To facilitate transferability of the results, the researcher provided detailed description of the enquiry and participants were selected purposively.

3.9.3 Dependability

According to Bitsch (2005), dependability is described as "the stability of findings over time" (p. 86). To ensure the study dependability, the researcher submits it for external audit by a lecturer in the department of basic education who was not involved in the research process to examine the process and product of the study. The feedback generated from the external audit was used to improve upon the trustworthiness of the study.

3.9.4 Confirmability

Confirmability is a proof that data and interpretation of findings are not fabrications from the researcher's imaginations, but are truly derived from participants (Anney, 2014). To establish the confirmability of the study's qualitative findings, the

researcher highlighted every step of data analysis that was made in order to provide justification for the decision made (audit trial).

3.10 Pilot Study

Pilot study is a preliminary study conducted to help researchers make informed decisions about a major project (Crossman, 2017). The outcome of a pilot test enables the researcher to recognize, and to rectify problems, ahead of the main researcher being conducted (Eiselen & Uys, 2005). It provides an indication of the expected response rate. As a result, it is highly recommended that researchers pilot test their instruments on subjects with characteristics similar to the target population of the study (McMillan & Schumacher, 2010). Accordingly, the researcher piloted the study among a group of ten pupils in two Junior High Schools and five of their parents in Atwima Kwanwoma District in the Ashanti Region of Ghana.

The sample size for the pilot study represented 14% of the actual sample for the study. The researcher chose these schools in the same district because it has similar characteristics to the setting of the study, such as teaching time-table, teaching and learning resources, and mining resources. The pilot-study provided room to enhance the validity and reliability of both the questionnaire and the interview guide. Awanta and Asiedu-Addo (2008) conceived pilot testing of instruments as a window which enabled researchers to modify items that were difficult to understand, reduce ambiguities and incorporate new categories of responses that were identified as relevant to the study.

3.11 Data Collection Procedure

The questionnaire administration spanned four weeks, and were delivered to the respective schools personally by the researcher for the pupils to respond to them. This was after permission had been sought and granted by the District Directorate of Education with a letter of introduction from the Department of Basic Education, University of Education. Upon reaching the schools, the researcher went to the head teachers to introduce himself and sought permission by handing over the letter of authorization from the District Education Office before administering the questionnaire. The researcher visited the schools that were involved in the study to administer the instrument to the pupil respondents concerned. Parent participants were however visited at their homes for the collection of data as agreed upon.

The instruments were administered to all the sampled schools in four weeks. In order to ensure that the instruments were well completed, enough time was given to the pupils so that they could have time to complete them well. The return rate for the instrument was 100% since its administration was personally done by the researcher.

3.12 Method of Data Analysis

With the aid of Statistical Product and Service Solution (SPSS) software, descriptive statistics such as frequency counts, percentages and the mean and standard deviation will be employed to analyse the questionnaire. The researcher also used thematic analysis to analyse the qualitative data collected using the interview guide.

Quantitative data from the questionnaire were analysed using descriptive statistics with the help of SPSS version 20. It was used to summarize and transform quantitative data into frequencies, percentages, means and standard deviations for answering of the research questions. The use of descriptive statistics according to

Denscombe (2010), do not only allow researchers to use numbers but also provide them with data that create room for inferences on the population and directions for answering research questions. An item-by-item analysis of data was conducted. The percentage of the total respondents responding to each question was stated with their means and standard deviations calculated. The data were presented according to the responses of the respondents. The questionnaire had its scales of measurement reduced from 4-point Likert scale to 2-point Likert scale for easy analysis of the data. For instance, the researcher combined "Strongly Disagree" and "Disagree" to Disagree and "Strongly Agree" and "Agree" to Agree. The study also used thematic analysis to analyse the qualitative data collected using the interview guide.

3.13 Ethical Considerations

According to Tashakkori and Teddlie (2008), ethical considerations are important in every research method involving human subjects, but they have added significance in case-centred research where the researchers often work closely with research participants over a period of time and frequently in the face-to-face mode. Consent involves disclosing the various aspects of the research, emphasizing the voluntary component, promising to keep participants safe (Polit & Beck, 2008). Polit and Beck (2008) explained research ethics as a system of moral values that are concerned with the degree to which procedures follow professional, legal, and sociological obligations of the study participants.

Access to the study area and participants was sought by the researcher personally visited the selected schools to seek permission from the head teachers with a letter of instruction from the District Education Directorate. Permission was sought from the District Education Directorate with an introductory letter obtained from Department

of Basic Education of the University of Education, Winneba before respondents were selected from the schools (see APPENDIX D). According to Kusi (2012), after securing permission from the authorities in charge of the research context, it is important to gain consent of the target participants of the study. Informed is an agreement of the relevant individuals and organizations on the basis of appropriate information. With respect to enrolment, dropout and other secondary data, an authority note was obtained from the District Education Office, Atwima Kwanwoma requesting head teachers to offer the researcher all necessary supports and information needed for the research. This was followed by series of personal visits to the schools before all relevant information were obtained for the study.

Respondents were informed about the significance of the study and their consent was sought. Participants were informed that their participation is voluntary, and they were permitted to refuse to respond to questions or withdraw from the study at any stage if they wished. However, the participants were encouraged after the purpose of the study was explained. Anonymity requires that nobody could link a participant with any information given (Polit & Beck, 2008). A participant is therefore considered anonymous when the researcher or another person cannot identify the participants from information provided. This was ensured by the researcher not asking the participants to introduce themselves throughout the interview sessions. Instead, codes were assigned to the individual participants (Kusi, 2012) to help with data checking and management. Confidentiality occurs when participants are protected in the study such that individual information provided is not made public without their consent (Polit & Beck, 2008). Participants were assured that the information provided will not be shared with any other person, and will only be used for the purpose of the research. The responses on the interview guide were also kept under lock and key, and were

accessible only to the researcher. Privacy is the control over the extent, timing, and circumstances of sharing oneself with others (Tambara, 2015). Participants were therefore allowed to decide the time and place they wanted the interviews to be held. The interview sessions took place in their homes at the time convenient to each of them.

3.14 Limitation of the Study

The limitations of this study must be considered as we interpret findings. Among the limitations, the study only explores the influence of illegal mining on the school attendance, dropout and academic performance of pupils. Other critical impacts of illegal mining on land, water and forest could also be studied. Therefore, the findings are biased toward the influence of illegal mining on the school attendance, dropout, and academic performance of pupils. This study was also limited by the level of details provided by the participants in their responses to the items posed by the researcher, especially, in the interview.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Overview

This chapter presents results and discussions of the study. The purpose of the study was to investigate the influence of illegal mining on school attendance, dropout, and academic performance of junior high school pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana. Descriptive statistics (such as frequencies, percentages, mean, standard deviation) were performed on the participants' responses from the questionnaire using Statistical Product and Service Solution (SPSS) version 20 whereas the qualitative data were analysed using the thematic approach. The results presented in this chapter are based on the following research questions:

1. To what extent do illegal mining activities influence school attendance in junior high schools in Atwima Kwanwoma District in the Ashanti Region of Ghana?
2. How have illegal mining activities contributed to school dropouts among pupils at junior high schools in Atwima Kwanwoma District in the Ashanti Region of Ghana?
3. To what extent do illegal mining activities influence the academic performance of junior high school pupils in Atwima Kwanwoma District in the Ashanti Region of Ghana?

4.1 Results from Questionnaire and Interview

Quantitative and qualitative results to the research questions are presented in the study as follows. In the quantitative phase, the scales for the research questions were collapsed during the data preparation using SPSS version 20. In the analysis, the

researcher dichotomised the original 4-point scale of the questionnaire responses on school-related factors, environmental factor and strategies (1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree) by collapsing responses for 1 and 2 into a disagree category, and 3 and 4 into an agree category, yielding a 2-point scale: 1=disagree and 2=agree. This enables the study to gain more interpretability in terms of capturing the trends in the data. In the interview report, the narrative accounts of eight (8) respondents comprising 4 pupils (S1, S2, S3, and S4), and 4 parents (P1, P2, P3 and P4) are presented alongside the questionnaire.

4.2 Demographic Characteristics of Participants

The demographic characteristics of 105 participants comprising 70 pupils and 35 parents that were considered in the study included sex, age and educational background. The details are presented as follows:

The sex distribution of pupil participants was explored and its details illustrated in Figure 4.1.

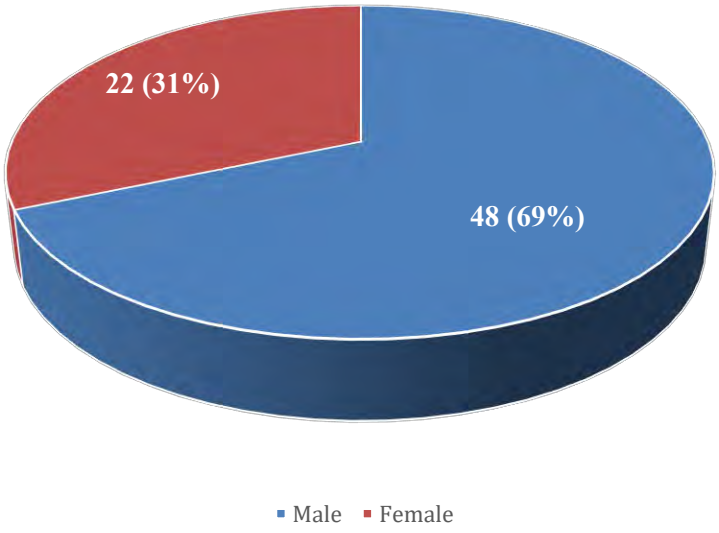

Figure 4.1: Sex Distribution of Pupil Participants.

Source: Field Data (2019)

From Figure 4.1, the data show that 48 (69%) of the respondents were males whereas 22 (31%) were females. The indication here is that, there were more male pupil participants than females in the study.

Also, the age distributions of pupil participants were explored and its detailis illustrated in Table 4.2.

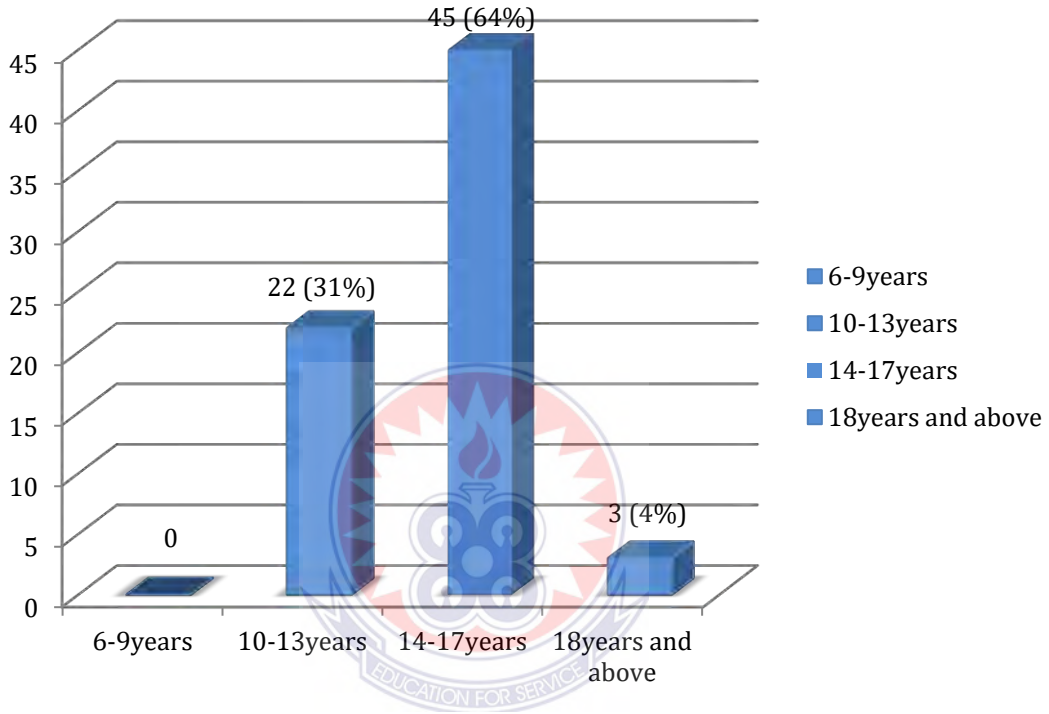

Figure 4.2: Age Distribution of Pupil Participants.

Source: Field Data (2019)

From Figure 4.2, the data reveal that the modal age group among pupils was 14-17 years (n=45, 64%) with the least represented age group 3 (4%) being 18 years and above. Also, 22 (31%) of the pupil respondents were between the ages of 10 and 13 years with none representing the age group between 6 and 9 years. The distribution means that pupil participants in the study were teenagers.

The sex distributions of parent participants were explored and its details is illustrated in Figure 4.3.

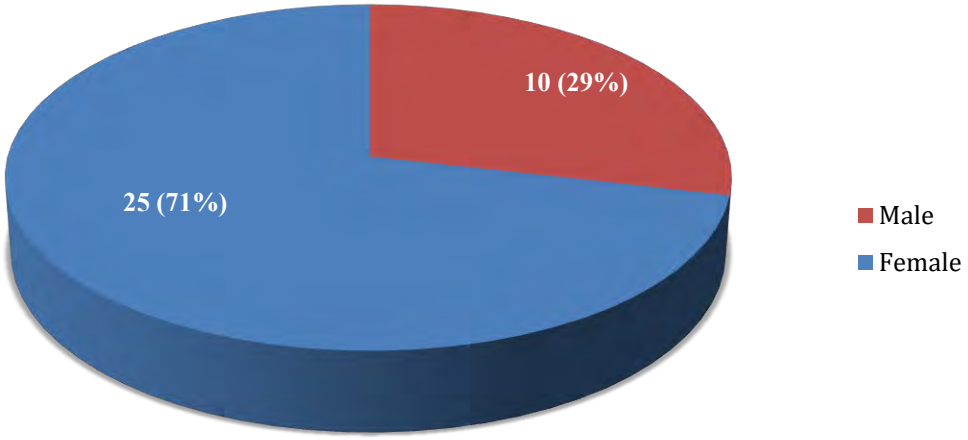

Figure 4.3: Sex Distribution of Parent Participants.

Source: Field Data (2019)

Data in Figure 4.3 show that 25 (71%) of the respondents were females whereas 10 (29%) were males. The indication here is that, there were more female parent participants than males in the study.

Moreover, the age distribution of parent participants was explored and its detail is illustrated in Figure 4.4.

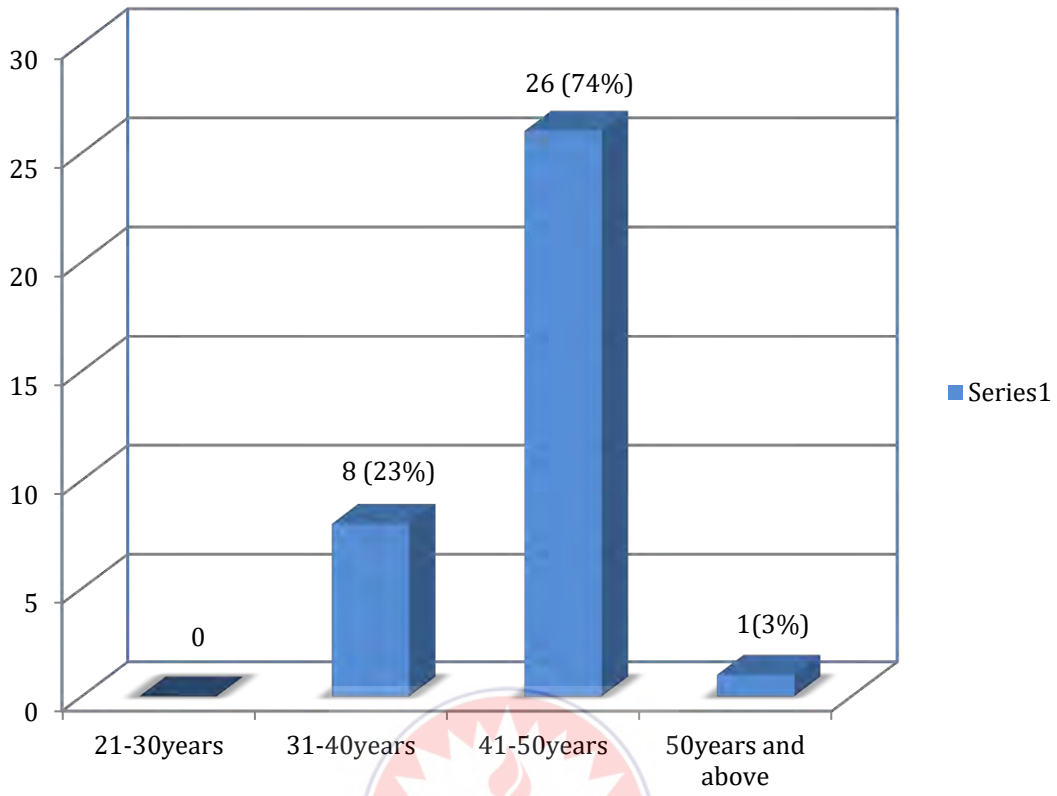

Figure 4.4: Age Distribution of Parent Participants.

Source: Field Data (2019)

Figure 4.4 shows that the modal age group of parent participants was 41-50 years (n=26, 74%) with the least represented age group 1 (3%) being 50 years and above. Also, 8 (23%) of the parent respondents were between the ages of 31 and 40 years with none representing the age group between 21 and 30 years. The distribution indicates that parent participants in the study were adults.

Finally, the educational backgrounds of parent participants were explored and the details are illustrated in Table 4.1.

Table 4.1: Parent Participants' Educational Background

Variable	Category	Frequency	Percentage
Educational Background	Non-formal education	28	80
	Formal education	7	20
	Total	**35**	**100**

Source: Field Data (2019)

With regards to the educational background of parent participants, data in Table 4.1 reveal that 28 (80%) of the parents had no formal education with 7 (20%) of them who had formal education. The indication here is that, most of the parents who participated in the study were illiterates.

4.3 Research Question 1

To what extent do illegal mining activities influence school attendance in junior high schools in Atwima Kwanwoma District in the Ashanti Region of Ghana?

In relation to the first research question, the study aimed at gathering data on how illegal mining activities influence school attendance in junior high schools Atwima Kwanwoma District using questionnaire. Table 4.2 present data gathered in response to that effect.

Table 4.2: Descriptive Statistics of the Influence of Illegal Mining Activities on School Attendance

	PUPILS				PARENTS			
Items	**D f (%)**	**A f (%)**	**M f (%)**	**SD f (%)**	**D f (%)**	**A f (%)**	**M f (%)**	**SD f (%)**
1. The time for mining coincides with school hours.	10 (14)	60 (86)	1.86	0.52	12 (34)	23 (66)	1.66	0.45
2. Pupils often absent themselves from class and go into mining without excuse.	23 (33)	47 (67)	1.67	0.42	8 (23)	27 (77)	1.77	0.53
3. Mining operations has led to the reduction in pupils' attendance in school.	15 (21)	55 (79)	1.79	0.53	18 (51)	17 (49)	1.49	0.49
4. Most at times, the time pupils need to spend in doing homework is used to engage in mining activities.	32 (46)	38 (54)	1.54	0.44	4 (11)	31 (89)	1.89	0.33
5. The advent of mining activity in the area has empowered me in finding money to supply my educational needs like textbooks, bags, shoes etc.	5 (7)	65 (93)	1.93	0.51	12 (34)	23 (66)	1.66	0.50

Source: Field data (2019) **Key:** **f**–Frequency, %–Percentage, *M*–Mean, *SD*–Standard Deviation, **D**– Disagree, **A**–Agree

A cursory look at Table 4.2 indicates that, pupils' mean scores ranged from 1.54 to 1.93 and standard deviation from 0.42 to 0.53. This means that, most of the pupils on average admitted that illegal mining activities influence their school attendance. For instance, 60 (86%) of the pupil participants conceded to the statement that 'The time for mining coincides with school hours.' whereas 10 (10%) of them disagreed to the

statement with a mean score of 1.86 and standard deviation of 0.52. This indicates that, the time for mining operations coincides with pupils' school hours as admitted by majority of the pupil participants. Moreover, 47 (67%) of the pupil participants agreed to the statement that 'pupils often absent themselves from class and go into mining without excuse.' whereas 23 (33%) of them declined to the statement with a mean score of 1.67 and a standard deviation score of 0.42. The indication is that, most of the pupils acknowledge the fact that they often absent themselves from class and go into mining without excuse.

Among the parent participants, the mean scores ranged from 1.49 to 1.89 and standard deviation from 0.33 to 0.53. This means that, majority of parents on average conceded that illegal mining activities influence the pupils' school attendance. As evident in Table 4.2, the data show that 23 (66%) of the parent participants conceded to the statement that 'the time for mining coincides with school hours.' whereas 12 (34%) of them disagreed to the statement with a mean score of 1.66 and standard deviation of 0.45. This means that, most of the parent participants hold the view that the time for mining operation coincides with school hours. Again, 27 (77%) of the parent participants admitted that pupils often absent themselves from class and go into mining without excuse while 8 (23%) of them declined to the statement with a mean score of 1.77 and standard deviation of 0.53. This means that, most of the parent participants share in the view that pupils often absent themselves from class and go into mining without excuse.

4.3.1 Hypothesis 1: Junior high school pupils' attendance is not influenced by the illegal mining activities in Atwima Kwanwoma District of the Ashanti Region

In choosing to analyse the data using a parametric tool, part of the process involves checking to make sure that the data can actually be analysed using a parametric testing. Among the assumptions that need to be satisfied is the normality of the distribution aside the data being of interval level of measurement. Table 4.2.1 shows the normal distribution of the dependent variable. The dependent and independent variables are school attendance scores and engagement in illegal mining activities respectively. Table 4.2.1: Tests of Normality for Pupils' Attendance Scores for the Academic Term (n = 70).

Table 4.2.1: Tests of Normality for Pupils' Attendance Scores for the Academic Term (n = 70)

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**Df**	**Sig.**	**Statistic**	**Df**	**Sig.**
Pupils' scores	0.12	70	0.17*	0.95	70	0.08

a. Lilliefors Significance Correction
*. This is a lower bound of the true significance.

Source: Field work data (2019)

From Table 4.2.1, the data indicates attendance scores are approximately normally distributed for pupils. Using Kolmogorov-Smirnov test, it can be seen that p = 0.17 for pupils' attendance scores. Also in the Shapiro-Wilks test, p = 0.08 for the same pupils' attendance scores. If p > 0.05, we statistically presuppose an acceptance of the null hypothesis that the data comes from a normally distributed population. Thus, the levels are considered to be statistically normal. Therefore, the assumption of normality has been met for this data.

The study investigated the contribution of the illegal mining activities to pupils' school attendance. In the quest to achieve this research objective, a linear regression analysis was carried out where illegal mining activities was used as predictor of pupils' school attendance using linear regression. Table 4.2.2 presents the results as follows:

Table 4.2.2: Linear Regression Model Summary and ANOVA Results for Illegal Mining Activities and Pupils' School Attendance

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	233.54	1	2.92	1.52	0.00 [b]
	Residual	2099.03	69	1.58		
	Total	2332.57	70			

$R = 0.69$
$R^2 = 0.71$
Adjusted R^2 0.68
Std. Error of the Estimate = 1.74

a. Dependent Variable: School Attendance
b. Predictors: (Constant), Illegal Mining Activities

Source: Field work data (2019)

The linear regression results as shown in Table 4.2.2 discovered that illegal mining activities accounted for 71% variance in pupils' school attendance which was found to be statistically significant [F (1, 69) = 1.52, p = 0.00] at 0.05 alpha level. Therefore, the results suggested that the regression model predicts pupils' school attendance significantly. Based on this, the researcher rejects the null hypothesis and therefore, concludes that junior high school pupils' school attendance is influenced by the illegal mining activities in Atwima Kwanwoma District in the Ashanti Region of Ghana.

The coefficient table in linear regression provides necessary information to predict pupils' school attendance from illegal mining activities. Table 4.2.3 presents the coefficient results for the variables used.

Table 4.2.3: Standardized and Unstandardized Coefficients for Illegal Mining and Pupils' School Attendance

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	β	**Std. Error**	**Beta**	**t**	**Sig.**	**Tolerance**	**VIF**
(Constant)	41.82	11.14	-	4.90	0.00		
Illegal Mining	0.27	0.17	0.37	1.45	0.00	0.92	1.09

a. Dependent Variable: School Attendance
b. Predictors: (Constant), Illegal Mining Activities
Source: Field work data (2019)

The results in Table 4.2.3 disclosed that illegal mining activities (β = 0.27, p = 0.00) contributed statistically significantly to pupils' school attendance. It could be inferred that engagement in illegal mining activities is a good predictor of pupils' school attendance.

The study employed convergent mixed method design and for this reason, the qualitative data were analysed as follows:

The researcher through an interview asked participants on whether mining operations has led to the reduction in pupils' attendance or not. From the pupil participants, it was revealed that mining operations has led to the reduction in pupils' attendance as some pupils abandoned school and went to the mining site for their livelihood. This is evident in the narration made by one of the pupil respondents:

> *"Yes, the time to go to school coincides with the time I have to go to the site. So, I have no option than to go to the mining site to earn something for living." (S1)*

Similarly, another pupil stated that:

> *"Yes, I go to the site early morning after the night work of the Chinese. So, we abandon school." (S3).*

The above quotes show that from the perspective of the pupils, it is profitable to engage in mining activities than going to school even though time for operation coincide.

From the accounts of parent participants, it was revealed mining operations has led to the reduction in pupils' attendance in the sense that some pupils instead of going to school at the set time, they rather go to the mining site. The following excepts depict the claims of parents:

> *"Yes, because they go to the mining site at the time they are supposed to go to school." (P1).*

Another parent remarked:

> *"Yes, because the pupils go to the site early morning instead of going to school." (P4).*

The quotes above indicate that, parents' views are similar to that of the pupils, that, mining activities adversely affect attendance in school.

The study also explored participants' views on how they spend the money you earn. From the pupil participants, it was revealed that pupils who are engaged in illegal mining use the proceeds from the mining activities to buy food and buy things they may need in school. This is evident in the following excerpt:

> *"It is not always that my parents give me money so, I sometimes use some of the money to buy food and things I may need for school." (S1).*

Another pupil also recounted:

> *"I use the money to pay exams fees and buy things I need in school since I receive no money from my parents." (S4).*

From the account of parents, it was revealed that pupils who are engaged in illegal mining use the proceeds from the mining activities to buy things they may need in school. This is captured in the excerpts below:

> *"Sometimes, I don't get money for him when going to school, so he uses some of this money to buy the things he might need." (P2).*

> *"In case I don't have money to give to her, I ask her to use the money she gains from mining to buy what she needs." (P4).*

The researcher in an interview again inquired from the respondents on how the work in mining related activities interferes with pupils' studies. From the pupil respondents, it was discovered that the work in mining related activities interferes with the time pupils spend at school. This is captured in the excerpts stated below:

> *"I spend most of my time at the site instead of being in the class to study. Sometimes, I run away from school in the morning and move to the site." (S4.)*

One pupil also commented:

> *"Sometimes when we get the information that the Chinese are out from the site, we run away from class to engage in galamsey activities. Sometimes, we feel tired to do our homework." (S1).*

The above quotes indicate that from the perspective of pupils, mining activities interfere with pupils' academic work as they do not get time to attend to their studies. From the parents' responses, it was disclosed that the work in mining related activities exhausts pupils' energy and are unable to study as a result. The except below depicts the claims of the parent respondents:

> *"Yes, because they work vigorously to the extent that they get tired and therefore are unable to study." (P2).*

Consistently, another parent recounted that:

> *"Since they go early morning to look for money, they ignore classes. They become tired to study in the evening too." (P4).*

The quotes above support the claim earlier made by pupil participants that mining operations have negative effects on their studies, at home and in the school.

Undeniably, children become irregular in school attendance when they combine schooling with work such as mining activities/operations. This is evident in the study findings which revealed that, engagement in illegal mining activities was a good predictor of pupils' school attendance. According to Ananga (2011), whatever form that child labour may take, it builds pressure on the children's schooling time. From the study findings, it was admitted that the time for mining operations coincides with their school hours; and that they often absent themselves from class and go into mining without official excuse from the school.

This corroborates the findings of Gump (2005), which identified a tough negative correlation between absences and final grades. In view of this, Gump (2005) postulated that pupils who desire to succeed academically ought to attend class, and that teachers must promote attendance. Roby (2004) also supported the argument that there is a positive correlation between examination performance and attendance. From the interview, it was disclosed that mining operations has led to the reduction in pupils' attendance in the sense that some pupils abandon school and go to the mining site. This is precipitated by parents' eagerness to ensure that their children support the up-keeping of their homes. This confirms what United Nations Development Fund for Women (2000) said that, when parents turn to their children to contribute to the household income in times of economic difficulty, in the context of severe cultural constraints and the discriminatory treatment of girls, boys may have a greater ability to take on such a responsibility.

4.4 Research Question 2

How have illegal mining activities contributed to school dropouts among pupils in junior high schools in Atwima Kwanwoma District in the Ashanti Region of Ghana?

In relation to the second research question, the study aimed at gathering data on how illegal mining activities contributed to school dropouts in junior high schools using questionnaire. Table 4.3 details the data gathered to that effect:

Table 4.3: Descriptive Statistics of How Illegal Mining Activities Contribute to School Dropouts

	PUPILS				PARENTS			
Items	**D f (%)**	**A f (%)**	**M**	**SD**	**D f (%)**	**A f (%)**	**M**	**SD**
1. Pupils leave school early to go to mining site.	12 (17)	58 (83)	1.83	0.49	2 (6)	33 (94)	1.94	0.50
2. There are pupils who leave school and go into illegal mining before completion.	22 (31)	48 (69)	1.69	0.50	14 (40)	21 (60)	1.60	0.30
3. Mining provides pupils with income such that, they see no need to continue going to school.	6 (9)	64 (91)	1.91	0.45	9 (26)	26 (74)	1.74	0.35
4. The lucrative nature of the mining has pushed a lot of pupil population out of school without excuse.	18 (26)	52 (74)	1.74	0.27	15 (43)	20 (57)	1.57	0.48
5. Pupils who are engaged in illegal mining are physically present in school but may not be learning anything.	34 (49)	36 (51)	1.51	0.35	25 (71)	10 (29)	1.29	0.27

Source: Field data (2019) **Key: f**–Frequency, %–Percentage, *M*–Mean, *SD*–Standard Deviation, **D**–Disagree, **A**–Agree As it is evident in

Table 4.3, the data show that pupils' mean scores ranged from 1.51 to 1.91 and standard deviation from 0.27 to 0.50. This means that, most of the pupils on average admitted that illegal mining activities have contributed to school dropouts. For example, 58 (83%) of the pupil participants conceded to the statement that 'pupils leave school early to go to mining site.' whereas 12 (17%) of them disagreed to the statement with a mean score of 1.83 and standard deviation of 0.49. This indicates

that, pupils leave school early to go to mining site as admitted by majority of pupil participants. Moreover, 48 (69%) of the pupil participants agreed to the statement that 'there are pupils who leave school and go into illegal mining before completion.' whereas 22 (31%) of them declined to the statement with a mean score of 1.69 and a standard deviation score of 0.50. The indication is that, most of the pupils acknowledge that there are pupils who leave school and go into illegal mining before completion.

In the case of the parent participants, the mean scores ranged from 1.29 to 1.94 and standard deviation from 0.27 to 0.50. This means that, majority of the parents on the average conceded that illegal mining activities have contributed to school dropouts. From Table 4.3 for instance, 33 (94%) of the parent participants conceded to the statement that 'pupils leave school early to go to mining site.' whereas 2 (6%) of them disagreed to the statement with a mean score of 1.94 and standard deviation of 0.50. This means that, most of the parent participants hold the view that pupils leave school early to go to mining site. Also, 21 (60%) of the parent participants admitted that there are pupils who leave school and go into illegal mining before completion while 14 (40%) of them declined to the statement with a mean score of 1.60 and standard deviation of 0.30. This means that, most of the parent participants believe that there are pupils who leave school and go into illegal mining before completion.

The researcher through an interview to follow up responses for the questionnaire, asked participants what way they could prioritize illegal mining activities over school. An interview with the pupil participants revealed that pupils prefer engaging in illegal mining to schooling due to the financial gains. This is evident in the following excerpts:

> *"Because of the financial gains in it [mining], my parents do not provide me with the basic educational needs so I would prefer mining activities to school. I get enough money." (S1).*

Contrarily, a pupil commented that:

> *"It gets me enough money from the galamsey, but left to me alone, I would prefer schooling to mining." (S1).*

The quotes above depict pupils' view about their involvement in mining activities to raise funds to meet their academic needs which their parents are unable to afford.

From the account of parents, it was revealed that parents want their children to be in school rather than to be at mining site in spite of the benefits they themselves and their children derive from illegal mining activities.

> *"I don't like my son to be in the mining rather, I prefer him being school. However, due to financial problems I allow him to stop schooling and go into mining business." (P1)*

Another parent added that:

> *"I only go with my daughter when there is no money in the house but, I prefer her being in school rather than engaging in the mining activities." (P4).*

The above quotes show that parents are interested on their children's education but for financial constraints at home which makes it extremely difficult to pay for educational expenses. They raise the need for provisions to cater for financial support of parents in their children's education.

It is argued that the opportunity cost of a child's time often increases with age; and as a child grows older, the probability of dropping out of school increases (Admassie, 2003; Blunch & Verner, 2000). This is evident in the present study's findings that most of the pupils who are engaged in illegal mining related activities often leave school and go into illegal mining before completion. This supports the argument that

child labour is the main reason that older pupils drop out of school (Fentiman et al., 1999). According to Ananga (2011), the influence of child labour on school attendance and eventual dropout may be regarded as opportunity cost in the calculus of decision making on schooling.

From the study, it was revealed that pupils prefer engaging in illegal mining to schooling due to the financial gains and, therefore, dropout as a result. This is inconsistent with what ILO/IPEC (2004) argued that, child labour may allow improved access to education since children are able to make earn money to pay the direct cost of their schooling. Hashim (2004) found that relatively large numbers of children migrate independently to the cocoa growing areas of Ghana to work, and that some of these children migrate in order to further their education, either moving to be able to attend school or to be trained in a vocation, or migrating for work to get the money needed to attend school.

Nonetheless, the fact remains that in the majority of cases, child labour affects regular school attendance and usually leads to dropout. Parents in the study disclosed that they want their children to be in school rather than to be at mining site in spite of the benefits they themselves and their children derive from illegal mining activities.

4.5 Research Question 3

To what extent do illegal mining activities influence the academic performance of junior high school pupils in Atwima Kwanwoma District in the Ashanti Region of Ghana?

In relation to the third research question, the study aimed at gathering data on how illegal mining activities contributed to pupils' academic performance in junior high schools using questionnaire. Table 4.4 details the results as follows:

Table 4.4: Descriptive Statistics of the Effects of Illegal Mining Activities on Pupils' Academic Performance

	PUPILS				PARENTS			
ITEMS	**D f (%)**	**A f (%)**	**M**	**SD**	**D f (%)**	**A f (%)**	**M**	**SD**
1. The time pupils spend in engaging mining activities affects their academic studies.	18 (26)	52 (74)	1.74	0.48	2 (6)	33 (94)	1.94	0.51
2. The work of children at the mining site has adverse effect on academic performance.	5 (7)	65 (93)	1.93	0.51	12 (34)	23 (66)	1.66	0.50
3. Pupils are unable to complete assignment due to their engagement in mining activities	15 (21)	55 (79)	1.79	0.50	10 (29)	25 (71)	1.71	0.50
4. Academic performance has been enhanced partly due to the fact that pupils are able to buy some basic necessities from the monies they acquire from mining operation.	34 (49)	36 (51)	1.51	0.42	4 (11)	31 (89)	1.89	0.33
5. Pupils cannot comprehend lessons taught in class due to tiredness emanated from their engagement in mining activities.	6 (9)	64 (91)	1.91	0.45	9 (26)	26 (74)	1.74	0.45

Source: Field data (2019). **Key: f**–Frequency, %–Percentage, *M*–Mean, *SD*–Standard Deviation
D=Disagree, A = Agree

Data from Table 4.4 shows that pupils' mean scores ranged from 1.51 to 1.93 and standard deviation from 0.42 to 0.51. This means that, most of the pupils on average admitted that illegal mining activities have contributed to their academic performance. For example, 52 (74%) of the pupil participants conceded to the statement that 'the time pupils spend in engaging mining activities affects their academic studies.' while 18 (26%) of them disagreed to the statement with a mean score of 1.74 and standard deviation of 0.48. This indicates that, the time pupils spend in engaging mining activities affects their academic studies as admitted by majority of pupil participants.

Moreover, 55 (79%) of the pupil participants agreed to the statement that 'pupils are unable to complete assignment due to their engagement in mining activities.' whereas 15 (21%) of them declined to the statement with a mean score of 1.79 and a standard deviation score of 0.50. The indication is that, most of the pupils acknowledge that they are unable to complete assignment due to their engagement in mining activities.

In the case of the parent participants, the mean scores ranged from 1.66 to 1.94 and standard deviation from 0.33 to 0.51. This means that, majority of parents on average conceded that illegal mining activities have contributed to pupils' academic performance. From Table 4.4 for instance, 33 (94%) of the parent participants conceded to the statement that 'the time pupils spend in engaging mining activities affects their academic studies.' whereas 2 (6%) of them disagreed to the statement with a mean score of 1.94 and standard deviation of 0.50. This means that, most of the parent participants hold the view that the time pupils spend in engaging mining activities affects their academic studies. Also, 25 (71%) of the parent participants admitted that pupils are unable to complete assignment due to their engagement in mining activities whereas 10 (29%) of them declined to the statement with a mean score of 1.71 and standard deviation of 0.50. This means that, most of the parent participants believe that there are pupils are unable to complete assignment due to their engagement in mining activities.

4.5.1 Hypothesis 2: Junior high school pupils' academic performance is not influenced by the illegal mining activities in Atwima Kwanwoma District in the Ashanti Region

In choosing to analyse the data using a parametric tool, part of the process involves checking to make sure that the data can actually be analysed using a parametric testing. Among the assumptions that need to be satisfied is the normality of the

distribution aside the data been of interval level of measurement. Table 4.4.1 shows the normal distribution of the dependent variable.

Table 4.4.1: Tests of Normality for Pupils' Scores in the Social Studies Mock Examination (n = 70)

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	df	Sig.	Statistic	df	Sig.
Pupils' scores	0.07	70	0.20*	0.99	70	0.41

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: Field work data (2019)

From Table 4.4.1, the data show scores are approximately normally distributed for pupils after the Social Studies Mock Examination. Using Kolmogorov-Smirnov test, it can be seen that p = 0.20 for pupils scores. Also, in the Shapiro-Wilks test, p = 0.41 for the same pupils' scores. Where p > 0.05, we statistically presuppose an acceptance of the null hypothesis that the data comes from a normally distributed population. Thus, the levels are considered to be statistically normal. Therefore, the assumption of normality has been met for this data.

The study examined the influence of the illegal mining activities to pupils' academic performance in Social Studies. In the quest to achieve this research objective, a linear regression analysis was carried out where illegal mining activities was used as predictor of pupils' academic performance in Social Studies using linear regression. Table 4.4.2 presents the results as follows:

Table 4.4.2: Linear Regression Model Summary and ANOVA Results for Illegal Mining Activities and Academic Performance of Pupils in Social Studies

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1483.92	1	2.92	3.22	0.00[b]
	Residual	4109.18	69	1.58		
	Total	5593.10	70			

R = 0.78
R^2 = 0.75
Adjusted R^2 0.65
Std. Error of the Estimate = 2.88

c. Dependent Variable: Academic Performance
d. Predictors: (Constant), Illegal Mining Activities

Source: Field work data (2019)

The linear regression results as shown in Table 4.4.2 discovered that illegal mining activities accounted for 75% variance in pupils' academic performance which was found to be statistically significant [F (1, 69) = 3.22, p = 0.00] at 0.05 alpha level. Therefore, the results suggested that the regression model predicts pupils' academic performance in Social Studies significantly. Based on this, the researcher rejects the null hypothesis and therefore, concludes that junior high school pupils' academic performance in Social Studies is influenced by the illegal mining activities in Atwima Kwanwoma District in the Ashanti Region of Ghana.

The coefficient table in linear regression provides necessary information to predict pupils' academic performance from illegal mining activities. Table 4.4.3 presents the coefficient results for the variables.

Table 4.4.3: Standardized and Unstandardized Coefficients for Illegal Mining and Pupils' Academic Performance

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		β	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	41.90	11.14		3.76	0.00		
	Illegal Mining	0.81	0.09	0.72	6.92	0.00	0.89	1.08

a. Dependent Variable: Academic Achievement
b. Predictors: (Constant), Illegal Mining Activities

Source: Field work data (2019)

The data in Table 4.4.3 disclosed that illegal mining activities (β = 0.81, p = 0.00) contributed statistically significantly to pupils' academic performance in Social Studies. It could be inferred that engagement in illegal mining activities is a good predictor of academic performance of pupils.

The researcher through the interview also explored on the influence of mining activities on pupils' academic performance. Judging from the responses given by pupils in the interview, it was revealed that mining activities has negatively influenced school attendance and academic performance among pupils. This is depicted by the comments made by some pupil participants that:

> *"Attendance has reduced and academic performance has become poor since galamasey was introduced in the community. Most of us don't respect our parents and teachers anymore" (S1).*

> *"It has caused school dropout as most of us wish to get quick money. In the case of girls, many have dropped out due to the incidence of pregnancy." (S3)*

The quotes from pupil participants show the attendance of pupils and dropout make it extremely difficult for pupils to study eventually reflecting in their academic performance.

From the accounts of parent participants, it was revealed that mining activities has caused pupils to be irregular in school and consequently resulted in their poor academic performance. This is captured in the following excerpt:

> *"They are not regular in school and that has led to poor academic performance. Even, some dropout from school due to pregnancy." (P2).*

Another parent respondent similarly recounted:

> *"Pupils don't go to school regularly, and due to that they fail in their examination. Others get impregnated by the boys and dropout of school." (P3).*

The quotes above from parents' perspective support the view earlier made by pupils that irregular attendance and dropout enacting from mining operations led to poor academic performance.

Again, the study explored participants' views on whether the advent of mining activity in the community has helped education in the district. From the analysis of the interview results, it was revealed among pupils that illegal mining activity in the area has not helped in improving education due to its adverse effects such as poor school attendance, school dropout and poor academic performance. One of the pupils shared his/her experience in the following excerpt:

> *"It has not really helped education because, since the advent of mining activities, most children do not attend school but, they are always seen at the [mining] site." (S1).*

Similarly, another respondent also recounted:

> *"Not at all. Because we spend more time looking for money at the site than to study and that has reduced attendance and performance in school. Some girls even get impregnated and they dropout from school." (S4).*

The quotes from above show that mining activities have adversely affected the education in the district due to the lack of financial support at home, school dropout, irregular attendance and teenage pregnancy.

From the account of parent participants, it was revealed that pupils do not have time to study due to their involvement in illegal mining activity in the area and that has not helped education at all. This is illustrated in the following excerpts:

> *"The pupils don't learn now adays due to galamsey and we can also see most of them dropout from school due to poverty." (P1).*

> *"It is not helping at all. Because the pupils are always at the site in search of money. They don't even have time for studies." (P3).*

The above quotes from the parent participants support the view that mining activities have adversely affected education in the district due to pupils search for quick monies which they obtain in through mining activities.

Pupils' academic performance has been defined as the outcome of education and the degree to which a pupil has attained the objectives of his/her institution (Agarana & Ehigbochie, 2015). In the literature, a lot of analyses have been carried out on how different factors affect pupils' academic performance. Among these are socio-economic and environmental factors such as illegal mining. As evident from the present study findings, illegal mining activities contributed statistically significantly to pupils' poor academic performance in Social Studies. The concern here is that, this adverse effect of illegal mining in Social Studies can spread through to other related subjects of study and to the entire education system at large.

Asiedu-Addo (2009) and Howard (1994) in a study proposed several reasons for children's low performance among which are medical problems, below average

intelligence, specific learning disability, emotional problems and environmental causes. They believe that to solve this multi-varied and cross-linked problem, the focus should move from the class to the family, to the environment and to the social world of pupils. From the study, it was revealed that mining activities has caused pupils to be irregular in school and consequently resulted in their poor academic performance. Pupils in the current study through the interview disclosed that, sometimes their parents had to invite them to come and help them at the mining site because that is what they depend on for survival.

These pupils become tired and therefore are unable to make time for studies as a result of their engagement in mining related activities as revealed by the interview. This negatively affects their academic performance in school and quality education in general. This is supported by Adu-Gyamfi's (2014) findings which revealed that illegal mining activities undertake by pupils do have negative effect on school attendance and academic performance and it was established that pupils who come to school regularly perform tremendously while the absentee pupils perform poorly. He therefore recommended that parents must educate their wards and be aware that it is their responsibility to bear the cost of their children's needs.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Overview

This chapter presents the summary of findings, conclusions and recommendations on the study. In this study, convergent mixed method design was employed. The purpose of the study was to investigate the influence of illegal mining on school attendance, dropout and academic performance of junior high school pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana. The study was conducted in Atwima Kwanwoma District in the Ashanti Region of Ghana. Simple random, purposive and snowballing sampling techniques were employed in selecting the required sample size for the study. The sample size for the quantitative study was 105 comprising 70 pupils and 35 parents. In the qualitative phase, a sample size of 8 comprising 4 pupils and 4 parents were employed. The researcher used questionnaire and interview guide as the primary tools for collecting data. The questionnaire and interview guide were employed to collect quantitative and qualitative data respectively. The quantitative data were analysed using the SPSS version 20 whereas the qualitative data were analysed using the thematic approach.

5.1 Findings

The study sought to investigate the influence of illegal mining activities on school attendance, dropout and academic performance of pupils in selected Junior High Schools. The following findings came out of the study:

1. The first objective of the study was to investigate the extent to which illegal mining activities influence school attendance in junior high schools in Atwima Kwanwoma District in the Ashanti Region of Ghana. From the study, it was

discovered that the time for mining operations coincides with pupils' school hours. The study also revealed that, most of the pupils acknowledge the fact that they often absent themselves from class and go into mining without official excuse or permission. It was again revealed that engagement in illegal mining activities is a good predictor of pupils' school attendance. From the interview, it was disclosed that mining operations has led to the reduction in pupils' attendance in the sense that some pupils abandon school and go to the mining site. It was discovered that the work in mining related activities interferes with the time pupils spent at school. Furthermore, it was disclosed that the work in mining related activities exhausts pupils' energy and are unable to study as a result at home and also in school.

2. The second objective of the study was to explore how illegal mining activities contribute to school dropouts among junior high school pupils in Atwima Kwanwoma District in the Ashanti Region of Ghana. Results from the study revealed that, pupils leave school early to go to mining site. It was also discovered that, most of the pupils acknowledge that there are pupils who leave school and go into illegal mining before completion. Interview with the participants revealed that pupils prefer engaging in illegal mining to schooling due to the financial gains and therefore dropout as a result. Moreover, it was revealed that parents want their children to be in school rather than to be at mining site in spite of the benefits they themselves and their children derive from illegal mining activities.

3. The third objective of the study was to determine the extent to which illegal mining activities influence the academic performance of junior high pupils in

Social Studies in Atwima Kwanwoma District in the Ashanti Region of Ghana. As evident from the findings, illegal mining activities contributed statistically significantly to pupils' poor academic performance in Social Studies. Therefore, engagement in illegal mining activities was a good predictor of pupils' academic performance in Social Studies. It was also revealed that the time pupils spend in engaging mining activities affects their academic studies. Among the findings from the interview, it was revealed that mining activities has negatively influenced school attendance and academic performance among pupils. Again, it was revealed that mining activities has caused pupils to be irregular in school and consequently resulted in their poor academic performance. Moreover, it was revealed that pupils do not have time to study due to their engagement in illegal mining activity in the area and that has not helped academic performance and education in general.

5.2 Conclusions

There is no doubt that illegal mining provides employment and a means of livelihood for some people in the communities of Atwima Kwanwoma District and similar places in Ghana where unemployment rate is high. Moreover, due to the lucrative nature of illegal mining, people especially young adults are more inclined to partake in illegal mining activities as it was revealed in the study findings.

This study considered the influence of illegal mining on school attendance, dropout and academic performance of junior high school pupils in the Atwima Kwanwoma District of the Ashanti Region. After a careful assessment of illegal mining activities among children under school-going age in the Atwima Kwanwoma District, the researcher came to the conclusion that illegal mining is a major contributor to the poor

school attendance, dropout, and academic performance of junior high school pupils in Social Studies.

The study established that pupils' dropout from school as a result of their engagement in illegal mining despite the efforts made by government to enforce the enrollment of all children under school going age in Free Compulsory Universal Basic Education (FCUBE) policy. The worrying issue, however, is that the adverse effects of illegal mining on education have not yielded the results as we expected since the illegal mining menace continues to plague many spheres of our educational sector. The time has come for more decisive actions to be taken by all to confront the issue of illegal mining among the citizenry especially young children head-on.

5.3 Recommendations

Based on the study findings, the researcher made some recommendations that are directed at helping reduce illegal mining activities and its associated education effects:

1. From the findings, it was revealed that engagement in illegal mining activities is a good predictor of pupils' school attendance. It is, therefore, recommended that, Directorate of Ghana Education Service at Atwima Kwanwoma District and Basic School head teachers should ensure the enforcement of rules and regulations regarding school attendance in order to strengthen pupils' school attendance.

2. Results from the study revealed that, pupils leave school early to go to mining site. Therefore, the study recommends that, the Directorate of Ghana Education Service at Atwima Kwanwoma District and other NGOs should award scholarships to the needy children to enable them further their

education other than depending on illegal mining as a source of income to finance their education.

3. As evident from the findings, illegal mining activities contributed statistically significantly to pupils' academic performance in Social Studies. There must be an intense public education and sensitization about the dangers of illegal mining operations on pupils' academic performance. To make this effective, the Directorate of Ghana Education Service at Atwima Kwanwoma District and traditional leaders must be in constant dialogue with members of the communities especially parents to appreciate the value of formal education in order to ensure that their children stay in school and study. This is because parental involvement in children's education is key for their future successes.

5.4 Suggestions for Further Research

This study investigated the influence of illegal mining on school attendance, dropout and academic performance of junior high school pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana. Hence, it is suggested that further research be done in other basic schools in the country where illegal mining activities are carried out to give the general overview regarding the influence of illegal mining activities on school attendance, dropout and academic performance of junior high school pupils and come out with holistic approach in curbing the situation. This suggestion comes against the backdrop that the study has a limited scope thus, involving pupils and parents from selected junior high schools in Atwima Kwanwoma District in the Ashanti Region of Ghana.

The present study looked at the influence of illegal mining on children's education in terms of their school attendance, dropout and academic performance. It will, therefore, be of interest to investigate how the activities of illegal mining affect the environment in the communities in Ghana.

REFERENCES

Adjei, A. (2017). *The impact of illegal mining (galamsey) on cocoa production and livelihood: Acase study of Amansie West District*. Unpublished MBA thesis, University of Education, Winneba.

Admassie, A. (2003). Child labour and schooling in the context of a subsistence rural economy: can they be compatible? *International Journal of Educational Development*,*23*(2), 167-185.

Adu-Gyamfi, E. (2014). The effect of illegal mining on school attendance and academic performance of junior high school pupils in Upper Denkyira West District of Ghana.*Journal of Education & Human Development, 3*(1), 523-545.

Afrenya, P. M. (2002). Ghana's Mineral Resources for small scale mining industries. *Association of Geoscientists International Department Workshop,* Kenya*,* 26 28.

Agarana, M., & Ehigbochie, A. (2015). Optimization of pupil's academic performance in a world-class university using operational research model. *International Journal Math. Comput. Appl. Res., 5*, 60-65.

Airo, J. A. (2010). Financing Small – Scale Mining: Strategies for Small Scale Miners. *Association of Geoscientists International Department Workshop,* Kenya*,* 12-18.

Akabzaa, T. (2007). African mining codes, a race to the bottom. *African Agenda, 7* (3), 62-63.

Akyeampong, A. K. & Ananga, E. D. (2010). *Reducing School Dropout through Inclusive Approaches to education in Ghana.* Retrieved from http://www.eldis.org/index.cfm?objectid=132A5AA5-9E0B-0456-5BB24B4C5495B04E on 017/08/2018.

Akyeampong, A. K., Djangmah, J., Oduro, A., Seidu, A., & Hunt, F. (2007). *Access to basic education in Ghana: The evidence and the issues*. CREATE Country Analytic Review. Brighton: University of Sussex.

Alderfer, J. K. (1969). A review of alternative livelihood projects in some mining communities in Ghana. *European Journal of Scientific Research,* 35, (2), 217-228.

Alhassan, S. (2006). *Modern approaches to research in education administration for research students.* Amakom, Kumasi: Payless Publication Ltd.

Amankwah, R. K., & Anim-Sackey, C. (2003). Strategies for sustainable development of small-scale gold and diamond mining industry of Ghana. *Resource Policy, 29,* 131-138.

Ammanor, R. (2009). *Children abandon school and go into illegal mining*. Ghana News Agency Report. Retrieved from www.asutifi.ghanadictricts.gov.gh on 15/08/2018.

Amponsah-Tawiah, K. & Dartey-Baah, K. (2011). The mining industry in Ghana: A blessing or a curse. *International Journal of Business and Social Science, 2*(12), 232-249.

Ananga, E. D. (2010). *Typologies of dropout in southern Ghana*. Retrieved from http://www.create-rpc.org/publications/policybriefs/ on 15/12/2018.

Ananga, E. D. (2011). *The drop out experience of basic school children in rural Ghana: implications for universal basic education policy*. Unpublished Ph.D thesis, University of Sussex, USA.

Ananga, E. D. (2011). Typology of dropout: The dimensions and dynamics of dropout in Ghana. *International Journal of Educational Development, 31*(4), 374-381.

Ankutse, B. (2015*). Assessing the effects of mining on the educational life of children in the Asutifi District in the Brong Ahafo Region of Ghana*. Unpublished master's thesis, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

Annan, D. A. (2015). *Effects of galamsey on education in mining communities*. Retrieved from https://www.newsghana.com.gh/effects-of-galamsey-on-education-in-mining-communities/ on 06/09/2018.

Anney, V. N. (2014). Ensuring the quality of findings of qualitative research: Looking at trustworthiness criteria. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS), 5*(2), 272-281

Armah, F., Luginaah, I. & Odoi, J. (2013). Artisanal small-scale mining and mercury pollution in Ghana: A critical examination of a messy minerals and gold mining policy. *Journal of Environmental Studies and Sciences, 3(4), 126-134*.

Aryee, B. N. A. (2012). *Contribution of the minerals and mining sector to national development: Ghana's experiment*. Maastricht: ECDPM.

Aryee, B. N. A., Ntibery, B. K., & Atorkui, E. (2003). Trends in the small-scale mining of precious minerals in Ghana: A perspective on its environmental impact. *Journal of cleaner production, 11, 131-140.*

Asamoah-Gyimah, K., & Duodu, F. (2007). *Introduction to Research Methods in Education* University of Education, Winneba: Institute for Educational Development and Extension (IEDE).

Asiedu-Addo, S. (2009). Why many pupils in Central Region fail in the BECE? Daily Graphic, Saturday, October 10, 2009.

Awanta, E. K., & Asiadu-Addo, S. K. (2008). *Essential statistical research for universities, colleges and research institutions.* Accra: Salt and Light Publishers.

Bach, J. S. (2014). *Illegal Chinese gold mining in Amansie West, Ghana – An assessment of its impact and implications*. Unpublished master's thesis, University of Agder.

Banchirigah, S. M. (2008). Challenges with eradicating illegal mining in Ghana: A perspective from the grassroots. *Resources policy*, 33 (2008) 29-38.

Banchirigah, V., Kranjac-Berisavljevic, G. K., & Vordzogbe, V. (2005). *The impact of price fluctuations on livelihood strategies in artisanal and small-scale mining communities compared with other non-financial shocks*. Retrieved from http://r4d.dfid.gov.uk/pdf/outputs on 26/11/2018.

Berger, A. R. (2008). The importance of small-scale Mining- A general overview, *Engineering Geology, 59*(1), 24-29.

Bitsch, V. (2005). Qualitative research: A grounded theory example and evaluation criteria. *Journal of Agribusiness, 23*(1), 75-91.

Blunch, N. H., & Verner, D. (2000). *Revisiting the link between poverty and child labor: The Ghanaian experience*. World Bank Policy Research Working Paper No. 2488, Washington, DC: World Bank.

Botchway, F. (1995). Pre-colonial methods of gold mining and environ- mental protection in Ghana. *Journal of Energy and Natural Resources Law*, *13* (4), 299–311.

Bowen, C. (2005). Improving the quality and quantity of attendance data to enhance students' retention. *Journal of further and higher education, 31*: 1 – 39.

Campbell, B. (2003). The challenges of development, mining codes in Africa, and corporate responsibility. *International and Comparative Mineral Law and Policy Trends and Prospects*, 4-6.

Canagarajah, S., & Coulombe, H. (1997). *Child labor and schooling in Ghana*. World Bank Policy Research Working Paper No. 1844.Retrieved from http://goo.gl/fDgu6 dated on 02/3/2018.

Carranza, F. D., You, S., Chhuon, V., & Hudley, C. (2009). Mexican American adolescents' academic achievement and aspirations: The role of perceived parental educational involvement, acculturation, and self-esteem. *Adolescence, 44,* 313-333.

Carson, A. K., & Begg, M. (2006). Environmental policy for sustainable development of natural resources: Mechanisms for implementation and enforcement. *Natural Resources Forum, 18*, 275-286.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education*. London: Routledge/Falmer**.**

Colclough, C., Rose, P., & Tembon, M. (2000). Gender inequalities in primary schooling: The roles of poverty and adverse cultural practice, *International Journal of Educational Development*, 20(1), 5-27.

Creswell, J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). Boston: Pearson.

Crossman, A. (2017). *Pilot Study*. Retrieved from What Pilot Studies Are and Why They Matter – ThoughtCo. Retrieved from https://www.thoughtco.com > ... > sociology > Key Theoretical Concepts. On 20/09/2018.

De Lang, A. (2007). *Deprived children and education in Ghana.* Amsterdam: IREWOC.

Denscombe, M. (2010). *Research guide for small-scale social research projects* (4th ed.). New York: Open University Press.

Denueme, K. (2016). *Teacher motivation factors and their effect on the job performance of basic school mathematics teachers in the Awutu Senya West District of the Central Region of Ghana.* University of Education, Winneba, Ghana.

Diaz, A. L. (20030. Personal, family and academic factors affecting low achievement in secondary school. *Electronic journal of research in educational psychology and psychology 1*(1), 43 – 66.

Donkor, A. K., Nartey, V. K., Bonzongo, J. C., & Adotey, D. K. (2006). Artisanal mining of gold with mercury in Ghana. *West Africa Journal of Applied Ecology (WAJAE)*, 9. Retrieved from http://www.ug.edu.gh/iess/wajae/WAJAEWEBDESIGN/papers/paper_vol9/02%20papers9_artisanal_mining_of_gold_mercury_ghana_full.pd on 5/11/2018.

Eiselen, R. J., & Uys, T. (2005). *Questionnaire design.* Johannesburg: University of Johannesburg.

Ellis, F. (2000). *Rural livelihoods and diversity in developing countries.* Oxford, England: Oxford University Press.

Fentiman, A., Hall, A., & Bundy, D. (1999). School enrolment patterns in rural Ghana: A comparative study of the impact of location, gender, age and health on children's access to basic schooling, *Comparative Education*, *35*(3), 331-349.

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Needham Heights MA: Allyn & Bacon.

Gasper, H. (1996). Small-scale mining in Africa: Tackling pressing environmental problems with improved strategy. *The Journal of Environment Development, 11*, (2), 149-174.

Ghana Statistical Service (2003). *Ghana child labour survey.* Accra: GSS.

Ghana Statistical Service (2014).*2010 population and housing census: Atwima Kwanwoma District analytical report.* Accra: Ghana Statistical Service, GIS.

Ghana News Agency (2013). *Over half of the world's 58 million school dropouts are in Africa*. (online) Assessed on 18th February, 2019).

Glover, B (2010). *NGO bails out children engaged in mining activities.* Retrieved from http://globen.blogspot.com on 09/08/2018.

Government of Ghana (1992). *The constitution of the republic of Ghana*.

Gump, S. E. (2005). The cost of cutting class, attendance as a predictor of pupil success. *College Teaching, 53*, 21-26.

Haddad et. al. (1990). World on education for all: Meeting basic learning needs. Executive secretariat. WCEFA inter-agency commission. New York-USA.

Hashim, I. M. (2004). *Working with working children: Child labour and the barriers to education in rural North-Eastern Ghana*. Unpublished Ph.D thesis, Brighton: University of Sussex.

Heady, C. (2003). The effect of child labour on learning achievement. *World Development 31*(2), 385-398.

Heemskerk, M. (2005). Collecting data in artisanal and small-scale mining communities: measuring progress towards more sustainable livelihoods. *Natural Resources Forum 29,* 82–87.

Hilson, G. (2001). *A contextual review of the Ghanaian small-scale mining industry,* London: MMSD. IIED.

Hilson, G. (2002). Harvesting riches: 1000 years of gold mining in Ghana. *Resources policy*, *28*, 13-26.

Hilson, G. (2003). *The socio-economic impacts of artisanal and small-scale mining in developing countries*. Netherlands: Swets Publishers.

Hilson, G., & Potter, C. (2003). Why is illegal gold mining activity so ubiquitous throughout rural Ghana? *African Development Revue 15* (2), 237–270.

Howard, W. (1994). On the academic performance of New Jersey's public school children. *Educational Policy Analysis Archives*, *2* (10), 229 -311.

Huisman, J., & Smits, J. (2009). *Keeping children in school: household and district level determinants of school dropout in 322 districts of 30 developing countries.*

Hunt, F. (2007). *Schooling Citizens: A study of policy in practice in South Africa*. Unpublished Ph.D thesis, University of Sussex, Brighton.

Hunt, F. (2008). *Dropping out from school: A cross country review of literature*. CREATE Pathways to Access Research Monograph No. 16. Brighton: University of Sussex.

Hunter, N., & May, J. (2003). *Poverty, shocks and school disruption episodes among adolescents in South Africa*. CSDS Working Paper, No. 35.

Iddirisu, A. Y., & Tsikata, F. S. (1998). *Mining sector development and environment project. Regulatory framework study to assist small-scale miners*. Study prepared for the Minerals Commission. Accra: Minerals Commission.

International Labour Organisation/International Programme on the Elimination of Child Labour (2004). *Helping hands or shackled lives? Understanding child domestic labour and responses to it*. Geneva: ILO.

International Labour Organisation (2008). *Ghana child labour data: Country brief*. Geneva: ILO.

Jackson, K., Jager, C., & Stagel, B. (2004). *Over 300 illegal miners died in Ghana in the last two years*. Retrieved from http://www.mining.com/over-300-illegal-miners-died-in-ghana on 05/09/2018.

Jing-Lin D., Gang, L., & Wei, C. (2009). Determinants of international students' academic performance: A comparison between Chinese and other international students. *Journal of Studies in International Education*, 2 (4), 45-67.

Kothari, R. C. (2004). *Research methodology: Methods and techniques*. New Delhi: Wiley Eastern Limited.

Kusi, H. (2012). *Doing qualitative research, a guide for researchers.* Accra: Emmpong Press.

Little, A. (2010). *Access to basic education in Ghana: Policies and progress.* CREATE Pathways to Access Research Monograph No. 42. London: Institute of Education.

Marrow, G. (1987). *The international encyclopedia of education*. (3): 1603. Pergamon.

Maslow, A. (1971). *The farther reaches of human nature*. New York: The Viking Press.

McMillan, J. H., & Schumacher, S. (2010). *Research in education: Evidence-based inquiry* (7th ed.). New York, NY: Pearson.

Mensah, D. (2012). Illegal Small scale mining affecting education-Asutifi Director of Education. Ghana News Agency Report.

Mitchell, M. L., & Jolly, J. M. (2010). *Research design explained* (7th ed.). Belmont, CA: Wadsworth.

Moore, R. (2005). Attendance: Are penalties more effective than rewards? *Journal of Developmental Education*, 1, 26-32.

Organisation for Economic Cooperation and Development (2002). *Education at a glance*. Paris: OECD.

Okyere, S. (2012). Re-examining the education-child labour nexus: The case of child miners at Kenyasi, Ghana, 6 (1), 1-2.

Owusu, E. E., & Dwomoh, G. (2012). The impact of illegal mining on the Ghanaian youth: Evidence from Kwaebibirem District in Ghana. *Research on Humanities and Social Sciences, 2*(6), 86-92.

Pegg, S. (2006). Mining and poverty reduction: transforming rhetoric into reality. *Journal of Cleaner Production*, *14* (3-4), 376–387.

Polit, D. F., & Beck, C. T. (2008). *Essentials of nursing research: Appraising evidence for nursing practice (*7th ed.). Philadelphia: Lippincott Williams & Wilkins.

Pong, S. L., & Ju, D. B. (2000). The effects of change in family structure and income on dropping out of middle and high school. *Journal of Family Issues*, *21*(2), 147-169.

Roby, D. E. (2004). Research on school attendance and student achievement: A study of Ohio schools. *Educational Research Quarterly*, 28, 3-14.

Saiduddin, J. (2003). *Factors affecting achievement at a junior high school on the Pine Ridge Reservation, South Dakota.*1992 Republican Constitution of Ghana. Retrieved from http://rave.ohiolink.edu/etdc/view on 11/11/2018.

Tambara, C. T. (2015). *Unpacking Teachers' Pedagogical Content Knowledge and Skills to Develop Learners' Problem Solving Skills in Mathematics.* Stellenbosch University.

Tashakkori, A., & Teddlie, C. (2008). Introduction to mixed method and mixed model studies in the social and behavioral science. In V.L. Plano-Clark & J. W. Creswell (Eds.), *The mixed methods reader* (pp. 7-26).

Tavakol, M., & Dennik, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55.

Tschakert, P., & Singha, J. (2007). Contaminated identities: Mercury and marginalization in Ghana's artisanal mining sector. *Geoforum 38* (1), 304–1321.

Thorsen, D. (2012). *Children in mines and quarries: Evidence from West and Central Africa.* UNICEF Briefing Paper No. 4. Retrieved from http://www.3.bp.blogspot.com.22/09/2018.

United Nations Educational, Scientific and Cultural Organisation (2007). *Enhancing learning: From access to success*. Paris: UNESCO.

United Nations Educational, Scientific and Cultural Organisation (2007). *Global monitoring report – EFA by 2015: Will we make it?* UNESCO and Oxford publishers.

United Nations Educational, Scientific and Cultural Organisation (2005). *World education report*. New York: UNESCO

United Nations Development Fund for Women (UNDFW) (2000). *Progress of the world's women 2000 UNFEM biennial report.* New York: UN.

Wisker, G. (2009). *The undergraduate research handbook.* London: Palgrave Macmillan.

Yakubu, B. R., (2002). Towards sustainable small scale mining in Ghana. In K. Barning, B. Dorgbetor (Eds.), Proceedings of the National Mining Conference on Mining, the Environment and Sustainable Development. Published by the MC, Accra.

Yin, R. K. (2014). *Case study research: Design and methods (5th ed.).* Thousand Oaks, CA: Sage.

Young, A. P., & Chavez, E. L. (2002). Not all school dropouts are the same: Ethnic differences in the relation between reasons for learning school and adolescent substance use. *Psychology in the schools, (39)*: 539 – 547.

APPENDIX A

QUESTIONNAIRE GUIDE FOR PUPILS AND PARENTS

QUESTIONNAIRE GUIDE FOR PUPILS

This questionnaire is designed to investigate the influence of illegal mining on school attendance, dropout, and academic performance of some selected junior high school pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana. The first section of the questionnaire intends to obtain personal information, and in the second, third and fourth sections there are questions that will find out the influence of illegal mining activities on school attendance, school dropout, and academic performance respectively. Please, respond honestly to the items and you can be assured that your responses will be kept confidential.

Section A: Background Demographic Data – Please fill in or check the appropriate response below.

1. Sex of respondent

(i) Male ☐ (ii) Female ☐

2. How old are you?

(i) 6-9 years ☐ (ii) 10-13 years ☐ (ii) 14-17 years ☐ (ii) 18 years and above ☐

Section B: Influence of Illegal Mining on Pupils' Attendance, Dropout, and academic performance

Indicate your level of agreement on the influence of illegal mining on attendance, dropout and academic performance using the scale below:

1=Strongly Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

S/N	STATEMENT	1	2	3	4
	School Attendance				
1.	The time for mining coincides with school hours.				
2.	Pupils often absent themselves from class and go into mining without excuse.				
3.	Mining operations have led to the reduction in pupils' attendance in school.				
4.	Most at times, the time I need to spend in doing my homework is used to engage in mining activities.				
5.	The advent of mining activity in the area has empowered me in finding money to supply my educational needs like textbooks, bags, shoes etc.				

S/N	STATEMENT	1	2	3	4
	School Dropout				
1.	Pupils leave school early to go to mining site.				
2.	There are pupils who leave school and go into illegal mining before completion.				
3.	Mining provides pupils with income such that, they see no need to continue going to school.				

4.	The lucrative nature of the mining has pushed a lot of pupil population out of school without excuse.				
5.	Pupils who are engaged in illegal mining are physically present in school but may not be learning anything.				

S/N	STATEMENT	1	2	3	4
	Influence of mining activities on academic performance				
1.	The time pupils spend in engaging mining activities affects their academic studies.				
2.	The work of children at the mining site has adverse effect on academic performance.				
3.	Pupils are unable to complete assignment due to their engagement in mining activities				
4.	Academic performance has been enhanced partly due to the fact that pupils are able to buy some basic necessities from the monies they acquire from mining operation.				
5	Pupils cannot comprehend lessons taught in class due to tiredness emanated from their engagement in mining activities.				

QUESTIONNAIRE GUIDE FOR PARENTS

This questionnaire is designed to investigate the influence of illegal mining on school attendance, dropout, and academic performance of some selected junior high school pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana. The first section of the questionnaire intends to obtain personal information, and in the second, third and fourth sections there are questions that will find out the influence of illegal mining activities on school attendance, school dropout, and academic performance respectively. Please, respond honestly to the items and you can be assured that your responses will be kept confidential.

Section A: Background Demographic Data – Please fill in or check the appropriate response below.

1. Sex of respondent

(ii) Male ☐ (ii) Female ☐

2. How old are you?

(ii) 20-30 years ☐ (ii) 31-40 years ☐ (ii) 41-50 years ☐ (ii) Above 50 years ☐

3. Highest Educational Qualification

(i) Non-formal education ☐ (ii) Formal education

Section B: influence of Illegal Mining on Pupils' attendance, School Dropout, and academic performance

Indicate your level of agreement on the influence of illegal mining on attendance, school dropout and academic performance using the scale below:

1=Strongly Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

S/N	STATEMENT	1	2	3	4
	Attendance				
1.	The time for mining coincides with school hours.				
2.	Pupils often absent themselves from class and go into mining without excuse.				
3.	Mining operations has led to the reduction in pupils' attendance in school.				
4.	Most at times, the time pupils need to spend in doing my homework is used to engage in mining activities.				
5	The advent of mining activity in the area has empowered pupils in finding money to supply their educational needs like textbooks, bags, shoes etc.				

S/N	STATEMENT	1	2	3	4
	School Dropout				
1.	Pupils leave school early to go to mining site.				
2.	There are pupils who leave school and go into illegal mining before completion.				
3.	Mining provides pupils with income such that, they see no need to continue going to school.				
4.	The lucrative nature of the mining has pushed a lot of pupils out of school without formal excuse or permission.				
5.	Pupils who are engaged in illegal mining are physically present in school but may not be learning anything.				

S/N	STATEMENT	1	2	3	4
	Influence of mining activities on academic performance				
1.	The time pupils spend in engaging in mining activities affects their academic studies.				
2.	The work of children at the mining site has adverse effect on academic performance.				
3.	Pupils are unable to complete assignment due to their engagement in mining activities				
4.	Academic performance has been enhanced partly due to the fact that pupils are able to buy some basic necessities from the monies they acquire from mining operation.				

APPENDIX B

INTERVIEW GUIDE FOR PARENTS AND PUPILS

INTERVIEW GUIDE FOR PARENTS

This interview guide is designed to investigate the influence of illegal mining on school attendance, dropout, and academic performance of some selected junior high school pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana. The first section of the questionnaire intends to obtain personal information, and in the second, third and fourth sections there are questions that will find out the influence of illegal mining activities on school attendance, school dropout and academic performance respectively. Please, respond honestly to the items and you can be assured that your responses will be kept confidential.

1. How old are you?
2. Do you have any of your children leaving school and going into the mine site? If yes, what was the reason?
3. How does he/she spend the money he/she earns?
4. Has mining operations led to the reduction in pupils' school attendance? If yes, in what way?
5. How does the work in mining related activities interfere with pupils' studies?
6. In your own opinion what are the influence of mining activities on pupils' education in the stated areas?
7. In your own perception has the advent of mining activity in the area helped education in the district? Give reasons
8. In what way could you prioritize mining activities over school?

INTERVIEW GUIDE FOR PUPILS

This interview guide is designed to investigate the influence of illegal mining on school attendance, dropout, and academic performance of some selected junior high school pupils in the Atwima Kwanwoma District in the Ashanti Region of Ghana. The first section of the questionnaire intends to obtain personal information, and in the second, third and fourth sections there are questions that will find out the influence of illegal mining activities on school attendance, school dropout and academic performance respectively. Please, respond honestly to the items and you can be assured that your responses will be kept confidential.

1. How old are you?
2. How do you spend the money you earn?
3. Has mining operations led to the reduction in pupils' attendance? If yes, in what way?
4. How does the work in mining related activities interfere with pupils' studies?
5. In your own opinion what are the influence of mining activities on pupils' education in the stated areas?
6. In your own perception has the advent of mining activity in the area helped education in the district? Give reasons
7. In what way could you prioritize mining activities over school?

APPENDIX C (1)

TYPES OF WORK ENGAGED BY PUPILS AT THE MINING SITE

Type of Work	Frequency	Percentage
1. Running errands	15	21
2. Washing and Sieving sand	22	31
3. Digging sand from river or underground pit	5	7
4. Cooking for workers	10	14
5. Carrying mud to processing plant	18	26

Source: Field Data (2019)

APPENDIX C (2)

NUMBER OF HOURS PUPILS WORK IN A DAY AT THE MINING SITE

Working Hour Per Day	Frequency	Percentage
1-4 hours	12	17
5-9 hours	43	61
10-14 hours	15	21
Above 14 hours	0	0

Source: Field Data (2019)

APPENDIX D

LETTER OF INTRODUCTION

UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF EDUCATIONAL STUDIES
DEPARTMENT OF BASIC EDUCATION
P. O. Box 25, Winneba, Ghana
+233 (050) 9212015
beducation@uew.edu.gh

Date: January 24, 2019

The Director
District Education Directorate
Atwima Kwanwoma District
P.M.B
Atwima - Foase

Dear Madam,

LETTER OF INTRODUCTION

We forward to you, a letter from Mr. John Paul Dughan , a second year M.Phil student of the Department of Basic Education, University of Education, Winneba, with registration number 8170030008.

Mr. John Paul Dughan is to carry out a research on the Topic " *Influence of illegal mining activities on school attendance, dropout and academic perfommance : The case of some selected junior high schools in the Atwima Kwanwoma District of Ghana* ".

We would be grateful if permission is granted him to carry out his studies in the Municipality.

Thank you.

Yours faithfully,

.....

MRS. SAKINA ACQUAH (PHD)
(Ag. Head of Department)