UNIVERSITY OF CAPE COAST

AWARENESS AND UTILISATION OF EDUCATIONAL MANAGEMENT INFORMATION SYSTEMS IN THE GREATER ACCRA REGION

SIMON-PETER KAFUI AHETO

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BY

SIMON-PETER KAFUI AHETO

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DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original research and that no part of it has been presented for another degree in this University or elsewhere.

Candidate's Signature:  ..... Date: 17th April, 2012

Simon–Peter Kafui Aheto

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Cape Coast.

Supervisor's Signature:  ..... Date: 17th April, 2012

Dr. Jonathan A. Fletcher

ABSTRACT

The study examined the awareness and utilisation of Educational Management Information Systems (EMIS) by stakeholders, e.g. educators, parents, guardians, students, educational NGOs and consultants and the public in the Greater Accra Region. The descriptive research design was used for the study. Purposive sampling technique was employed in selecting the sample population. The coverage area for the study was the Greater Accra Regional Education Office, two other municipal and one metropolitan Education Office. The study sample was 48 which included the Regional/ Metropolitan/ Municipal Directors of Education with their four Frontline Assistant Directors. Others that were included in the sample were EMIS Co-ordinators, EMIS officers, Circuit supervisors, Heads of Primary, Junior and Senior High Schools and Teachers. The instrument used for data collection was self prepared. In all, there were five research questions which were all captured by the instrument for data collection. The study revealed that: EMIS offices are present in the Regional and District Education Offices included in the sample in the Greater Accra Region; the core objectives of EMIS are being met; Ministry of Education sees the Annual School Census as the most important source of information regarding the situation of every school. It was further found that EMIS has no dedicated website. Also, EMIS users are usually those who know about it, hence awareness of EMIS informs its utilisation. Parents are rare users of EMIS. The study recommended that EMIS have a dedicated and reliable website where users, patrons, researchers and stakeholders could rely on for educational information.

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DEDICATION

To My dear little Daughter Denise Selaina Aba Aheto

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CHAPTER ONE

INTRODUCTION

Background to the Study

Information and Communication Technology (ICT) has become, within a very short space of time, one of the basic building blocks of modern society. Many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education, alongside reading, writing and numeracy (UNESCO, 2002). The Ghana National ICT Policy on Education aims at not only expanding access of ICT in education, but also assisting training and research efforts to improve the quality of teaching and learning in order to make the educational system more responsive to the needs and requirements of the economy and improve on human resource capacity (Ghana National ICT Policy, 2004). Management in ICT has become a very key issue as many of the management systems digitalise their databases for efficiency in information retrieval to support decision – making and policy planning. The advantages of this digitalisation of databases may have influenced the introduction of the Education Management Information System (EMIS) in Ghana. According to Wako (2003), "EMIS is a concept imported from the business world. It is an Acronym for a System for processing Information for Management of Education. It is not purely statistical-based" (p. 6). EMIS was a World Bank

project which has been in existence for sometime now in countries such as Bangladesh, Ghana, Nigeria and Mozambique. In Ghana, EMIS was established as far back as 1988 in the Ministry of Education as part of the then educational reforms (Bonney, 2010, p.11).

According to Infodev (2006), more formalised attempts at developing the EMIS occurred in the late 1990s when the government of Ghana started to implement the policy of free compulsory universal basic education (fCUBE). The Ministry of Education launched the EMIS Project in January 1997, with technical support (during the first and second phases) from the Harvard University and funds from the World Bank and Government of Ghana. The project was an effort to provide adequate and reliable data and information for policy formulation, planning and implementation of various programmes and projects in education in Ghana. Following that, the development of EMIS was organised into three phases namely, the Pilot, the Improvement of Capacity and Development of the IT Infrastructure and finally the Enhancement and Expansion phases. Currently, EMIS can be located in all district, municipal, metropolitan and regional offices of the Ghana Education Service. "The EMIS staff has installed an EMIS programme on every computer in the 168 districts used for data entry" (Chung, 2009, p.2). The core business of this management system is to enable policy formulation, operational planning and subsequent monitoring of targets through periodic review by stakeholder participation. In addition, it is to calculate levels of disadvantage and related budget allocations.

Hitherto, EMIS can narrate some success stories in the face of its

numerous challenges. Prominent among them is that "Ghana's EMIS is an example of good practice in Africa for decentralised planning and budgeting, supporting reforms at various levels" (Infodev, 2006, p.4). One other success is how EMIS enabled the Ministry of Education to collect census data on primary and junior secondary schools for a seven year period (1997 to 2003). Donors and planners have also used EMIS data for resource allocation through the provision of infrastructure and training. EMIS enabled the generation of five years annual school census data from 1997 to 2001 in a timely manner, production of key education indicators and relevant policy analysis, and the sensitization of education officials in the use of data for planning and decision making (Infodev, 2006, p.11).

As a management tool and database system, EMIS is capable of giving on–the–spot information in each district/region of variables such as number of untrained teachers, pass marks for Science, Mathematics and English, type of classroom structure, availability of water and seating capacity. This further helps to calculate the level of disadvantage in measuring and comparing the variables. This practice supports idisc (n.d.) who thinks that implementation of ICT – based management tools can help promote more efficient oversight processes and management for enterprises. These tools can allow for more effective monitoring of the performance of each enterprise.

But challenges remain for successful implementation, notably in commitment, capacity development and dissemination. Donors and planners often have unrealistic expectations about what can be achieved in a short time period and underestimate the challenges facing EMIS. Presently, EMIS is

bedevilled with problems regarding logistics such as vehicles or monitoring and cross checking of data since validation of data should be paramount in a situation where the data informs planners and decision makers. Again, it should be paramount because, every educational system should be more responsive to the needs and requirements of the economy and improve on human resource capacity and this can only be achieved through accurate educational data. Given that the dream of networking all EMIS offices have not yet been realised, data inputted at various offices are sent to the EMIS head office in the computers in which they were inputted. Such a scenario illustrates issues such as timely analyses and the security of EMIS data in transiting data to and fro the head office thereby emphasising the strong need for a web–based EMIS.

In his report, Chung (2009) noted "the existing EMIS application does not run in a network mode. All components of EMIS are installed on every computer used for data entry–even in Head Office or larger Districts where computer network could be supported" p. 4. He continues to report that "According to interviews, the District EMIS team does not perform any data quality checks on their school data. The district heads are supposed to check all the forms accuracy–but, according to interviews, this is seldom done." p. 2.

Today, it looks as if EMIS is non-existent and not popular amongst key stakeholders of education in Ghana. A brief study of the management structure and data collection flow chart in Appendix M gets one to appreciate the potentials of EMIS to make the educational system more responsive to the needs and requirements of the economy and improve on human resource

capacity through the data it collects from all educational institutions, examination bodies and other non Ministry of Education institutions. This study will look into issues of the extent of awareness and utilisation of EMIS in the Greater Accra Region as a case study.

Statement of the Problem

The problem being investigated in this study is the extent of stakeholders' knowledge about EMIS. Currently, there is no literature on the subject in Ghana and therefore not many stakeholders have knowledge about EMIS. This lack of knowledge creates a gap for those who need it for education purposes. Proper use of EMIS can be very useful to stakeholders for policy formulation, planning and implementation of various programmes and projects in education in Ghana. Unfortunately, if it is not used properly, it can cause two problems, that is, they can hamper all those seeking to manage and develop national education systems in the country concerned, and they can hamper international efforts to track global progress towards education development–notably Education For All (EFA)–and to organise support for it (Ellison, 2004, p. 6).

Purpose of the Study

The purpose of the study is to look into the awareness and utilisation of EMIS by stakeholders e.g. educators, parents and guardians, educational consultants, students and educational NGOs or the public.

Research Questions

The underlisted were the research questions that guided the study

1. What core objectives of EMIS are perceived as being met?

2. Who knows about EMIS?
3. Who uses EMIS and how does he/she use it?
4. How do the Regional/Municipal/District Directors of Education use EMIS for planning and policy making as well as mapping strategies?
5. How qualified and well equipped are the managers of EMIS?

Significance of the Study

The study will contribute to the awareness level of how EMIS data can be utilized by stakeholders to improve the process of educational information management in Ghana. The research findings will help identify the gaps hindering the awareness and utilisation of EMIS data. These gaps, when identified by the study, may be addressed by project partners for maximum awareness and utilisation of EMIS data. The study will also contribute to ICT development in education. Furthermore, the study may serve as a resource material for prospective researchers of similar studies.

Delimitations of the Study

The findings, summaries and conclusions in this study do not extend to other districts in the Greater Accra Region or to other regions of Ghana apart from the population.

Limitations of the Study

Related literature on this research was difficult to come by because not much research has been conducted on this topic so a lot of the literature gathered was done through primary sources (preliminary interviews and observations). Secondly, the study should have taken place in all Districts in the Greater Accra but this would have meant a rather large population sample

that would have had to be covered. That could not be possible because of the time available for the study and the fact that I self-administered the instrument.

Organisation of the Study

This study has five chapters. Chapter one consist of background to the study, statement of the problem, purpose of the study and research questions. The rest are significance of the study, delimitations of the study, limitations of the study and Organisation of the Study. Chapter two was dedicated to review of related literature of the study. Chapter three, the methodology has the following sub-headings: research design, population, sample and sampling procedure, instruments, data collection and data analysis procedure. Chapter four was organised to present and analyse the data that was collected based on the research questions. Finally, the Chapter five gives an overview of the study under the following sub-headings: summary, conclusions and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Overview

This chapter basically reviews the related literature of the study. The main import of the review is to, a certain extent, draw a structure which will form a baseline for similarities and differences between the study and those of other researchers and writers and identify areas that require future or further studies. This chapter has been reviewed under five thematic areas namely:

Databases

Advantages of Databases

History and development of EMIS in Ghana

Strengths and Advantages of EMIS

Setbacks of EMIS

Studies on databases in education and elsewhere

Summary of literature review

Databases

In this period of rapid technological growth, the demand for databases and database technology can never be relegated to the background. In a highly competitive environment of the 21st century, there is every indication that database technology will assume even greater importance. Managers are strategically seeking to use knowledge derived from databases for competitive advantage. For example databases can easily be mined to determine customer

buying patterns. Many organisations today are building separate databases, called “data warehouse”, for this type of decision support application (Lambert, 1997).

According to McFadden, Hoffer, & Prescott, M. B (1999), a database is an organised collection of logically related data and may be of any size and complexity. Curren and Kellum (2000) also assert that databases allow you to store, organise, and manipulate data, which can be text or numerical information. The real power here is to locate information by using keyword searches, not just performing math functions. It may also be seen as a collection of data organised in a manner that allows access, retrieval, and use of that data (Shelly, Cashman & Vermaat, 2007, p.145). The later further agree that there are two kinds of databases which are the manual or computerised (digital) kinds. In a manual database, one might record data on paper and store it in a filing cabinet as opposed to the computerised database where the computer stores the data in an electronic format on storage medium such as a hard disk. They again said that computerised database formats run on database application software which allows users to create, access, and manage a database. Some of the database application softwares are Access, StarOffice Base, Paradox, Visual FoxPro, Oracle Database and MySQL Shelly et al (2007).

Advantages of Databases

For enhanced and efficient management systems, most institutions will like to spend a lot of resources to metamorphose their databases from manual to computerised databases because, they offer a number of potential

advantages compared to traditional file processing systems (manual). McFadden et al (1999) identified nine primary advantages of a database approach. They are Programme-data independence, Minimal data redundancy, Improved data consistency, Improved data sharing and Increased productivity of application development. The others are: Enforcement of standards, Improved data quality, Improved data accessibility and responsiveness, and Reduced programme maintenance.

Minimal data redundancy; Eventhough McFadden et al (1999) support the view that the database approach minimizes data redundancy, they equally agree that it does not eliminate redundancy entirely but rather allows the designer to carefully control the type and amount of redundancy. In a sales database approach system, each Order table contains a Customer's unique number to represent the relationship between orders and customers. The design goal with the database approach is that previously separate (and redundant) data files are integrated into a single, logical structure and that each primary fact is recorded (ideally) in only one place in the database.

On the other side, Curren and Kellum (2000) believe that databases can eliminate data redundancy so that only one copy of information needs to be stored and can be shared by many, which saves physical storage space and money. But Ward and Dafoulas (2006) support McFadden et al (1999) views that databases limit redundancy or duplication of data as there is no need to store data about the original object in more than one place.

McFadden et al (1999) think that:

By eliminating (or controlling) data redundancy, we greatly reduce the

> opportunities for inconsistency. For example, if a customer's address is stored only once, we cannot have disagreement on stored values. Also, updating data values is greatly simplified when each value is stored in one place only. Finally, we avoid the wasted storage space that results from redundant data storage (p. 22).

The fourth advantage of the database approach by McFadden et al (1999) is improved data sharing. Because a database is designed as a shared corporate resource, authorized users are granted permission to use the database, and each user or group of users is provided one or more user views to facilitate this use.

The database approach according to McFadden et al (1999) increases productivity of application development. One major advantage of the database approach is that, it promotes reduction of cost and time for developing new business applications. They continued to identify two key reasons that database application can often be developed much more rapidly than the conventional file applications. One of the reasons they put forward was that, an application already designed and implemented will not need a recreation in face of a problem or modification, but rather, the programmer can concentrate on specific functions required for new application, without having to worry about file design or low-level implantation details.

Several local and foreign institutions have computerised their manual databases and information systems through various databases application software. According to Yusof and Hin (n.d.), in Malaysia, eSekolah a school's management application that uses Microsoft Access application to change and

transform the traditional approach of data management into the digital content was created by Tuan Haji Mohd Yusof bin Muda pjk who was appointed the school headmaster of Sekolah Kebangsaan Chukai. He created the application in order to ease his administration but eSekolah eventually became a huge hit among schools administration circle. There has generally been a paradigm shift where Rural Banks, Internal Revenue Service (IRS) and Universities use electronic databases to manage their institutions. University of Cape Coast for instance migrated from the use of a database known as Agyenkwa to Online Students Information System (OSIS) to manage the student information records. The University of Education Winneba also use OSIS to manage the students' records. For PEC School at Nsawam, Ghana they use the E-School Administrator which is also database management software.

Concern with poor quality of data is a common theme in database administration today (Redman, 1995). The database approach provides a number of tools and processes to improve data quality. The tools are intended to assess the quality of data in existing systems and compare them to the requirements of the data warehouse. According to McFadden et al, 1999, one of the tools and processes to improve data quality is integrity constraints, database designers can specify integrity constraints that are enforced by the database management system (p. 23). Another one is data warehouse. One of the objectives of data warehouse environment is to clean up ("or scrub") operational data before they are placed in the data warehouse (Jordan, 1997). Data quality refers to how relevant, precise, useful, in context, understandable and timely data is (Firth, 1997; Barry & Parasuraman, 1997; Miller, 1996).

From the research of Delone and McLean (1992), the seven most important items emerging from research were information accuracy, output timeliness, reliability, completeness, relevance, precision, and accuracy. As information quality holds the same qualities as data quality, many authors have used the terms interchangeably (Firth, 1997; Barry & Parasuraman, 1997). It has been found that often, many end-users, including managers are unaware of the quality of data they use in a data warehouse (Lambert, 1997). Data quality in the data warehouse, is generally poor and there are many foreseeable setbacks (such as -economic failure, ineffective planning of business strategies). Organisations with management plans such as Just-In-Time manufacturing would not be able to function properly because of inaccurate data (Lambert, 1997). Ward and Dafoulus (2006) admit that as part of a modern corporate management strategy, executives are realising that the only way to sustain and gain an advantage in today's economy is to better leverage information. Leveraging information must be based on a firm foundation of data quality. There have been some surveys of data quality.

For example, Cipriano (1995) found that there is a correlation between quality management practices and quality information flows. Information flows and technologies also contribute towards obtaining high quality performances and low defects. In another research conducted by Forza (1995), quality information can be obtained with quality management practices, quality information systems and quality performance. All the above authorities cited have done a lot of work on data quality in a database approach, but none of their scope narrowed down their studies to data quality in an educational

management information systems or educational databases.

History and development of EMIS in Ghana

Cassidy (2005) defines EMIS as "a system for the collection, integration, processing, maintenance and dissemination of data and information to support decision making, policy-analysis and formulation, planning, monitoring and management at all levels of an education system. It is a system of people, technology, models, methods, processes, procedures, rules and regulations that function together to provide education leaders, decision makers and managers at all levels with a comprehensive, integrated set of relevant, reliable, unambiguous, and timely data and information to support them in completion of their responsibilities" (p. 25). In Ghana, EMIS was established as far back as 1988 in the Ministry of Education as part of the then educational reforms (Bonney, 2010, p.11).

All along, many organisations have been involved at national and sub-national levels to develop EMIS, including the World Bank, United States Agency for International Development **(**USAID), Swedish International Development Cooperation Agency (SIDA), the European Union (EU), German Agency for Technical Cooperation (GTZ), Department for International Development (DFID), International Institute of Education Planning (IIEP) and French Co-operation. Of these, the World Bank has been the most active of which Ghana is a beneficiary. In Ghana, the World Bank and the Government of Ghana have been the main sources of funds for the EMIS project (Ellison, 2004). The development of the EMIS in Ghana can be divided into three distinct phases. The under listed are the three distinct phases

of EMIS in Ghana. The phases were:

First phase – Pilot phase

Second phase – Improvement of capacity and development of IT infrastructure

Third phase – Enhancement and Expansion phase

More formalised attempts at developing the EMIS occurred in the late 1990s when the then government started her implementation of the policy of free Compulsory Universal Basic Education (fCUBE) after the establishment of EMIS 1988. This first stage which evolved from the more formalised attempts at development of EMIS was referred to as the pilot or first phase. During this phase, all the ten regional capitals and twenty – six districts were chosen to implement an educational survey of schools. Some activities that characterised the pilot phase included the provision of hardware and software. Others involved the training of the EMIS staff in basic IT applications (including the use of spreadsheet and basic data entry). The whole objective of the phase was that the regions would be able to collect data from schools and enter it onto their computer system (Infodev, 2006).

The second phase of EMIS was dedicated to the improvement of capacity and development of the IT infrastructure. These, as a matter of fact, helped the Ministry of Education and Sports (MOES) to collect census data on primary and junior high schools for a seven year period (1997 – 2003). This stage also saw the design and completion process of census forms for other parts of the educational system including questionnaires for Senior High Schools, Technical and Vocational Institutes and Colleges of Education. One

major achievement of this phase was the sensitization of educational officials to the process of data collection and understanding how it could be used in educational planning.

The Enhancement and Expansion phase was the third phase. Phase three was supposed to last for four years under some specific objectives. Attempts to build on previous developments and to overcome some of its short – comings were key issues here. The previous phases of EMIS suffered from a lack of ownership, acceptance and utilisation. Therefore, it was imperative on the ministry to create a sense of ownership of the whole process and ensure that there was greater utilisation of data. The challenge really occurred because GES staff were responsible for data collection and validation, data entry and processing. In sum, they were responsible for all the aspects of the process, including the analysis of the data collected at the district levels. In view of this, other units in the MOES felt little ownership of data produced under those arrangements. On the flip side, the enhancement and expansion phase sought to create a number of EMIS sub units for data collection and processing. Each sub unit was responsible for EMIS within its sector. For example, Non-Formal Education (NFED) were to collect information for their sector whiles GES continued to be responsible for EMIS for pre – tertiary education. However, under the new expansion plans, districts offices were to be responsible for this process (as opposed to head – office GES staff). All these interventions were to improve the sense of ownership.

Furthermore, under the new third phase, the coverage of EMIS was to expand the type of data collected and geographical area covered. New data

requirements, for Human Immuno Deficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) were added to the questionnaires as part of data type expansion. Additionally, there was focus on building the capacity within 50 selected district offices and 10 regional offices. These offices were expected to receive the appropriate software, hardware and various capacity building initiatives. Capacity building to strengthen all administrative bodies involved in the data collection and analysis, including those at the headquarters, regional and district levels was also embarked upon for those various offices to take responsibility (ownership) for their data collection and processing. Four officials were also to be appointed and trained in order to support the process (Infodev, 2006).

Strengths and Advantages of EMIS

In terms of planning and design, EMIS in Ghana can be viewed as an example of best practice. There is a clear synergy between the history of education policy and the development of EMIS (Infodev, 2006). The above is a plus for EMIS in Ghana. In Zimbabwe, within the MOE, EMIS is responsible for the promotion and use of information for policy planning and implementation, decision – making and the monitoring and evaluation of an education system (Wako, 2003). In Nigeria, EMIS plays a minimal role in the planning process at federal, state or local government level. However, it would be wrong to assume that EMIS is not used by governments at different levels to inform policy (Cambridge Education, 2006). The story in Ghana is not too different either. EMIS is also supporting reforms that are occurring in other parts of the education system, especially in non-formal education and

tertiary education. Non-formal education is one of the means by which Ghana can make progress towards achieving Millennium Development Goals (MDGs) and Education for All (EFA) (Infodev, 2006).

It was recorded in the Ghana Basic Education Sector Improvement Project (P000975) which lasted from 1996 to 2001 that EMIS data have been used in several ways, both for the government's sectoral policy and resource allocation, and Ghana's proposal for the Education for All Fast Track Initiative. The Bank's follow-on operation, Education Sector Plan (EdSEP) identified and targeted districts using EMIS data. Without the EMIS established by the project, Ghana could not have prepared the documentation for a sound plan to achieve the EFA and improvements in Ghana's enrolments and learning outcomes in primary education that enabled Ghana to be included in the Fast-Track Initiative (FTI). The International Development Association (IDA) helped to enhance the government's capacity for better donor coordination.

EMIS to a great extent helps the various educational offices and government to fairly allocate resources. This is usually captured in the regional education Annual Review meetings. Since EMIS is a management tool and a database, it serves as a bank of information for various schools, district, municipal, metropolitan and regional offices. At the click of the button, information required can easily be retrieved unlike the hectic and traditional retrieval of information through files.

Setbacks of EMIS

The issue of EMIS data quality has always been questioned. Chung

(2009) reveals in interviews conducted that District EMIS team does not perform any data quality checks on their school data. The district heads are supposed to check all the forms for accuracy – but, according to the interviews, this is seldom done (p. 3). Infodev (2006) also raised issues on data quality especially in relation to the quality of learning that occurs in the classroom. EMIS data quality was compared with teachers' perceptions about additional work load associated with the continual assessment process (p. 15). Here, collecting data for EMIS was perceived to be more work that did not attract any remuneration hence the quality of the data being compromised. Again, it was asserted that head teachers perceive little benefit from school census activities and some teachers tempted to mis-report under perception of additional burden (Chung, 2009, p. 3).

In his research Powell (2006) reported that evidence from Nigeria, Ghana and Mozambique showed that at the school level head-teachers are reluctant to spend their time completing forms that will only be used by the Ministry to track progress towards national targets. Similarly, officials working at the district or state level, in Ghana and Nigeria could not see the benefit of collating forms for similar reasons.

In the era of information age, stakeholders in education will love to see a web – based EMIS. Officials from the various EMIS offices have to travel to their EMIS head office with their computers to submit data collected and inputted and vice versa. Such developments could be injurious to the computers and the hard – earned data collected. Since it is not web – based, it also becomes very difficult for researchers to easily fetch and verify certain

information. When the clerks have finished entering all the data, they wait for EMIS staff from head office to come to their location for collection and consolidation (Chung, 2009, p. 2). Initially, EMIS database was designed with Microsoft Access which could not hold a lot of data and for that matter was changed to oracle which is a web – based programme. Some of the endowed schools with internet facilities argue that a web – based EMIS would seriously be welcomed because, it had the tendency of reducing mistakes based on handwritings and also facilitate time management since the heads fill three copies of the questionnaires in their handwriting. Nevertheless, a web – based EMIS had the potential of conserving the utilisation of paper and thereby saving some money.

Most of the management tools also serve as databases. EMIS is no exception of this. ICT-based systems are particularly valuable in ensuring consistency of the information gathered and given to others (BECTA, 2000).

Cassidy (2005) asserts that, for all its potential use, the internet raised some serious issues related to access and data security. To him, the challenge was how to provide access while at the same time protecting the integrity of databases and the privacy rights of individuals. Even though one may agree with Cassidy's assertion, EMIS could always be in the position to acquire dedicated website to itself with the necessary securities in place.

During the first two phases of EMIS development, staff turnover and lack of capacity stood tall as a challenge. The intention during the first phase was that the regions would be able to collect data from the schools and enter it onto their computer system but this was fret by staff turnover and lack of

capacity hence, data continued to be entered at the central level. Yet again, in the second phase, there was a continual high turnover of staff once they were trained. As soon as the EMIS office staff acquired basic IT skills, they attracted much higher paid jobs in the private sector. This was compounded by the fact that considerable delays were experienced with data entry, data analysis and report generation. Under these constraints, the reports became irrelevant to key users by the time they were disseminated. The story according to Cassidy (2005), is not too different in Latin America and the Caribbean. Staff turnover typically took two forms: Staff who retire or change posts and staff who use newly acquired technical knowledge and skills to find employment in other places usually outside the education sector, but sometimes moving within education to another job. He further suggested that one should be able to plan for turnover due to retirement or changes in post as such changes typically follow known patterns and that dealing with turnover due to the unexpected departure of staff was more problematic. Contingency plans needed to be in place to deal with such turnover.

To add to the setbacks, initial data collection process covered only public schools and not the private ones. One major setback of EMIS could be linked to the software. Even though census data was captured for a number of years for some districts in the first phase, it was nearly impossible to analyse time series data because data had been stored on different databases. However, a related problem was that the initial database system was incompatible with databases being used by other systems. For instance, the payroll database contained information about teachers. Moreover, it was

impossible to cross reference any of this information with EMIS data due to the reason that the fields contained different coding. This again, prevented the system from accessing or integrating with data from other agencies (Example, West Africa Examinations Council (WAEC) and the Statistical Service. (Infodev, 2006). It was later replaced with a programme coded in oracle. Currently, EMIS uses the StatsEdu, SQL Server 2000 for its database.

Chung (2009) has emphasised that the EMIS software has been characterized as being in a fragile state with a short-term trajectory pointing towards collapse in a few years. External resources will be needed before the end of 2010 to avert this situation (p. 7).

Studies on databases in education and elsewhere

Studies on databases in education are few and far between. This is because databases have been taken for granted in education. (Connaway & Dickey, 2010, p. 4) As far as my study is concerned, one key study on databases in education was conducted recently by Connaway and Dickey (2010) but studies of databases in other disciplines have been conducted by some other authorities. Bell and Vernitski (2011) found that convenience has risen in importance in information-seeking processes. Their assertion supports the stance that "ease of discovery and access in getting to the information resources relevant to their needs, and in keeping themselves informed of events and publications in their fields, is critically important for researchers" (Proctor, Williams. & Stewart, 2010, p. 35). Today, there are a lot of electronic subscription resource databases accessible through libraries online and offline for timely academic research. However, Low (2003) observes that

"students continue to Yahoo and Google their way into a vast sea of data" (p. 30), not realizing that subscription research databases "help to guarantee a level of quality information that is not readily retrieved through open Internet searches" (p. 30). Likewise, Eden and Ofre (2010) noticed that "university undergraduates are often largely unaware of the myriad of information resources available to them in their university libraries, thereby relying on publicly accessible internet sites for their research information needs" (p. 16). Confirming these earlier observations, students have recently noted that their preferences for free web resources are fuelled by Google's familiarity ("Students in Their Own Words," 2010, para. 1, 2) and the perception that articles can be located faster on the Web than by using standard library research databases (para. 3). Even though databases in education through the web expound numerous useful advantages such as Learning Management Courses (LMC) and evaluation purposes, Bell and Vernitski (2011) again corroborate the fact that internet search engines are simultaneously liked and mistrusted.

Studies on databases have revealed that uses of databases are equally relevant in other fields of study. In the field of health, databases could be used for drug databases. Fox, Andrus, Hester and Byrd (2011) report that:

> A searchable drug database that is included on the documentation form allows quick identification of correctly spelled medications, which is critical for accurate reporting and data analysis. Schools should determine if a searchable drug database is available among documentation tool alternatives, and if a database is available, who is

responsible for keeping it up to date (p.11).

In their research Fox et al (2011) found out that the core of an intervention documentation tool should be a database to allow maximum flexibility in data capture, analysis, reporting and exporting.

Database management systems again is not only limited to computing. This is in consistence with Hochin, Kobayashi, Tsuji and Nomiya (2009) who found that archaeological data have also been managed by using computers and that as the database management system is usually used in the management of data on computers, archaeological data have been managed by using the database management system. Many archaeological database systems have been reported (Oikawa 1997; Hachimura 1997; Yokoyama, Chiba, 2002). Some systems have been in public on the web. Hochin (2009), explains that an archaeological database system, which retrieves archaeological data according to the retrieval condition, and displays the retrieval results in the list form and/or on maps, has been constructed. Hochin et al (2009) assert that archaeological data are often managed by using commercial or free database management system, e.g., ORACLE, MySQL, SQLite. One of the merits of the usage of database management system is the query functionality. Users can retrieve desired data by specifying retrieval condition. The data satisfying the retrieval condition are returned to the users.

In their paper, Why Don't Scientists Use Databases? Barrodale Computing Services Ltd. (n.d.) reported that most scientists seem to avoid using databases. In their report, they examined twelve of the principal reasons given by scientists for preferring flat files and/or more structured files such as

Net Common Data Format (NetCDF) or Hierarchical Data Format (HDF5). As cited in their report, Barrodale Computing Services Ltd. (n.d.) found that several authors (Maier & Vance; Gray; Buneman) have given reasons for this resistance. Some of the reasons include: there are no benefits to using a database for the sort of work I do; file systems are familiar to me, databases aren't; the data that I have collected in the past is all in files; The new data (I work with) comes to me in the form of files and files are easy to keep track of. Though their concerns may be legitimate because sometimes database management systems may give very poor performance for scientific data, Barrodale Computing Services (n.d.) are of the view that Database management systems do provide features that scientists should find appealing.

In particular, they include the ability to index data for faster retrieval; the ability to store data in a single place, thereby removing the artificial walls that separate data when it is stored in multiple files; the ability to easily add and remove attributes as they start to become, or cease to be interesting; and built in parallelism which is sometimes difficult to programme.

Summary of literature review

Some of the major issues raised in the review regarded databases. Databases were defined as an organised collection of logically related data and may be of any size and complexity. Some of the advantages identified included Minimal data redundancy, Improved data consistency, Improved data sharing and Increased productivity of application develop. Examples of some of the database management systems used are eSekolah of Malaysia, E-School Administrator of PEC School and OSIS of the University of Cape Coast and

University of Education, Winneba. Furthermore, the introduction and use of EMIS were expanded under the subheading, History of EMIS in Ghana. The history described EMIS as a system for the collection, integration, processing, maintenance and dissemination of data and information to support decision making, policy-analysis and formulation, planning, monitoring and management at all levels of an education system. By extension, it talked about the project which was established as far back as 1988 and later expanded. The three phases of EMIS development in Ghana were the pilot phase, the improvement of capacity and development of IT infrastructure phase, and the enhancement and expansion phase. The history also made mention of World Bank as the financier of the project.

With the strengths and advantages of EMIS, it was revealed that EMIS design in Ghana was an example of best practice for decentralised planning and budgeting, supporting reforms at various levels but challenges remain for successful implementation, notably in commitment, capacity development and dissemination. EMIS data was used in several ways, both for the government's sectoral policy and resource allocation and Ghana's proposal for the EFA and FTI. The World Bank's follow-on operation, EdSEP, identified and targeted districts using EMIS data. It thereby contributed to the improvements in Ghana's enrolments and learning outcomes in primary education which enabled Ghana to be included in the FTI. Decentralisation of EMIS system resulted in greater local utilisation of information with the centre now taking on support and quality assurance roles.

As part of the system's setbacks, early EMIS suffered from major

capacity constraints but the later introduction of a policy for fCUBE spurred on the development of increased capacity in relation to public institutions in the relevant sub-sectors. Software issues precluded time-series analysis and wastage of trained personnel slowed data processing. Also, issues bordering on ownership of information during the second phase pre-empted the decentralisation activities in the various EMIS offices. Head teachers perceived little benefit from school census activities whilst teachers in general saw EMIS as additional burden to the policy of continuous assessment. Other setbacks had to do with IT maintenance, the lack of web-based solutions, and staff turn over. General issues about the EMIS software were also touched. Finally, studies on databases in education and elsewhere were covered. It looked at areas such as archaeology and health where databases are used for to manage archaeological data and drug databases respectively.

The next chapter is chapter three. It covers themes under Methodology.

CHAPTER THREE

METHODOLOGY

This chapter gives a description of the procedures used in carrying out the study. The sub-headings under the chapter covered the following: Research Design, Population, Sampling and Sampling Procedure. Others were Instruments, Data Collection Procedure and Data Analysis.

Research Design

The study was a descriptive research survey. A descriptive research is one that specifies the nature of a given phenomenon. It determines and reports the way things are. Ary, Jacobs, & Razarieh, (1990), describe descriptive research studies as studies designed to obtain information concerning the current state of affairs. Their assertion is in conformity with Gay (1992) where he explains that descriptive research, involves collecting data in order to test hypotheses or answer research questions concerning the current status of the subject of the study. According to Best and Khan (1998), descriptive research is concerned with the conditions or relationships that exist, such as determining the nature of prevailing conditions, practices and attitudes; opinions that are held; processes that are going on; and/or trends that are developed. In addition to the earlier submissions, Gatumu (1998) is also of the view that descriptive surveys focus on determining the status of a defined population with respect to certain variables. Basically, the descriptive research

design was used in order to collect data through questionnaires to describe the nature of prevailing conditions, practices and attitudes; opinions that were held as well as trends that were developed and then report the reasons that informed the current status of awareness and utilisation of EMIS data in the Greater Accra Region.

Nonetheless, there are some difficulties that may come with the descriptive research, in that, it is not in itself comprehensive enough to provide answers to questions and cannot establish causes and effect relationship (Osala, 1991). Furthermore, according to Leedy (1985) “one of the most subtly and inevitable shortcomings of descriptive survey is the presence of bias” (p. 132) and especially when one uses questionnaires, questions must be clear to avoid ambiguity. The descriptive research design for this study was also qualitative in nature. Qualitative research, broadly defined, means "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Strauss & Corbin, 1990, p. 17). The type of qualitative research that was employed was a case study of the awareness and utilisation of EMIS in the Greater Accra Region. Yin (2003) defines a case study as a story about something unique, special, or interesting—stories can be about individuals, organizations, processes, programmes, neighbourhoods, institutions, and even events.

Population

According to Polit and Hungler (1996) a population is the entire aggregation of cases that meet a designated set of criteria, while Amedahe and Gyimah (2001) explain accessible population as the aggregate of cases that

conform to the designated criteria that are accessible to the researcher as pool of subjects for a study. They continued to explain a target population as the aggregate of cases about which the researcher would like to make generalisations. Thus, the target population is the units for which the information is required and actually studied.

The target population consisted of all personnel in the GES who were directly or indirectly involved in the use of EMIS in the Greater Accra Region. Specifically, the target population was made up of teachers in primary, junior high and senior high schools, heads of such schools. It also covered Inspectorate officers including circuit supervisors, human resource officers, planning officers, budget officers, EMIS officers and co-ordinators, district directors and the Greater Accra Regional Director of Education. It is worth pointing out that each unit of the target population was accessible in the present study.

Sample and Sampling Procedure

According to Asher (1995), the term sampling refers to strategies that enable the researcher to pick a subgroup from a larger group and then use this subgroup as a basis for making inferences about the larger group. One metropolis out of the two and two out of the six municipalities in the Greater Accra Region were purposively selected for the study. To be specific, the following directorates were sampled: Accra Metropolis, Ga South Municipality and Ga West Municipality. In addition, the Greater Accra Regional Education Directorate was also sampled purposively. Using the same technique, seven schools were sampled from the Accra Metropolis and

the two Municipalities. The decision to select the above directorates and schools were because of two reasons: They had well established EMIS units in the Greater Accra Region and also because I had proximity advantage to them. Table 1 gives a distribution of the sampled personnel used for the study:

Table 1: Distribution of samples used for the study

Sample	No
Head of EMIS, Greater Accra Region	1
Director of Education, Greater Accra Region	1
Planning officer of Education, Greater Accra Region	1
Human Resource officer of Education, Greater Accra Region	1
Metropolis/ Municipality/District EMIS officials	11
Metropolis/ Municipality/District Directors of Education	3
Metropolis/ Municipality/District, A.D. Planning officers of Education/ Statistics (EMIS Officer)	3
Metropolis/ Municipality/District, A.D. Finance & Administration of Education	3
Metropolis/ Municipality/District, A.D. Human Resource officers of Education	3
Metropolis/ Municipality/District, A.D. Supervision officers of Education	3
Metropolis/ Municipality/District Circuit Supervisors of Education	8
Officers-in-charge (OIC)	3
Heads of Schools (Primary, JHS and SHS)	7
Total	**48**

(Source: Field Data; November, 2010)

Instruments

The instrument used for the study was a questionnaire that was developed for the study. The questionnaire was used because the entire sample population for the study could read and write. A questionnaire consists of questions or statements related to the aims of the study, the research questions to be verified and answers to which the respondent is required to answer by writing. (Fraenkel & Wallen, 2000). Using the questionnaire as a survey instrument was vital because it does not allow the researcher to influence the respondent while ensuring the anonymity of the respondent. Other reasons for choosing the questionnaire is that it provides a fast way of collecting data and also known to be quite valid and reliable if well constructed. It also saves time and money and the data obtained are reliable because the responses are limited to alternatives stated. Although the questionnaire has a lot of advantages there are few disadvantages that are associated with it. That is, respondents may be unable or unwilling to provide the desired information since some of them may question the motives of the study. Again, the proper wording of question items is not easy since misunderstanding of the question items may contribute to a misrepresentation in the final analysis in a study. Attempts were made to minimise or eradicate any of the above limitations of the questionnaire.

The questionnaire was organised in seven sections of A to G. All the respondents were expected to answer questions from A, B, and C. In addition to that, Section G was available to them in case they wanted to make suggestions or provide additional information to the study. Sections E and F had question items that were exclusively for the respondents who were

Directors of Education and all EMIS/ Statistics Officers respectively. All question items were both open and closed ended.

Section A covered demographic information about the respondents. Sections B to F were each dedicated to each of the five research questions of the study. Sections B and D were Yes, No or I don't know question items.

A Likert Scale consisting of five responses representing respondents' options was used to collect data for Section C of the study. The responses were SA, A, N, D and SD representing Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree respectively. Respondents were required to indicate their opinions by ticking the appropriate column only with 'X' for each statement. Section D consisted of open ended question items where respondents were required to provide their own answers.

Data Collection Procedure

The instrument was self-administered to the respondents. A letter of introduction was presented to the regional, metropolitan, municipal, district directors of education and heads of all the institutions where I had my respondents. The letter was shown to respondents in some situations where they requested to verify my identity.

Respondents were briefed upon the administration of the questionnaires to them about what it was. I administered the questionnaires personally and waited to collect them after the respondents had completed them. In some cases, respondents asked that the questionnaires be collected at a later date that was agreed with them. To promote an easy tracking system of the questionnaires, they were given serial numbers and upon collection, the

questionnaires were quickly glanced through to see if all questions were answered. The entire administration and collection process of the instrument covered approximately five weeks, that is, from 1st November to 6th December, 2010. All completed questionnaires were retrieved ensuring hundred percent rate of return.

Data Analysis

Data collected, was organised, edited, and coded for analysis using the Statistical Package for Social Sciences (SPSS) version 18.0. The design of the interface for data analysis was done from the variable view of SPSS data editor where, each of the question items of the instrument was given an exclusive name. The possible responses of each question item were given a unique code. For example, question items that had three possible responses (A), (B) and (C) were assign 1, 2, and 3 respectively. This was done to promote easy data inputting and analysis.

Responses from question items in the Instrument that were open ended were first categorised and coded sub-headings. Responses for the sub-headings were aggregated and the percentages and frequencies computed. Cross tabulations of some variables were also carried out. For example, cross tabulation of the distribution of EMIS Office Respondents' positions and their Office locations.

In Section C, where respondents were expected to give their opinion on the extent to which EMIS objectives were met, a five point Likert scale of SA, A, N, D and SD representing Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree respectively was used.

The SPSS data view was used for data inputting and analysis. Data analysed were presented in descriptive statistics; frequency and percentages.

This chapter, Methodology, gave a description of the procedures used in carrying out the study under the following sub-headings under: Research Design, Population, Sampling and Sampling Procedure. The rest were Instrument, Data Collection Procedure and Data Analysis. Chapter four is the next chapter. In that chapter, the results are reported and discussed.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents the findings of the study and their discussion. The study examined the awareness and utilisation of EMIS by stakeholders like educators, parents and guardians, educational consultants, students and the public in the Greater Accra Region. The chapter is organized into two sections. The first section deals with analysis of respondents' demographics. This was done to show the background of those who provided responses to questions on the awareness and utilisation of EMIS by stakeholders in the Greater Accra Region. Section two shows analyses of the given responses themselves. The data was analysed using the Statistical Package for Social Scientists (SPSS) 18.0.

Section A: Demographics of Respondents

It is important to know the background characteristics of the respondents in the study so that I can make informed decisions about the awareness and utilisation of EMIS in the Greater Accra Region. Table 2 indicates the distribution of respondents according to their office locations and towns.

Table 2: Distribution of Respondents according to their office locations and towns

Location of office	Town	Frequency	Percentage (%)
Region	Accra	6	12.5
Metropolis	Accra	17	35.4
Municipality	Amasaman	14	29.2
Municipality	Weija	11	22.9
Total		**48**	**100**

(Source: Field Data; November, 2010)

Table 2 gives the distribution of respondents according to their office locations and towns. Six (12.5%) represented the Regional Education Office in Accra whilst 17(35.4%) represented the Accra Metropolitan Education Office. Both Amasaman and Weija Municipal Education Offices were represented by 14(29.2%) and 11(22.9%) respectively. All the office locations are within the Greater Accra Region.

Table 3: Distribution of Respondents by their positions held in the Ghana Education Service (GES)

Position in the office	Frequency	Percentage (%)
Director	4	8.3
Regional EMIS/ Statistics Officer	1	2.1
EMIS/ Statistics Officer	11	22.9
Regional Chief Inspector	1	2.1
Asst. Dir. HRM	4	8.3
Asst. Dir. Finance & Administration	3	6.3

Table 3 Continued

Position in the office	Frequency	Percentage (%)
Asst. Dir. Supervision	3	6.3
Officer-in-Charge (OIC)	3	6.3
Circuit Supervisor	8	16.7
Asst. Director – Statistics (EMIS)	3	6.3
Headteachers (Primary)	3	6.3
Headmasters (JHS)	3	6.3
Headmaster (SHS)	1	2.1
Total	**48**	**100**

(Source: Field Data; November, 2010)

As shown in Table 3, the distribution of respondents by positions held in the Ghana Education Service is given. The table shows that the respondents held varied positions in the GES and this diversity contributed to the richness of the data collected for the study.

Table 4: Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	28	58..3
Female	20	41.7
Total	**48**	**100**

(Source: Field Data; November, 2010)

Table 4 illustrates the distribution of respondents by gender. From the table, 28(58%) respondents were males as against 20(41.7%) females suggesting that, on the face of it, more males than females were involved in

EMIS in the district sampled for the study.

Section B: The Research Questions and their outcomes

This section analyses the major findings of the study. The various analyses are organised to answer the specific research questions mentioned earlier on in chapter one of this study. There are five research questions in all.

Research Question 1: What core objectives of EMIS are perceived as being met?

The objectives of EMIS are five in number and the above research question was to find out whether they were perceived to be met. Data for this research question were gathered from respondents through a set of questions that centred on the objectives of EMIS. Responses in Tables 5 to 9 represent the opinion of the respondents. They were asked to rate whether the objectives of EMIS were perceived to be met in their own view based on a five point Likert scale of Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), Strongly Disagree (SD) on items provided. The purpose was to determine whether the objectives of EMIS were seen to be met by the respondents.

Table 5: EMIS is an efficient management information system in the Ghanaian educational system

Item	Frequency	Percentage (%)
Strongly Agree	19	39.6
Agree	24	50.0
Neutral	2	4.2
Disagree	3	6.3
Total	**48**	**100**

(Source: Field Data; November, 2010)

According to Table 5, 19(39.6%) respondents supported Strongly Agree, 24(50.0%) were for Agree whilst 2(4.2%) were neutral. The rest 3(6.3%) disagreed to the question item. Thus, as many as 43(89.6%) thought EMIS was an efficient system. One can say that the respondents were generally positive about EMIS as a result of its perceived ability.

Table 6: EMIS has been contributing significantly to policy formulation and operational planning

Item	Frequency	Percentage (%)
Strongly Agree	16	33.3
Agree	26	54.2
Neutral	6	12.5
Total	**48**	**100**

(Source: Field Data; November, 2010)

From Table 6, 16(33.3%) respondents strongly agreed to the assertion that EMIS has been contributing significantly to policy formulation and operational planning, but 26(54.2%) of the total respondents agreed to the assertion whilst 6(12.5%) were neutral. Thus, the respondents were positive about the ability of EMIS to contribute to policy formulation and operational planning.

Table 7: EMIS contributes to monitoring of targets through periodic review by stakeholder participation

Item	Frequency	Percentage (%)
Strongly Agree	10	20.8
Agree	31	64.6

Table 7 Continued

Item	Frequency	Percentage (%)
Neutral	7	14.6
Total	**48**	**100**

(Source: Field Data; November, 2010)

According to Table 7, while 10(20.8%) respondents were for strongly agree the majority 31(64.6%) only agreed and minority 7(14.6%) were neutral. Thus, as many as 41 (85.4%) thought EMIS contributes to monitoring of targets through review by stakeholders participation. One can say that the respondents were generally positive about the ability of EMIS to contribute to monitoring of targets through review by stakeholders participation.

Table 8: EMIS is capable of giving information about disadvantaged areas in education

Item	Frequency	Percentage (%)
Strongly Agree	23	47.9
Agree	24	50.0
Disagree	1	2.1
Total	**48**	**100**

(Source: Field Data; November, 2010)

From Table 8, 23(47.9%) respondents strongly agreed to the question while 24(50.0%) agreed and 1(2.1%) disagreeing. Since 47(97.9%) of the respondents agree that EMIS is capable of giving information about disadvantaged areas in education, one can say that respondents were generally positive about EMIS perceived capability.

Table 9: EMIS data helps in budget allocations by government and other donor bodies for the education sector

Item	Frequency	Percentage (%)
Strongly Agree	19	39.6
Agree	22	45.8
Neutral	5	10.4
Disagree	2	4.2
Total	**48**	**100**

(Source: Field Data; November, 2010)

From Table 9, 19(39.6%) respondents responded Strongly Agree and 22(45.8%) responded Agree with the 5(10.4%) responding Neutral while the rest of the respondents representing 2(4.2%) disagreed to the statement that EMIS data helps in budget allocations by government and other donor bodies for the education sector. Thus, the respondents were positive about the ability of EMIS data to contribute to policy formulation and operational planning.

In sum, the majority of the respondents did not only see EMIS as an efficient management information system in the Ghanaian educational system but also thought it has been contributing significantly to policy formulation and operational planning. Furthermore, other objectives of EMIS where it contributes to monitoring of targets through periodic review by stakeholder participation and where it is capable of giving information about disadvantaged areas in education were generally perceived to be met by respondents. Again, another objective that the majority of respondents perceived to be met is EMIS data helps in budget allocations by government

and other donor bodies for the education sector. Finally, it can be concluded that the general perception of the respondents was that all the objectives of EMIS were being met. Their responses showed that they were positive about the extent to which the objectives were met thereby answering Research Question 1.

Like the respondents in this study, Infodev. (2006) reports that EMIS plays an important role in helping the Ministry of Education and Science to formulate strategic policies, develop operational plans and monitor subsequent progress towards pre-defined targets. Examples of such policies are the formulation of the Education Strategic Plan of Ghana, free school uniforms for basic public schools and the abolishment of the shift system in the Accra Metropolitan Area. As cited in Mangesi (2007), the deployment and exploitation of ICT in education is one of the 14 priority areas of the national ICT policy in Ghana. The deployment and exploitation may not easily be realised if ICT structures that keep track on educational data are not effective hence the claim goes to affirm this believe that Information and Communication Technology has become an important part of most organisations and businesses these days (Zhang & Aikman, 2007).

In terms of policy formulation and operation, EMIS is supporting reforms that are occurring in other parts of the education system, especially in non-formal education and tertiary education. (Infodev, 2006). One such area in the educational system where EMIS is seen as giving support is the provision of data on deprived schools and this is very visible through donations by NGOs and corporate organisations. Standard Chartered Bank on

January 15, 2009 reported on its website as having provided 5000 seating places (desk) for 26 schools across 7 regions under the Future Leaders Programme in support of Ghana@50. http://www.standardchartered.com/gh/ latest- news/01-09-standard -chartered-brings-benefit-to-over-5000-deprived-school-kids/en/

Again, through EMIS data collected, the Bawku West District Assembly in the Upper East Region was able to distribute consignment of educational materials to deprived basic schools as part of the government programme to improve education. The materials include 5,042 school uniforms, 159,486 exercise books and 1,000 dual desks. In addition and with the data from EMIS, the Bawku West District was able to report on the enrolment figures at the basic school level which went up from 26,284 in the 2009-2010 academic year to 30,000 in the 2010-2011 academic year. http://www.newtimes.com.gh/story/2834. With these donations through data gathered from EMIS, it will not be misplaced to agree with Makau (1990) who says that ICT can be viewed as a vehicle for improving existing school curricula and school management processes.

EMIS becomes very useful to the Ministry of Education because it gives data on GES which is estimated to be taking around eighty per cent of the Ministry's budget for education (Infodev. 2006). This point raised goes to support the respondents' claim in Table 9 where 19(39.6%) and 22(45.8%) respondents Strongly Agree and Agree respectively to the assertion that EMIS data helps in budget allocations by government and other donor bodies for the education sector.

From the objectives of EMIS, one can draw a link between policies and development. This view endorses the background that EMIS data was used in several ways, both for the government's sectoral policy and resource allocation, and Ghana's proposal for the Education for All Fast Track Initiative. This was recorded in the Ghana Basic Education Sector Improvement Project (P000975) which lasted from 1996 to 2001 (Infodev., 2006). To conclude, the objectives of EMIS provide the framework for education decision to be based upon sound and well informed evidence and that it would be wrong to assume that EMIS is not used by governments at different levels to inform policy (Cambridge Education, 2006). In my view and in the view of the respondents, the EMIS objectives are met, although much more can be desired if EMIS is known. The next paragraph looks at Research Question 2.

Research Question 2: Who knows about EMIS?

Knowing EMIS ought to go beyond its name. The research question seeks to know whether respondents know about EMIS. Respondents' knowledge about EMIS implies knowledge about its core functions and importance. From the questionnaire, items number four to ten solicited for responses from the respondents to answer research question 2 (See Appendix L). The various question items were asked based on the functions and importance of EMIS. Tables 10 and 11 present the various responses under research question 2. While responses in Table 10 were Yes or No, Table 11 had six Yes or No or I don't know question items. Table 10 presents responses about respondents whether they had knowledge about EMIS.

Table 10: Respondents' knowledge about EMIS

Knowledge about EMIS	Frequency	Percentage (%)
Yes	48	100.0
No	0	0.0
Total	**48**	**100**

(Source: Field Data; November, 2010)

From Table 10, all the 48(100.0%) respondents know about EMIS. This means that EMIS is not a new concept among respondents. It also presupposes that their knowledge about EMIS goes beyond the mere name EMIS. Table 11 describes the knowledge level of respondents on the importance of EMIS.

Table 11: Knowledge of respondents about importance of EMIS

Item	Frequency	Yes	No	I don't know
EMIS is used for school mapping and school census	48	48(100.0%)	0 (0.0%)	0 (0.0%)
EMIS is of value to educational administration	48	48(100.0%)	0 (0.0%)	0 (0.0%)
EMIS is of value to supply of school resources	48	44(91.7%)	2(4.2%)	2(4.2%)
EMIS is of value to governance of schools	48	47(97.9%)	1(2.1%)	0 (0.0%)
EMIS is an educational management tool	48	46(95.8%)	2(4.2%)	0(0.0%)

Table 11 Continued

Item	Frequency	Yes	No	I don't know
EMIS is an educational database tool	48	48(100.0%)	0 (0.0%)	0 (0.0%)

(Source: Field Data; November, 2010)

From Table 11, it can be observed that respondents know beyond the name EMIS. All respondents, according to the table, agreed that EMIS is used for school mapping, school census and is also of value to educational administration. This confirms knowledge of respondents about some of the fundamental importance of EMIS. Knowing EMIS by respondents also suggests their involvement with some EMIS operations because, in 2006, there were announcements in all the education offices from the MOES that the data from school mapping would be used as the basis for developing district operational plans. (Infodev, 2006).

Majority of the respondents 44(91.7%) were of the view that EMIS is of value to supply of school resources but 2(4.2%) disagreed to the assertion. The allocation of scarce resources is one of the fundamental tasks of management (Ministry of Education and Sports, 2005). Based on this, one may agree with Ellison (2004) who claims that administrative applications of EMIS support direct functions – such as the allocation of teachers or funds. Information on educational issues is important since it has implications for resource allocation and for determining where support is needed most (Infodev. 2006). Data from EMIS is what is used for school resources

allocation including staffing, textbooks, and school infrastructure. As a confirmation to the later, Infodev (2006) reported that in the higher education sector, EMIS also influences decision about resource allocation. Recently, it was reported that out of the 60 basic schools in the Wa West district of the Upper West region, 44 of them hold classes under trees, but through EMIS data, the District Director of Education for Wa West, Prince Dhari, was able to report this for their share of resource allocation. http://www.ghanadistricts.com/news/?read=8754.

As cited in Mason and Swanson (1979), according to Churchman, management is responsible for allocating resources in order to achieve an organization's purpose:

> In organizations, the decision-making function is the responsibility of management. In order to execute its responsibility, an organization's management requires information about the resources available to it and their relative effectiveness for achieving the organization's purpose. Resources are acquired, allocated, motivated and manipulated under the manager's control. They include people, materials, plant and equipment, money, and information (p. 235).

However, the 2(4.2%) who disagreed to the statement under discussion may have taken that stand because they may have not seen or think EMIS is either doing little in that area or the system could be improved to make EMIS valuable to supply of school resources. This in a way suggests the EMIS can be improved in the area of supply of school resources.

From Table 11, 47(97.9%) respondents think that EMIS is of value to

governance of schools as opposed to 1(2.1%) who are in disagreement with this assertion. Governance is the action or style about control of policy and affairs of a state, organisation or people (Oxford Dictionary, 2006, p. 391). A relationship between governance and decision making can be established. Management Information Systems provide regular information to managers to allow them make decisions based on data rather than guesses. Landis-Steward maintains that certain data and analysis can play a very useful role in making good decisions about where and when to use human and other resources to achieve the mission of an organization. Landis-Steward continues to assert the fact that managers with quality MIS are able to make decisions from an informed stance rather than a haphazard one. This supports the view of the majority 47(97.9%) respondents who see EMIS to be of value to governance of schools.

From Table 11, 46(95.8%) respondents agreed that EMIS is an educational management tool as against 2(4.2%) respondents. To support the previous, Moses and Wium (n.d.) assert that the management of an educational department is traditionally complex and fraught with details and that an effective EMIS can go far to support the development of a management framework. On the other hand, they again made an assertion that supports the position of the 2(4.2%) respondents who disagreed that EMIS is an educational management tool. To them, technology has provided many new tools and options for ministries and schools but can easily be misconstrued as being the final product. EMIS may just be riding on the back of technology but not an educational management tool.

From Table 11, all 48(100.0%) respondents agreed that EMIS is an educational database tool. At present the data available to most districts derives from three sources: The Annual School Census, The School Map (every four years), The poverty Maps drawn by all the districts. (Ministry of Education and Sports, 2005 p. 31). The Ministry of Education sees the Annual School Census as the most important source of information regarding the situation of every school because information collected through the media contributes to the Education Management Information System of every region (Ministry of Education and Sports, 2005). Educational data through the Annual School Census is collected under the following headings: School Identification, School Profile and Organisation, School Infrastructure, School Management and Finance, School Building, Characteristics of School's Materials and Equipment and Teacher Profiles. (See Appendix N – P). Under these headings data collected is analysed and reports generated for various use according to need.

On the whole, the individual question items sought to answer research question 2. Based on the responses of the respondents, the conclusion drawn is that the following individuals and institutions know EMIS:

1. Ministry of Education
2. Directors of Regional/ Metropolitan/ Municipal/ District of Education
3. Ghana Education Service (Deputy Directors, Scheduled Officers)
4. Metropolitan/ Municipal/ District Assembly
5. Teachers

6. Parents
7. Heads of Schools
8. Circuit Supervisors
9. Non-Governmental Organisations
10. Researchers
11. UNESCO
12. Politicians
13. Health providers

The above individuals and institutions may know EMIS because they are users of EMIS and this is in agreement with Davis, Bagozzi, & Warshaw (1989) who say that the more useful a user perceives a particular technology the better they engaged in its use.

Other individuals or institutions may have known EMIS offices better but for the preference in the usage of the name "Statistics Offices" in place of "EMIS Office" and "Statistics Officer" in place of "EMIS Officer". The net would have been wider if EMIS offices had magazines, bulletins or newsletters to showcase some of their activities. A dedicated website for EMIS may also increase the number individuals and institutions who know EMIS but it has no website yet. Research Question 3 sought to find out about who uses EMIS and how they use it.

Research Question 3: Who uses EMIS and how does he/she use it?

This research question was designed to help the researcher identify users of EMIS. The data below shows the various categories of institutions/ individuals whom the respondents know to be users of EMIS. This approach

was used to gather the data because EMIS officers know who uses EMIS. However, not all EMIS officers know all those who use EMIS hence the other respondents also gave data on the users of EMIS they know since they all worked closely together in the education sector. Nonetheless, if they did not know that a particular category of people use EMIS they were allowed to say they do not know. Most of the user categories were identified during the pilot study. In the questionnaire, respondents were asked to identify the various institutions/ individuals they know to be users of EMIS by answering Yes or No or I don't know to each question.

Table 12: Users of EMIS

S/N	Users of EMIS	Yes	No	I don't know
1	Ministry of Education	48(100%)	0 (0.0%)	0(0.0%)
2	Directors of Region/ Metropolitan/ Municipal/ District Education offices	48(100%)	0 (0.0%)	0(0.0%)
3	GES (Dep. Directors, Scheduled Officers, etc.)	44(91.7%)	0 (0.0%)	4(8.3%)
4	Metropolitan/ Municipal/ District Assembly	41(85.4%)	1(2.1%)	6(12.5%)
5	Teachers	24(50.0%)	14(29.2%)	10(20.8%)
6	Parents	10(20.8%)	21(43.8%)	17(35.4%)
7	Headmasters/ Headteachers	35(72.9%)	7(14.6%)	6(12.5%)
8	Circuit supervisors	38(79.2%)	5(10.4%)	5(10.4%)
9	NGO	39(81.3%)	4(8.3%)	5(10.4%)

Table 12 Continued

S/N	Users of EMIS	Yes	No	I don't know
10	Researchers	39(81.3%)	1(2.1%)	8(16.7%)
11	UNESCO	35(72.9%)	0(0.0%)	13(27.1%)
12	Others (Plan Ghana, Journalists, Individuals)	8(16.7%)	–	8(83.3%)

(Source: Field Data; November, 2010)

Table 12 gives the distribution of respondents on the users of EMIS. These users are institutions/ individuals whom the respondents know to be users of EMIS. All the 48(100%) respondents indicated that the Ministry of Education and the Directors of Ghana Education Service (Region/ Metropolitan/ Municipal/ District) use EMIS. While 44(91.7%) specified that various officers of the Ghana Education Service use EMIS, the remaining 4(8.3%) said they did not know about that. The table further explains that while 41(85.4%) of the respondents stated that they know that the Metropolitan/Municipal/District Assembly use EMIS 1(2.1%) did not think so and 6(12.5%) did not know about it. Furthermore, 24(50.0%) respondents said teachers are users of EMIS with 14(29.2%) thinking otherwise. The rest 10(20.8%) of the total respondents did not know whether teachers are users of EMIS. With parents, 10(20.8%) of the total respondents think parents are users of EMIS while 21(43.8%) and 17(35.4%) disagreed and did not know respectively. Thirty-five (72.9%) as opposed to 7(14.6%) respondents also thought Headmasters/ Headteachers are users of EMIS. But 6(12.5%) answered I don't know while 38(79.2%) respondents think Circuit Supervisors

use EMIS with 5(10.4%) each of respondents saying no and I don't know. Furthermore, while 39(81.3%) respondents said yes to NGOs being users of EMIS, 4(8.3%) and 5(10.4%) said no and I don't know respectively to the assertion. While 39(81.3%) asserted that researchers used EMIS, 1(2.1%) did not agree to that with 8(16.7%) saying they did not know. While 35(72.9%) respondents agreed that UNESCO use EMIS, 13(27.1%) did not know. Finally, 8(16.7%) respondents mentioned some other users of EMIS such as Plan Ghana, journalists and individuals.

In Table 13, the totals show the number of respondents who knew that the institution/ individuals under discussion use EMIS. All 48(100%) respondents knew the Ministry of Education use EMIS but gave different main uses of EMIS by the Ministry of Education.

Table 13: Perceived Main Uses of EMIS by the Ministry of Education

Uses of EMIS	Frequency	Percentage (%)
For planning, budgeting monitoring and evaluation of educational indicators	14	29.2
For the allocation of resources (infrastructure, personnel and logistics)	9	18.8
For policy formulation and implementation	11	22.9
For the general management of the educational sector	5	10.4
Other (database, reports, etc)	9	18.8
Total	**48**	**100**

(Source: Field Data; November, 2010)

Fourteen (29.2%) respondents know that the MOE use EMIS for planning, budgeting monitoring and evaluation of educational indicators while 9(18.8%) know that they use it for the allocation of resources (infrastructure, personnel and logistics). While 11(22.9%) know that they use EMIS for policy formulation and implementation, 5(10.4%) also know that they use it for the general management of the educational sector. The remaining 9(18.8%) know other uses such as database and reports by the Ministry of Education. Thus, one can say that respondents generally perceive the Ministry of Education as users of EMIS mostly for planning, budgeting, monitoring and evaluation of educational indicators and for policy formulation and implementation.

The totals in Table 14 show the number of respondents who knew Directors of Regional/ Metropolitan/ Municipal/ District Education Offices use EMIS. All 48(100%) respondents know the Directors of Regional/ Metropolitan/ Municipal/ District Education use EMIS but gave different main uses of EMIS by Directors they know use the system.

Table 14: Main Use of EMIS by Directors of Regional/ Metropolitan/ Municipal/ District Education Offices

Uses of EMIS	Frequency	Percentage (%)
For planning, budgeting monitoring and evaluation of educational indicators	12	25.0
For the allocation of resources (infrastructure, personnel and logistics)	11	22.9

Table 14 Continued

Uses of EMIS	Frequency	Percentage (%)
For policy formulation and implementation (infrastructure, personnel and logistics)	4	8.3
Serves as database/ inventory (for resources, personnel and students)	8	16.7
For efficient management including training and remediation purposes	9	18.8
Others (Reports, Annual Review reports, etc)	4	8.3
Total	**48**	**100**

(Source: Field Data; November, 2010)

While 12(25.0%) respondents know that the Directors of Education use EMIS for planning, budgeting monitoring and evaluation of educational indicators, 11(22.9%) know that they use it for the allocation of resources (infrastructure, personnel and logistics). According to 4(8.3%) respondents, they know that the Directors use EMIS for policy formulation and implementation (infrastructure, personnel and logistics) whiles 8(16.7%) know that EMIS serves as database/ inventory (for resources, personnel and students) for them. Nine (18.8%) know that the use of EMIS by Directors is for efficient management including training and remediation purposes while 4(8.3%) know other uses by the Directors of Education. One of the other uses for EMIS is for Annual Education Review Report.

From Table 14, it can be concluded that most respondents perceive planning, budgeting, monitoring and evaluation of educational indicators as

one of the main use of EMIS by Directors of Regional/ Metropolitan/ Municipal/ District Education Offices whiles their use of EMIS for policy formulation and implementation and annual review reports is only perceived by few of the respondents as some main uses of EMIS. Naturally, one would have expected that Directors of Education are perceived to mainly use EMIS for their reports such as annual review reports.

The totals in Table 15 show the number of respondents who know Ghana Education Service (Deputy Directors and other Scheduled Officers etc.) use EMIS. Forty – four out of 48 respondents knew the Ghana Education Service (Deputy Directors and other Scheduled Officers etc.) use EMIS but gave different uses of EMIS by Ghana Education Officers they know use the system.

Table 15: Perceived Main Uses of EMIS by Ghana Education Service (Deputy Directors and other Scheduled Officers etc.)

Uses of EMIS	Frequency	Percentage (%)
For planning, budgeting, monitoring and evaluation of educational indicators	14	31.8
For the allocation of resources (infrastructure, personnel and logistics)	10	22.7
Disbursement of capitation grant	3	6.8
Policy implementation and interpretation	6	13.6
For efficient and strategic school management including training and remediation purposes	5	11.4

Table 15 Continued

Uses of EMIS	Frequency	Percentage (%)
Others (E.g. Baseline exams)	6	13.6
Total	**44**	**100**

(Source: Field Data; November, 2010)

From Table 15, respondents know that 14 (31.8%) use EMIS for planning, budgeting, monitoring and evaluation of educational indicators, 10 (22.7%) for the allocation of resources (infrastructure, personnel and logistics) and 3 (6.8%) for the disbursement of capitation grant. Other uses that they know are that, 6 (13.6%) know that they use it for policy implementation and interpretation whiles 5 (11.4%) for efficient and strategic school management including training and remediation purposes. Thus, majority of 24(54.5%) thought planning, budgeting, monitoring and evaluation of educational indicators and the allocation of resources were some of the main uses of EMIS by Ghana Education Service.

Table 16 presents responses of respondents who know about the uses of EMIS by the Metropolitan/Municipal/District Assemblies. Forty-one out of 48 respondents know some of their perceived uses. Additionally, they also gave different perceived uses of EMIS by the Assemblies they know about.

Table 16: Perceived Main Uses of EMIS by Metropolitan/ Municipal/ District Assemblies

Uses of EMIS	Frequency	Percentage (%)
For planning, budgeting, monitoring and evaluation of educational indicators	9	22.0

Table 16 Continued

Uses of EMIS	Frequency	Percentage (%)
For allocation of resources and also serves as resource inventory (infrastructure, capitation grant and logistics)	19	46.3
Policy formulation, implementation and projections	8	19.5
Others (Political interventions, to check status of drop-rate, etc)	5	12.2
Total	**41**	**100.0**

(Source: Field Data; November, 2010)

From Table 16, 9(22.0%) know that the Assemblies use EMIS for planning, budgeting, monitoring and evaluation of educational indicators whereas 19(46.3%) respondents also know that the Assemblies use EMIS for allocation of resources and also serves as resource inventory (infrastructure, capitation grant and logistics) with 8(19.5%) knowing that EMIS is used for policy formulation, implementation and projections by the Assemblies. Since the majority of 19(46.3%) respondents thought the main uses of EMIS by Metropolitan/Municipal/District Assemblies is the allocation of resources and also resource inventory (infrastructure, capitation grant and logistics), one can perceive the allocation of resources and resource inventory for education by Metropolitan/Municipal/District Assemblies as the main use of EMIS.

In Table 17, the totals show the number of respondents who know that the teachers use EMIS. Twenty – four out of 48 respondents knew teachers

use EMIS but gave different uses of EMIS by teachers they know use the system.

Table 17: Perceived Main Uses of EMIS by Teachers

Uses of EMIS	Frequency	Percentage (%)
For checking of available vacancies for possible transfers or appointments	7	29.2
For monitoring and evaluating their schools performance	10	41.7
Policy implementation	5	20.8
Educational database	2	8.3
Total	**24**	**100.0**

(Source: Field Data; November, 2010)

According to Table 17, 7(29.2%) and 10(41.7%) of the total respondents know that teachers use EMIS for checking of available vacancies for possible transfers or appointments and also for monitoring and evaluating their schools' performance respectively. Five (20.8%) of the total respondents know that teachers use EMIS for Policy implementation. For teachers' main uses of EMIS, it can be concluded that they use EMIS for monitoring and evaluating their schools performance and for checking of available vacancies for possible transfers or appointments. Since 17(70.9%) uphold these views, one can say that teachers mainly use EMIS for monitoring and evaluating their schools performance and for checking of available vacancies for possible transfers or appointments.

Table 18 shows the totals of the number of respondents who knew that

the individuals under discussion use EMIS. Ten out of 48 respondents knew parents use EMIS but gave different uses of EMIS by parents they know use the system. This shows that EMIS is probably not well known among parents hence its minimal usage by parents.

Table 18: Perceived Main Uses of EMIS by Parents

Uses of EMIS	Frequency	Percentage (%)
For school selection (Senior High Schools) purposes for their wards	3	30.0
Serves as a status report for their wards' schools (facilities and performance)	2	20.0
Use EMIS report as basis for support to schools and learners (Example is infrastructural development)	5	50.0
Total	**10**	**100**

(Source: Field Data; November, 2010)

According to Table 18, while 3(30.0%) of the respondents know that parents use EMIS for school selection (Senior High Schools) purposes for their wards, 2(20.0%) know that EMIS serves as a status report for the schools (facilities and performance) their wards attend. Finally, 5(50.0%) know that parents use EMIS report as basis for support to schools and learners (Example is infrastructural development). From Table 18, one can easily say that respondents perceive parents to be rare users of EMIS. Even though they may be rare users of EMIS, 5(50%) think that, parents who use EMIS use its report as basis for support to schools and learners.

Table 19 shows the totals of the number of respondents who knew that the individuals under discussion use EMIS. Thirty – five out of 48 respondents knew Heads of Schools use EMIS but gave different uses of EMIS by Heads of Schools they know use the system.

Table 19: Perceived Main Uses of EMIS by Headmaster/ Headmistress and Headteachers

Uses of EMIS	Frequency	Percentage (%)
For planning, budgeting, monitoring and evaluation of educational indicators of their schools	10	28.6
For the allocation of resources (infrastructure, personnel and logistics)	7	20.0
Gives status report to heads on their schools performance	6	17.1
Serves as database/ inventory (for resources, personnel and students)	4	11.4
For efficient management including training and remediation purposes	5	14.3
For assessment of strengths and weaknesses of their schools	3	8.6
Total	**35**	**100**

(Source: Field Data; November, 2010)

Ten (28.6%) respondents know that Heads of schools use EMIS for planning, budgeting, monitoring and evaluation of educational indicators of their schools with 7(20.0%) knowing that they use it for the allocation of

resources (infrastructure, personnel and logistics). Other uses that they know include 6(17.1%) for status report to heads on their schools performance, 4(11.4%) for purposes of database/ inventory (for resources, personnel and students) and 5(14.3%) for the efficient management including training and remediation purposes. Furthermore, 3(8.6%) know that heads of schools use EMIS for assessment of their schools' strengths and weaknesses. From Table 19, 17(48.6%) respondents thought Headmasters mainly use EMIS for planning, budgeting, monitoring and evaluation of educational indicators of their schools, and for the allocation of resources. These main uses of EMIS by headmasters have the potential of increasing their work outputs.

In Table 20, the totals show the number of respondents who knew that the Circuit Supervisors use EMIS. Thirty – eight out of 48 respondents knew Circuit Supervisors use EMIS but gave different uses of EMIS by Circuit Supervisors they know use the system.

Table 20: Perceived Main Uses of EMIS by Circuit Supervisors

Users of EMIS	Frequency	Percentages (%)
For planning, budgeting, monitoring and evaluation of educational indicators of their schools	7	18.4
For the allocation of resources (infrastructure, personnel and logistics)	7	18.4
Serves as status report to Circuit Supervisors in their circuits	3	7.9

Table 20 Continued

Users of EMIS	Frequency	Percentages (%)
Serves as database/ inventory (for resources, personnel and students)	12	31.6
For managing and mapping strategies for effective supervision and visits	9	23.7
Total	**38**	**100**

(Source: Field Data; November, 2010)

Table 20 shows that 7(18.4%) respondents know that Circuit Supervisors use EMIS for planning, budgeting, monitoring and evaluation of educational indicators of their schools. Again, 7(18.4%) know that they use it for the allocation of resources (infrastructure, personnel and logistics) whiles 3(7.9%) know that it serves as status report to Circuit Supervisors in the various educational circuits. Again, 12(31.6%) also know that EMIS serve as a database/ inventory (for resources, personnel and students) and finally 9(23.7%) know that they use it for managing and mapping strategies for effective supervision and visits in the circuits. The data presented in Table 20 indicates that Circuit Supervisors have varied uses of EMIS such as planning, resource inventory and for managing and mapping strategies for effective supervision and visits.

The next table is Table 21 and in the table, the totals show the number of respondents who know that Non-Governmental Organisations (NGOs) use EMIS. Thirty–nine out of 48 respondents know NGOs use EMIS but gave different uses of EMIS by NGOs they know use the system.

Table 21: Perceived Main Uses of EMIS by Non-Governmental Organisations (NGOs)

Uses of EMIS	Frequency	Percentage (%)
To offer assistance/ support where necessary (Example, infrastructure)	19	48.7
To offer free training, Teaching and Learning Materials (TLMs) and Awards to deserving students and workers in the educational sector	7	17.9
Embark on enrolment and expansion drive for communities that are experiencing school drop-outs	6	15.4
Use EMIS data to solicit for support to build capacity and to also advocate for improvement where educational standard are falling	7	17.9
Total	**39**	**100**

(Source: Field Data; November, 2010)

In Table 21, 19 (48.7 %) respondents know that NGOs use EMIS to enable them offer assistance/ support where necessary (Example, infrastructure). Seven (17.9%) know that NGOs use EMIS to enable them offer free training, Teaching and Learning Materials (TLMs) and awards to deserving students and workers in the educational sector. Furthermore, 6(15.4%) know that NGOs again use EMIS to help them embark on enrolment

and expansion drive for communities that are experiencing school drop-outs. Finally, 7(17.9 %) of the total respondents know that NGOs use EMIS data to solicit for support to build capacity and to also advocate for improvement where educational standard are falling. According to the Support for Analysis and Research in Africa Project (2003), there are two reasons why NGOs want to influence education policies: They do that out of necessity and to promote public participation in education decision making. This strongly supports the majority of the respondents 19(48.7%) that thought that through EMIS, NGOs offer assistance/ support such as the provision of infrastructure to the educational sector. It further supports the 7(17.9%) that also thought that NGOs offer free training, Teaching and Learning Materials (TLMs) and Awards to deserving students and workers in the educational sector.

Table 22 shows the totals of the number of respondents who knew that the individuals under discussion use EMIS. Thirty–nine out of 48 respondents knew researchers use EMIS but gave different uses of EMIS by researchers they know use the system.

Table 22: Perceived Main Uses of EMIS by Researchers

Users of EMIS	Frequency	Percentages (%)
Monitoring and evaluating educational indicators	13	33.3
For giving suggestions and proposals to solutions on some research findings on educational matters	10	25.6
Academic purposes	9	23.1

Table 22 Continued

Users of EMIS	Frequency	Percentages (%)
Predictions	5	12.8
Others	2	5.1
Total	**39**	**100**

(Source: Field Data; November, 2010)

From Table 22, for monitoring and evaluating educational indicators, 13(33.3%) respondents know that researchers use EMIS for that but 10(25.6%) also know that they use EMIS for giving suggestions and proposals to solutions on some research findings on educational matters. Again, 9(23.1%) and 5(12.8%) know that researchers use EMIS for academic purposes and predictions respectively. It is worth mentioning that researchers use EMIS in diverse ways including monitoring and evaluating educational indicators and for giving suggestions and proposals to solutions on some research findings on educational matters because their inputs are likely to bring about reforms, and interventions in the educational sector. Their findings may come with sweeping innovations which are most needed in the educational field.

Table 23 shows the totals of the number of respondents who know that the institution under discussion use EMIS. Thirty–nine out of 48 respondents know UNESCO use EMIS but gave different uses of EMIS by UNESCO.

Table 23: Perceived Main Uses of EMIS by UNESCO

Uses of EMIS	Frequency	Percentage (%)
For planning, budgeting, monitoring and evaluation of educational indicators	8	22.9
Use data for further research work to inform areas move assistance and improvement	4	11.4
Assisting the educational sector through training, resourcing and provision of infrastructure	17	48.6
Monitoring educational indicators against other nations and international standards	4	11.4
Use EMIS data as basis for securing funds for educational improvement	2	5.7
Total	**39**	**100.0**

(Source: Field Data; November, 2010)

From Table 23, 8(22.9%) respondents know that UNESCO use EMIS for planning, budgeting, monitoring and evaluation of educational indicators, while 4(11.4%) use EMIS data for further research work to inform areas move assistance and improvement. Furthermore, 17(48.6%) respondents also know that UNESCO use EMIS to enable them assist the educational sector through training, resourcing and provision of infrastructure. In addition, 4(11.4%) know that they use EMIS for monitoring educational indicators against other nations and international standards and finally, 2(5.7%) know that UNESCO

use EMIS data as basis for securing funds for educational improvement. Thus, about fifty percent of respondents thought that one of the main uses of EMIS by UNESCO is used in assisting the educational sector through training, resourcing and provision of infrastructure. It is evident in a report by Chung (2009) who reported that the current EMIS software is a web-based system that was delivered by UNESCO Institute for Statistics (UIS) in 2007 to replace a Microsoft based system delivered by the Havard University.

Tables 12 to 23 give users of EMIS known by the respondents. In addition, they also gave how they know the EMIS users use EMIS. The data gathered saw some of the users to be the Ministry of Education, Ghana Education Service, and UNESCO, Researchers, NGOs, Teachers, Headteachers, to mention but a few. Their list may not be exhaustive because, there may be other direct or indirect users and uses of EMIS that are not known to them. One of the commonest use of EMIS that run through the tables is that it is used for planning, budgeting, monitoring and evaluation of educational indicators. The history of Ghana's educational development and recent case studies all point to the fact that the distribution of educational resources especially, material inputs, teaching personnel, and well-equipped facilities, have always been skewed in favour of some section of the society. (Folson, 1995; McWilliam and Kwamena-Poh, 1975; Mfum-Mensah, 2003). This corroboration may be acceptable because if EMIS is not known among some section of the society, it is likely not to be beneficial to them. If EMIS has the potential of giving information on the state of resources, teaching personnel, etc., but not known the tendency of resources allocation may be

skewed in favour of some section of the society who will take advantage and use it because they know about it. From Table 12, respondents think parents do not know about EMIS and this is likely to affect negatively, the way they use it.

Research Question 4: How do the Regional/Municipal/District Directors of Education use EMIS for planning and policy making?

To ascertain how the Directors of Education use EMIS for planning and policy making, data was collected from the Regional, one Metropolitan and two Municipal Directors of Education in the Greater Accra Region. The items under this research question were open ended. All the directors confirmed that they use EMIS for planning and policy making as well as mapping strategies. Answers from some of the Directors sampled are given below.

1. For planning, budgeting, monitoring and evaluation of educational indicators of their schools.
2. For policy formulation and implementation.
3. Serves as a database for teachers, resources, examinations such as Basic Education Certificate Examinations and Baseline examinations.
4. Serves as resource inventory (helps them to know the state of the resources and how new resources should be allocated).
5. Remediation and training purposes.
6. For efficient management.

Pal (1997) defined policy as a course of action or inaction chosen by public authorities to address a given problem or interrelated set of problems. Policy

proposes solutions to public problems and issues. Policies often define broad strategies and approaches to issues; sometimes polices establish more specific actions. As cited on the homepage of Oppapers.com, according to Koontz and O'Doell (n.d), "Planning is deciding in advance what to do, how to do and who is to do it. Planning bridges the gap between where we are to, where we want to go. It makes possible things to occur which would not otherwise occur" Retrieved May 2, 2011 from http://www.oppapers.com/essays/Management-Concept-Planning/583995.

Narrowing down on policy and planning, Directors of Education use EMIS for many things including taking decisions in the distribution and provision of Teaching and Learning Materials (TLMs), allocation of teachers and resources. This further strengthens the assertion by Folson (1995), McWilliam and Kwamena-Poh (1975), and Mfum-Mensah (2003) when they talked about skewness of resource allocation when care is not taken. To the directors, EMIS is a good source of data and information on the enrolment of pupils in the various schools which helps them to carry out programmes such as My first Day at school, which is a ceremony in Ghana that usher in pupils who enter Basic 1 for the first day by giving them school materials and refreshment. One major issue of concern to the public these days is how educational resources are shared equitably to schools. According to the Ministry of Education and Sports (2005 p. 63) the introduction of capitation grant was launched on a pilot basis in 40 deprived districts in 2003-2004. With the support of data from EMIS, schools receive funds after they have prepared School Performance Improvement Plans (SPIPs). According to all

the Director-respondents, EMIS is very helpful in the allocation of personnel to the various educational institutions. Again, Directors of Education are able to provide evidence with statistical fact during annual education review meetings. There are other ways Directors of Education use EMIS for planning and policy making which include collecting data, identifying deprived schools/ areas, acquiring educational resources for distribution, monitoring and evaluation. The remaining issues are concerned with workshops, enrolment of students, postings and transfers of teachers and planning for new entrants. If in its current state EMIS can be used extensively by Directors of Education for policy making and planning, then a lot more innovations can be realised with little improvement. This supports the view of Thapisa and Baribwa (1998) who state that evidence shows that to innovate and create stocks of information and knowledge by utilising ICT, developing nations need telecommunication networks that can support electronic data exchange.

Muriithi (2005) argues that in Kenya, like most developing countries ICT usage is still limited to computer literacy training. If we are to go by Muriithi's statement, the Directors of Education may find other interesting usage for EMIS data not limiting themselves to only report presentations, allocation of resources but rather for more research work and predictions based on statistical evidence. In a nutshell, Directors of Education find very good use of EMIS data in terms of planning and policy making but the fact still remains that the EMIS system has a lot more potential that can be harnessed in addition to its current usage by the Directors of Education.

Research Question 5: How qualified and well equipped are the EMIS managers?

Data for this research question was collected from EMIS Officers since they were the best people to give data that will answer the research question. Data on their qualification and equipment could inform reasons of awareness and utilisation of EMIS in the Greater Accra Region.

Table 24 shows the distribution of EMIS officers from the sample of the study. They are made up of officials from the regional, one metropolitan and two municipal education offices in the Greater Accra Region.

Table 24: Cross tabulation of the distribution of EMIS Office Respondents' positions and their Office locations

	Position				
Office Location	Regional EMIS Head/ Statistics Officer	Assistant Director/ Statistics Officer	EMIS/ Statistics Officer	EMIS/ Statistics Officer (Data Entry Clerk)	Total
Greater Accra Region	1(6.7%)	0(0.0%)	2(13.3%)	0(0.0%)	3(20.0%)
Accra Metropolis	0(0.0%)	1(6.7%)	4(26.6%)	0(0.0%)	5(33.3%)
Amasaman Municipality	0(0.0%)	1(6.7%)	3(20.0%)	1(6.7%)	5(33.3%)
Weija Municipality	0(0.0%)	1(6.7%)	1(6.7%)	0(0.0%)	2(13.4%)
Total	**1(6.7%)**	**3(20.0%)**	**10(66.6%)**	**1(6.7%)**	**15(100.0%)**

(Source: Field Data; November, 2010)

The distribution in Table 24 shows that out of the total respondents who were officials of EMIS, 1(6.7%) was a Data Entry Clerk and 10(66.6%) of them were EMIS officers. While 3(20.0%) of them were Assistant Directors of Education in-charge of Statistics/EMIS, 1(6.7%) of them was the Head of Regional EMIS office. The implication of this sample for the study will help answer research question 5 and to also inform issues about the awareness and utilisation of EMIS in the Greater Accra Region.

Table 25: EMIS Office Respondents according to their qualification in computing

Qualification in computing	Frequency	Percentage (%)
Yes	13	86.7
No	2	13.3
Total	**15**	**100**

(Source: Field Data; November, 2010)

Table 25 presents data of the EMIS officials according to their qualifications in computing. Out of the total 15 EMIS Office-Respondents, 13(86.7%) said they had qualification(s) in computing. The data shows that almost all of them had some qualifications in computing in one way or the other. Data on the distribution of the EMIS officials who have qualifications in computing is presented in the Table 26.

Table 26 also expands further of the data presented in Table 25.

Table 26: Distribution of EMIS Office Respondents according to their qualification in computing

Type of Qualification	Frequency	Percentage (%)
M. Ed (IT)	1	7.7
Microsoft (Word, Excel, PowerPoint, Visio)	7	53.8
Microsoft (Word, Excel), SPSS	3	23.1
Diploma (IT)	1	7.7
B.Sc (Computer Science), SQL, Oracle Database	1	7.7
Total	**13**	**100**

(Source: Field Data; November, 2010)

Whilst 7(53.8%) of the EMIS Office Respondents said they had a qualification in Microsoft (Word, Excel, Powerpoint, Visio), 3(23.1%) of them said they had a qualification in Microsoft (Word, Excel), SPSS. The rest of the respondents under discussion had Master of Education (Information Technology), Diploma (Information Technology) or B.Sc (Computer Science).

Generally, the qualifications in computing possessed by majority of the EMIS officers in my opinion are basic for such a sensitive unit of the Ghana Education Service. On the other hand some of them have qualifications in Information Technology which is a plus. One may also attribute this trend to the lack of commitment and remuneration issues on the part of people with the requisite computer qualifications tracing it from the constraints suffered during the phase two of EMIS implementation in Ghana. This is consistent with Infodev. (2006) where they reported that as soon as the EMIS office staff

acquired basic IT skills, they attracted much higher paid jobs in the private sector. Others may also argue that having qualifications in Computing may not matter so much in this context once the recruited staff is committed and ready to learn and deliver since there are people who have extensive computer skills in some areas such as analyses but may not have qualifications to that effect.

EMIS Officer – Respondents' qualification in management

Only 6(40%) of the total EMIS officer – respondents' had a qualification in management. The following 6 qualifications represent the qualifications of the 6 respondents: M.A (Economic Policy Management), Postgraduate Diploma in Management Information Systems and Educational Management and Administration. The others are M.phil (Educational Management), Master of Business Administration and B.A. Management & Sociology. Qualifications in management may not be necessary for all EMIS office staff members. However, it is very positive to note that all the senior members of EMIS Staff respondents had qualifications in management. This indicates that being an EMIS officer, it will not be out of contest to have a qualification in management.

Distribution of Refresher/In-service Trainings attended by EMIS Officers

Table 27 indicates that all the respondents under discussion have attended varied forms of refresher/ in-service training. Table 27 below presents the breakdown of data on refresher/ in-service trainings attended by respondents.

Table 27: Refresher/ In-service Trainings for EMIS Officers

Refresher/In-service Trainings	Frequency	Percentage (%)
Training for Statistics/Data entry clerks on School census organised by MOE & EMIS office.	8	53.3
EQUAL and GAEC	1	6.7
National School Census Workshop and Training for Statistic/Data entry clerks on School census organised by MOE & EMIS office.	1	6.7
School Report Card Teacher by USAID & Annual School Census by DFID	1	6.7
Educational Annual School Census by MOE	4	26.7
Total	**15**	**100.0**

(Source: Field Data; November, 2010)

Table 27 presents data on the various refresher/ in-service trainings attended by the EMIS Officer-Respondents. While 8(53.3%) respondents said they attended training for Statistics/ Data entry clerks on School census organised by MOE & EMIS office, 4(26.7%) said they attended training named Educational Annual School Census also organised by the Ministry of Education. Most of the training sessions for the EMIS officers were organised by the Ministry of Education but some of them were organised by donor agencies such as USAID and DFID. Table 27 shows that all the EMIS Officers who were respondents have attended a Refresher/ In-service

Training. It is also worth noting that the Ministry of Education and the EMIS office organise training for EMIS officers on School census.

Table 28: A crosstab of the highest academic and professional qualifications of the EMIS officers

	Professional Qualification				
Academic Qualification	3-Year Cert 'A'	Degree	Post-Graduate Diploma	Diploma	Total
Master's Degree	1(6.7%)	2(13.3%)	-	1(6.7%)	4(26.7%)
Degree	3(20.0%)	3(20.0%)	-	1(6.7%)	7(46.7%)
Post-Graduate Diploma	1(6.7%)	-	1(6.7%)	-	2(13.3%)
Diploma	-	-	-	2(13.3%)	2(13.3%)
Total	**5(33.3%)**	**5(33.3%)**	**1(6.7%)**	**4(26.7%)**	**15(100%)**

(Source: Field Data; November, 2010)

A cross tabulation revealed that all the EMIS Officers who were respondents had both academic and professional qualifications. Whilst 4(26.7%) and 7(46.7%) had their academic qualifications in Master's Degree and First Degrees respectively, 2(13.3%) each had either a Post-Graduate Diploma or Diploma. Table 28 further reveals that professionally, 5(33.3%) each of the EMIS officers who were respondents had either a 3-Year Cert 'A' or a Degree. Finally, 1(6.7%) and 4(26.7%) of them hold Post-Graduate Diploma and Diploma respectively as their professional highest qualifications.

Table 29: Cross Tabulation of Number of Years and Experience in the educational sector of EMIS Officers

Years of working experience in educational sector	Years of working experience at the current position: Less than 1	1 – 3	4 - 6	7 – 9	10 and above	Total
Less than 1	1(6.7%)	-	-	-	-	1(6.7%)
1 - 10	-	2(13.3%)	-	-	-	2(13.3%)
11 - 20	-	3(20.0%)	-	-	1(6.7%)	4(26.7%)
21 - 30	1(6.7%)	1(6.7%)	3(20%)	1(6.7%)	1(6.7%)	7(46.7%)
31 and above	-	1(6.7%)	-	-	-	1(6.7%)
Total	**2(13.3%)**	**7(46.7%)**	**3(20%)**	**1(6.7%)**	**2(13.3%)**	**15(100%)**

(Source: Field Data; November, 2010)

Table 29 is a cross tabulation of the number of years of EMIS officers who were respondents had worked in the educational sector with their current positions. In the educational sector, the table reveals that more than 7(46.7%) of them had 21 and more year of working experience in the sector whiles majority of them, 7(46.7%) had 1 to 3 years working in their current positions.

Information was also gathered on the availability of computers in EMIS offices. The outcome is shown in Table 30.

Table 30: Office Equipment in the EMIS Offices

Office Location	No. of Computers	Internet Access	Telephone Access
Greater Accra Region	2	Present	Present
Accra Metropolis	2	Absent	Absent
Amasaman Municipality	3	Present	Absent
Weija Municipality	2	Present	Present

(Source: Field Data; November, 2010)

Table 30 shows that all the EMIS offices had computers. It further indicates that with the exception of Accra Metropolis, all the EMIS offices had internet access. Table 30 again points out that apart from the Greater Accra Regional and Weija Municipal EMIS offices, the rest had no access to office telephone.

The qualification looked at their computer user ability, management, academic and professional backgrounds. Table 26 reveals that respondents can use more than one computer programme but majority of them have no adequate computer qualifications and Table 28 shows that their academic qualifications ranged from Masters Degrees in Information Technology, Business Administration or Management. In the same vein, their professional qualifications also ranged from 3-Year Certificate 'A' to Diploma Information Technology. Even though the data shows that the Ministry of Education and some donor agencies organise refresher courses for them, there is still the need for regular refresher courses for EMIS Officers because, The Robert Gordon University Aberdeen (2004) in a study conducted in Scotland on

teachers' ICT skills and knowledge need reported that the use of ICT is relatively low and is focused on a fairly narrow range of ICT. One cannot tell whether EMIS officer respondents had formal qualification in Microsoft applications. According to Table 28, the predominant programme respondents said they can use is Microsoft (word, excel, visio), but there are equally good computer applications that can support their work in terms of analysis, interpretation of EMIS data. This supports the Gordon University Aberdeen (2004) report that teachers were reasonably confident in their use of ICT but felt that they needed much more in the way of technical expertise and professional development to maximise their use (ICT) to support the present findings.

The equipment according to Table 30 is not impressive. For instance, the available computers for use were not commensurable with EMIS officers. In this information age, it will be very necessary for such a unit to have all its offices networked and hooked to very fast internet and telephone services. The current status of EMIS can be attributed to the experiences of its managers. A similar situation was found by Ndiku (2003) who conducted a research based on the experience of managers and computer teachers in eight schools in Uasin Gishu District, Western Kenya, where he focused on the problems encountered in the implementation of educational ICT projects. His research identified insufficient numbers of computers and peripheral devices as one of the most important factors inhibiting the success of computer deployment projects. In conclusion, it is clear that EMIS officers are qualified for their jobs but not well equipped with items such as scanners, internet and telephone

access.

The next chapter is the last chapter of this study and it provides the summary of findings, conclusions and recommendations.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a brief summary of the findings and conclusions drawn from the study. It proposes recommendations for action and areas for further study into the awareness and utilisation of EMIS in the Greater Accra Region.

Overview of the Study

The purpose of the study was to look into the awareness and utilisation of EMIS by stakeholders e.g. educators, parents and guardians, educational consultants, students and educational NGOs or the public in the Greater Accra Region.

The research design was descriptive in nature. Purposive sampling technique was used to select the sample population for the study. The Greater Accra Region was the study area and apart from the Regional Education office, two other municipal and one metropolitan Education Office were selected for the study. The study sample was made up of the Regional/ Metropolitan/ Municipal Directors of Education with their four Frontline Assistant Directors. Others that were included in the sample were EMIS Co-ordinators, EMIS officers, Circuit supervisors, Heads of Primary, Junior and Senior High Schools and Teachers. The instrument used for collecting data for the research was a questionnaire that was self prepared. Basically, the

questionnaire was made up of two distinct areas covering respondents' demographic background and the actual research questions. The Directors and EMIS officials answered additional questions from a dedicated section apart from the general sections. This was to help get data from them to answer two research questions due to their interactions with EMIS.

In all, forty-eight questionnaires were administered and respondents responded and returned them for the study.

Key Findings

The main findings of the study were that:

1. EMIS offices are present in all the 3 District Education Offices in the Greater Accra Region that were sampled for the study.
2. The core objectives of EMIS are being met.
3. The Ministry of Education sees the Annual School Census as the most important source of information regarding the situation of every school.
4. EMIS is very well known especially amongst the workers in the Regional/ Metropolitan/ Municipal/ District Director Educations' Office, the Ministry of Education, UNESCO, Local Assemblies but not popular amongst parents and teachers.
5. EMIS may not be known among a section of the public because, the offices rather prefers to use the name "Statistics Offices" in place of "EMIS Office". In addition they have no magazines, bulletins or newsletters to showcase some of their activities and usefulness.
6. EMIS has no dedicated website.
7. Users of EMIS are usually those who know about it hence awareness of

EMIS informs its utilisation.

8. EMIS users use EMIS data for so many things but most of them use it for planning, budgeting monitoring and evaluation of educational indicators of their schools. It is also used for resource allocation.
9. Parents are rare users of EMIS but those who use EMIS data normally use it for school selection (Senior High Schools) purposes for their wards or use EMIS report as basis for support to schools and learners. They also serve as status report for their wards' schools (facilities and performance).
10. Regional/ Metropolitan/ Municipal/ District Directors of Education are the most widely users of EMIS for not only managing educational information systems but for educational planning and policy making.
11. EMIS officers are well qualified for their jobs but have fewer refresher training sessions.
12. EMIS offices are under resourced as some of them lacked basic office equipment. Some of the offices are not connected to the internet while others have no scanners, photocopiers and telephone access in this information age.
13. After every Annual school census, EMIS officers have to carry the system unit containing data gathered for the various schools to the national office because all offices are not in any way networked.

Conclusions

EMIS is not just a data warehouse for collecting educational data but goes beyond that to support in planning and making educational policies.

Recommendations

Based on the findings of the study, the underlisted recommendations have been made:

1. The Ministry of Education in conjunction with the Ghana Education Service must strengthen the EMIS offices by adequately resourcing them with state of the art technology including computers, scanners, photocopiers and telephone access.
2. The national EMIS office must make available to the public, leaflets, bulletins and periodic newsletters about objectives and operations of EMIS as part of their information dissemination strategy.
3. EMIS must have a dedicated and reliable website where users, patrons, researchers and stakeholders can easily rely on educational information.
4. The title such as "Statistics Office" must be changed to "EMIS Office" and "Statistics Officer" be changed to "EMIS Officer".
5. The EMIS office should do further research into the users and utilisation of EMIS to know how EMIS can be reviewed for maximum utilisation.
6. All Parents must be encouraged to use EMIS to make prudent educational decisions rather than relying on uninformed sources or guesses.
7. Since Regional/ Metropolitan/ Municipal/ District Directors of Education are the most widely users of EMIS, further training on EMIS must be given to them for a more exhaustive usage of EMIS for managing educational information systems, planning and policy making.
8. EMIS officers must be sponsored to take further courses that will help broaden their knowledge and skills for the job. In-Service and Refresher

courses must be regular and top on the agenda. Technical support must always be provided for EMIS personnel.

9. EMIS officers and all those who work on EMIS data (including the heads of schools) must be well motivated whenever there are assignments such as School census and School mapping. This is to encourage and ensure the collection of quality data.
10. All EMIS offices must be networked and hooked to the internet to avoid carrying the system unit containing data gathered for the various schools to the national office after every Annual School census.
11. That, as a long term plan, the national EMIS office must host a portal for all educational institutions that feed it with data.
12. In the mean time, when various schools that provide EMIS data are not networked provision of motorbikes for EMIS officers can reinforce monitoring and timely delivery of data to the appropriate quarters.

Suggestions for Further Research

It is anticipated that this study will ignite further research in the field of Educational Management Information System for educational purposes and also improve the educational sector. This research can be expanded to cover all the Districts in the Greater Accra Region.

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APPENDICES

A Introductory letter from the Centre for Continuing Education, University of Cape Coast

UNIVERSITY OF CAPE COAST

(Centre for Continuing Education)

Tel No: 042 - 36946
Fax: 042 - 36946
E-mail cceucc@yahoo.com

University Post Office
Cape Coast

Our Ref. No: CCE/MED/17Vol.1/015

1st November, 2010

Your Ref. No:

TO WHOM IT MAY CONCERN

This is to certify that **Mr. Simon – Peter Kafui Aheto** with registration number **ED/MIT/09/0001** is pursuing a two year M.Ed degree in Information Technology at the University of Cape Coast.

He is conducting a research on the topic **"Awareness and utilization of Educational Management Information System (EMIS) in Ghana. The case of Greater Accra Region."**

We will strongly appreciate any courtesy extended to him.

Thank you.

Palmas Anyagre

(Programme Facilitator)

B Permission to Administer Questionnaires in the Metro Education Office, Tema Metropolis

GHANA EDUCATION SERVICE

ase of reply the number and
e of this letter should be quoted

My Ref: GES/TM/10/1/VOL.2

METRO EDUCATION OFFICE
P.O. BOX 436
TEMA

Your Ref. No:

11th November, 2010

SIMON – PETER KAFUI AHETO
UNIVERSITY OF CAPE COAST
(CENTRE FOR CONTINUING EDUCATION)
UNIVERSITY POST OFFICE- CAPE COAST

Dear Sir/Madam,

PERMISSION TO ADMINISTER QUESTIONNAIRE TO SELECTED BASIC SCHOOLS AND OFFICERS OF METRO EDUCATION OFFICE, TEMA METROPOLIS.

Permission is hereby granted to the bearer, who is pursuing an M. Ed degree in Information Technology at the UCC and is conducting a research on the topic "Awareness and Utilization of Educational Management Information System in Ghana(EMIS) to administer questionnaire to selected officers of the Metro Education Office and basic schools in the Metropolis.

Officers and headteachers approached are please requested to co-operate with him and are (Headteacher to ensure that contact hours are not unnecessarily disrupted.

Thank you.

Yours faithfully

KWESI HUTCHFUL
DIRECTOR OF EDUCATION
TEMA METRO.

DISTRIBUTION
OFFICERS AND HEADS OF BASIC SCHOOLS
APPROACHED.

CC: Palmas Anyagre
(Programme Facilitator)
Centre for Continuing Education
U C C – Cape Coast.

C Permission Granted to Administer Questionnaires to some GES Personnel in the Greater Accra Regional Education Office, Accra

GHANA EDUCATION SERVICE

In case of reply the
Number and date of this
Letter should be quoted

My Ref: GES/GAR/MC
Your Ref.

REPUBLIC OF GHANA

REGIONAL EDUCATION OFFICE
P. O. BOX M 148
ACCRA

10th December, 2010

MR. SIMON-PETER KAFUI AHETO
P. O. BOX 343
NSAWAM – EASTERN REGION

Dear Sir,

ADMINISTRATION OF QUESTIONNAIRES
TO SOME GES PERSONNEL IN THE
GREATER ACCRA REGION

Permission is hereby granted Mr. Simon-Peter Kafui Aheto, who is a Master's student from the University of Cape Coast, and researching on the topic "Awareness and Utilization of Educational Management Information System (EMIS) in the Greater Accra Region".

Yours sincerely,

ANGELA TENA MENSAH (MRS)
HEAD, HRMD UNIT
GREATER ACCRA REGION

D Permission Granted to Administer Questionnaires in the Metro Education Office, Accra Metropolis

GHANA EDUCATION SERVICE

In case of reply the number and date of this letter should be quoted
PHONE: 0302664186

Our Ref. NO: GES/ACD/PG.48/TJ
Your Ref. NO.....

REPUBLIC OF GHANA

METRO EDUCATION OFFICE
P. O. BOX 337
ACCRA

6TH DECEMBER, 2010

PERMISSION

MR. SIMON-PETER KAFUI AHETO

The above named is a student of the University of Cape Coast – Centre for Continuing Education pursuing a two-year Master of Education degree in Information Technology conducting a research on the topic " Awareness and Utilization of Educational Management Information System (EMIS) in Ghana, The case of Greater Accra Region".

By a copy of this letter, Mr. Simon-Peter Kafui Aheto is being recommended for the necessary support and assistance for his research.

ALFRED KOFI OSEI
METRO DIRECTOR OF EDUCATION
ACCRA METROPOLIS

MR. SIMON-PETER KAFUI AHETO
UNIVERSITY OF CAPE COAST
CENTRE FOR CONTINUING EDUCATION
CAPE COAST

Cc:
The Headmistress - Kinbu Senior High School – Accra

The Officer-In-Charge – Okaikoi South Sub-Metro Office

The Officer-In-Charge – Ashiedu Keteke Sub-Metro Office

E Permission Granted to Administer Questionnaires in the Ga South Municipal Education Office

GHANA EDUCATION SERVICE

In case of reply the number and date of this letter should be quoted

My Ref No: GES/GSM/PER/11/06
Your Ref. No.....

REPUBLIC OF GHANA

MUNICIPAL EDUCATION OFFICE
GA SOUTH MUNICIPAL
P M B 2
WEIJA

17th January, 2011

PERMISSION TO ADMINISTER QUESTIONNAIRES TO SOME G.E.S . PERSONNEL IN THE GREATER ACCRA REGION.

I refer to your letter on the above subject dated 6th December, 2010 and wish to inform you that permission has been granted you to administer the questionnaires to your selected respondents.

You can use this to obtain permission to administer the questionnaire to your respondents within the Municipality.

Thank you for the interest shown in our Municipality.

.....
FLORENCE A. ADDO (MRS.)
DIRECTOR OF EDUCATION
GA SOUTH MUNICIPAL
WEIJA

DIRECTOR OF EDUCATION
GA SOUTH MUNICIPAL EDUC. OFFICE
P M B 2 — WEIJA

SIMON – PETER KAFUI AHETO
P.O. BOX 343
NSAWAM E/R.

F Permission Granted to Administer Questionnaires in the Ga West Municipal Education Office

GHANA EDUCATION SERVICE

In case of reply the number and date of this letter should be quoted

My Ref No: GES/GWM/RES/VOL.1/108

Your Ref. No.....

REPUBLIC OF GHANA

MUNICIPAL EDUCATION OFFICE
GA WEST MUNICIPAL
P. O. BOX AM 80
AMASAMAN

3RD FEBRUARY, 2011.

MR. SIMON – PETER KAFUI AHETO
P. O. BOX 343
NSAWAM – E/R

ADMINISTRATION OF QUESTIONNAIRES TO SOME GES PERSONNEL IN THE GA WEST MUNICIPALITY

Permission is hereby granted to **MR. SIMON-PETER KAFUI AHETO**, a master's student from the University of Cape Coast, to do a research on the topic **"AWARENESS AND UTILIZATION OF EDUCATIONAL MANAGEMENT INFORMATION SYSTEM (EMIS)"** in the Ga West Municipality.

All GES Personnel he may approach for assistance in this Municipality may kindly and readily offer him such assistance.

Yours faithfully,

.....
ALHAJI AHMED YIRIMEA AWUDU
HEAD F/A UNIT
GA WEST MUNICIPAL
AMASAMAN.

G Permission letter for data collection for Pilot Study at the Tema Metropolis

P. O. Box 343

Nsawam

E/R

11th November, 2010

The Director

Ghana Education Service

Tema Metropolis

Accra

Dear Director,

PERMISSION TO ADMINISTER QUESTIONNAIRES TO SELECTED BASIC SCHOOLS AND OFFICERS OF METRO EDUCATION OFFICE, TEMA METROPOLIS

I am a Master student of the University of Cape Coast researching on the topic **"Awareness and Utilisation of Educational Management Information System (EMIS) in the Greater Accra Region".**

I would be grateful if you could grant me permission and co-operation to administer questionnaires to the following persons in the metropolis:

1. **The Metropolitan Director of Education**
2. **The first 4 Front line Assistant Metropolitan Directors of Education**
3. **Any 3 Circuit Supervisors**
4. **The Metropolitan EMIS Co-ordinator**
5. **4 EMIS Officers**
6. **3 Heads of Schools (SHS, JHS, Primary)**

I would be most grateful if my request is given a favourable response.

Thank you.

Yours faithfully,

Simon-Peter Kafui Aheto

H Permission letter to administer Questionnaires to some GES Personnel in the Greater Accra Regional Education Office, Accra

P. O. Box 343
Nsawam
E/R
6th December, 2010

The Director
Ghana Education Service
Greater Accra Region
Accra

Dear Director,

PERMISSION TO ADMINISTER QUESTIONNAIRES TO SOME GES PERSONNEL IN THE GREATER ACCRA REGION

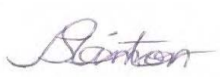
I am a Master student of the University of Cape Coast researching on the topic **"Awareness and Utilisation of Educational Management Information System (EMIS) in the Greater Accra Region".**

I would be grateful if you could grant me permission and co-operation to administer questionnaires to the following persons in the region:

1. **The Regional Director of Education**
2. **The first 4 Front line of the Regional Director of Education**
3. **The Regional EMIS Co-ordinator**
4. **4 Regional EMIS Officers**

I would be most grateful if my request is given a favourable response.
Thank you.

Yours faithfully,



Simon-Peter Kafui Aheto

I Permission letter to administer Questionnaires to some GES Personnel in the Accra Metropolis

P. O. Box 343
Nsawam
E/R
6th December, 2010

The Director
Ghana Education Service
Accra Metropolis
Accra

Dear Director,

PERMISSION TO ADMINISTER QUESTIONNAIRES TO SOME GES PERSONNEL IN THE ACCRA METROPOLIS

I am a Master student of the University of Cape Coast researching on the topic **"Awareness and Utilisation of Educational Management Information System (EMIS) in the Greater Accra Region".**

I would be grateful if you could grant me permission and co-operation to administer questionnaires to the following persons in the metropolis:

1. **The Metropolitan Director of Education**
2. **The first 4 Front line Assistant Metropolitan Directors of Education**
3. **Any 3 Circuit Supervisors**
4. **The Metropolitan EMIS Co-ordinator**
5. **4 EMIS Officers**
6. **3 Heads of Schools (SHS, JHS, Primary)**

I would be most grateful if my request is given a favourable response. Thank you.

Yours faithfully,

Simon-Peter Kafui Aheto

J Permission letter to administer Questionnaires to some GES Personnel in the Ga West Municipality

P. O. Box 343
Nsawam
E/R
6th December, 2010

The Director
Ghana Education Service
Ga West District
Accra

Dear Director,

PERMISSION TO ADMINISTER QUESTIONNAIRES TO SOME GES PERSONNEL IN THE GA WEST MUNICIPALITY

I am a Master student of the University of Cape Coast researching on the topic **"Awareness and Utilisation of Educational Management Information System (EMIS) in the Greater Accra Region".**

I would be grateful if you could grant me permission and co-operation to administer questionnaires to the following persons in the municipality:

1. **The Municipal Director of Education**
2. **The first 4 Front line Assistant Municipal Director of Education**
3. **Any 3 Circuit Supervisors**
4. **The Municipal EMIS Co-ordinator**
5. **4 EMIS Officers**
6. **3 Heads of Schools (SHS, JHS, Primary)**

I would be most grateful if my request is given a favourable response. Thank you.

Yours faithfully,

Simon-Peter Kafui Aheto

K Permission letter to administer Questionnaires to some GES Personnel in the Ga South Municipality

P. O. Box 343
Nsawam
E/R
6th December, 2010

The Director
Ghana Education Service
Ga South District
Accra

Dear Director,

PERMISSION TO ADMINISTER QUESTIONNAIRES TO SOME GES PERSONNEL IN THE GA SOUTH MUNICIPALITY

I am a Master student of the University of Cape Coast researching on the topic **"Awareness and Utilisation of Educational Management Information System (EMIS) in the Greater Accra Region".**

I would be grateful if you could grant me permission and co-operation to administer questionnaires to the following persons in the municipality:

1. **The Municipal Director of Education**
2. **The first 4 Front line Assistant Municipal Director of Education**
3. **Any 3 Circuit Supervisors**
4. **The Municipal EMIS Co-ordinator**
5. **4 EMIS Officers**
6. **3 Heads of Schools (SHS, JHS, Primary)**

I would be most grateful if my request is given a favourable response. Thank you.

Yours faithfully,

Simon-Peter Kafui Aheto

L QUESTIONNAIRE

This is a research being conducted into the awareness and utilization of Educational Management Information System (EMIS) in the Greater Accra Region. It would therefore be cherished if you could give off part of your valuable time to answer this questionnaire. Please, be assured that whatever information you provide in this questionnaire will be treated as being highly confidential to preserve your anonymity.

SECTION A

1. Where is your office located?

   Region [ ] Metropolitan [ ] Municipality [ ] District [ ]

2. What is your position in the office? …….....

3. Gender Male [ ] Female [ ]

SECTION B

This section seeks to find out about how EMIS is known. For each statement, please indicate your response by placing "X" in the box.

Select only one response for each statement.

4. Do you know about EMIS? Yes [ ] No [ ]

If yes, please answer the following questions.

5. EMIS is used for school mapping and school census.

   Yes [ ] No [ ] I don't know [ ]

6. EMIS is of value to educational administration.

   Yes [ ] No [ ] I don't know [ ]

7. EMIS is of value to supply of school resources.

   Yes [ ] No [ ] I don't know [ ]

8. EMIS is of value to governance of schools.

   Yes [ ] No [ ] I don't know [ ]

9. EMIS is an educational management tool.

   Yes [ ] No [ ] I don't know [ ]

10. EMIS is an educational management database tool.

    Yes [ ] No [ ] I don't know [ ]

SECTION C

This section deals with the objectives of EMIS. For each statement, please indicate the extent to which you agree or disagree by placing "X" in the appropriate box. The scale notation is as follows:
SA – Strongly Agree, A –Agree, N – Neutral, D – Disagree, SD – Strongly Disagree
Select only one response for each statement

Opinion	SA	A	N	D	SD
11. EMIS is an efficient management information system in the Ghanaian educational system.					
12. EMIS has been contributing significantly to policy formulation and operational planning.					
13. EMIS contributes to monitoring of targets through periodic review by stakeholder participation.					
14. EMIS is capable of giving information about disadvantaged areas in education. (E.g. deprived schools, lack of Teaching and Learning Materials, and electricity).					

15. EMIS data helps in budget allocations by government and other donor bodies for the education sector.					

SECTION D

The statements in this section relate to users of EMIS and how they use it. For each statement, please indicate your response by placing "X" in the box.

Select only one response for each statement.

Please mark (X) for some of the people who use EMIS.

16. i. Ministry of Education?

Yes [ ] No [ ] I don't know [ ]

17. i. Directors of Region/Metropolitan/Municipal/District of Education?

Yes [ ] No [ ] I don't know [ ]

18. i. GES (Dep. Directors, Scheduled Officers, etc.)?

Yes [ ] No [ ] I don't know [ ]

19. i. Metropolitan/Municipal/District Assembly?

Yes [ ] No [ ] I don't know [ ]

20. i. Teachers?

Yes [ ] No [ ] I don't know [ ]

21. i. Parents?

Yes [ ] No [ ] I don't know [ ]

22. i. Headmasters/ Headteachers?

Yes [ ] No [ ] I don't know [ ]

23. i. Circuit supervisors?

Yes [ ] No [ ] I don't know [ ]

24. i. NGOs?

Yes [ ] No [ ] I don't know [ ]

25. i. Researchers?

Yes [ ] No [ ] I don't know [ ]

26. i. UNESCO?

Yes [ ] No [ ] I don't know [ ]

27. i. Other(s) ***(Please specify)*****……**

If you marked *yes* against any of the items above, please indicate how the person uses EMIS in the spaces provided below against the items you answered as yes.

16. ii. Ministry of Education: ……..

……..

17. ii. Directors of Region/Metropolitan/Municipal/District of Education: ……

……..

18. ii. GES: ……

……..

19. ii. Metropolitan/Municipal/District Assembly: …….....

……..

20. ii. Teachers: ……..

……..

21. ii. Parents: ……..……..

……..

22. ii. Headmasters/ Headteachers: ..……...

…….

23. ii. Circuit supervisors: ……..……..

…….

24. ii. NGOs: ……..……

…….

25. ii. Researchers: …….

…….

26. ii. UNESCO: …….....…….....

…….

27. ii. Other(s): ……...…….

……..

SECTION E ***(For Regional/ Metropolitan/ Municipal/ District Directors of Education Only)***

28. As the director, do you use EMIS for planning? Yes [ ] No [ ]

29. If you have answered **"Yes"** to question 28, please mention how you use EMIS for planning.

    i…….....

    ii……

    iii…….....

    iv……

30. As the director, do you use EMIS for policy making? Yes [ ] No [ ]

    If you have answered **"Yes"** to question 30, please mention some of the policies you used EMIS for making.

    i…….....…….....

    ii…….....

    iii…….....…….....

    iv…….....

31. As the director, does EMIS help you map strategies for your District/Region? Yes [ ] No [ ]

32. If you have answered "**Yes**" to question 31, please mention some of the strategies EMIS helped you to map.

    i…….....……....…….....

    ii…….....…….....

    iii…….....……....…….....

    iv…….....…….....

SECTION F ***(For EMIS Officials Only)***

The following statements in this section relate to the extent to which managers of EMIS are qualified and equipped for their role. For each statement, please fill in the spaces provided below.

33. i. Do you have any qualification in computing? Yes [ ] No [ ]

ii. ***If yes, please state them.***

……..……...

.....

.....

34. i. Do you have any qualification in management? Yes [ ] No [ ]

ii. ***If yes, please state them.***

.....

.....

.....

35. i. Have you ever attended any refresher/ in-service training in respect to EMIS? Yes [ ] No [ ]

ii. ***If yes, please state them together with those who organised them.***

……..…….

……..……..

36. What is your highest academic qualification? …….....

……

37. What is your highest professional qualification? …….....

...……

38. How many years have you being working in the educational sector?

.....

39. How many years have you being working in your current position?

.....

40. How many computers does you office have?

None [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

41. Does your office have a scanner? Yes [ ] No [ ]

42. Does your office have internet access? Yes [ ] No [ ]

43. Does your office have telephone access? Yes [ ] No [ ]

SECTION G

44. Please write any other relevant information in your opinion related to EMIS.

……

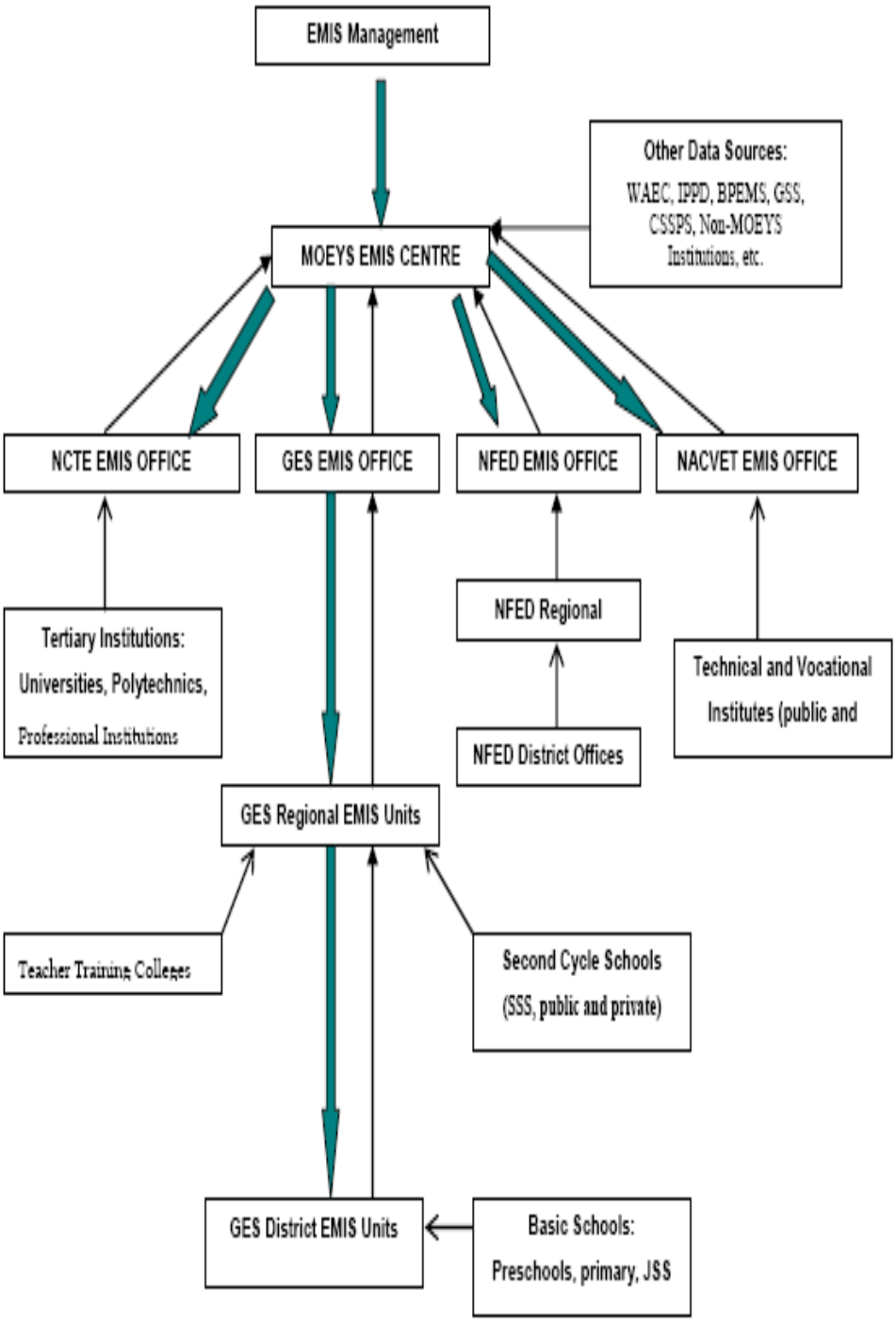
……

……

……

Thank you for your co-operation

M EMIS Management Structure and its Data Collection Flow



Source: Infodev. (2006). *Education Management Information System: A short Case Study of Ghana.* Working Paper No. 4. (p.10)

N Instruction Manual used in filling the EMIS forms for Basic Schools

	INSTRUCTIONAL MANUAL BASIC SCHOOLS
A	**All questions MUST BE ANSWERED. District Statistics Officers and Circuit Supervisors to check that the questionnaire is as complete as possible.**
B	**If requested information is not applicable to your school, please indicate these with N/A or NIL in the spaces provided. Blank means it does not exist or is not needed. If a WHOLE Table is not applicable write in large letters N/A across the whole table. If there is no information for a whole table then write NIL across the whole table. Do NOT WRITE Zeros in every space provided.**
C	**DO NOT Tick when NUMBERS or HOW MANY is requested. Ticked information in this case is useless. Only tick when a small tick box is provided.**
D	**All information provided should refer to this academic school year unless otherwise requested in the question. E.g. Enrolment, Textbooks, Teachers, etc in this school year whereas Pupil transfers TO other schools, Staff Leave, etc are requested for the past academic year.**
E	**Read through questionnaires briefly before completing it. It will minimize the mistakes you may make. Note, where the questionnaires indicates a code, refer to back pages of questionnaires.**
Intro	The Annual Census must be signed off by the Head (or Acting) Head of the School. It must be checked and signed by the District Statistic Officer.
1	**SCHOOL IDENTIFICATION**
1.1	Please put in the full name of the school
1.2	**The Year Established** refers to the first year the school was opened.
1.4	**School Status**: Public = State owned, Private= Non-State owned, Registered refers to registration of the school with the Ghana Education Service.
1.5	**Registration Number** refers to the Number on the School's Registration Certificate. It is only issued to Private schools by the GES
1.6	**Levels found in the school**: Indicate if the school has more than one level and the School Code or EMIS number assigned to that level in previous Census surveys.
1.7	**Location of School**: Indicate the names of the region, district, locality, etc in full with the appropriate code (refer to code page). Locality refers to the name given to the surrounding area around the school.
1.8	**Type of Locality**: Rural is areas with small population(*less than 5,000*).
1.9	**School Address**: If your school has no telephone, fax or email leave blank.
1.10	**Education Management Unit of School**
1.11	**Summary Count:** Check that the totals correspond with the totals of tables 5.1, 9 and 11.The totals of the pupils must be the same as the totals of the pupils in table 9; the totals of the classrooms must be the same as the totals of the classrooms in 5.1 and total teacher numbers must be the sum of the teachers in table 11.
2	**SCHOOL PROFILE AND ORGANISATION**
2.1	**Multigrade classes**: Count each grade in the SAME classroom being taught by the same teacher.
2.2	**Shift school:** Is the school so overcrowded that it has to have double session? If yes then it's a shift school if it has the same school name as the early shift. The Head must fill in, total enrolment and total teacher information for both sessions in one questionnaire for that school. Or two different Schools, one in the morning and the other in the afternoon under different head teachers.
2.3 - 2.4	**Co hosted School**: If two separately registered schools are using the same facilities and buildings but at different times of the day it is a co hosted school and not a shift school. Provide the name of the other school. A school with TWO separate streams is not a co hosted school.
2.6	**Special Education School**: These are schools for pupils with special needs due to physical, mental or Intellectual challenges they face.
2.7	Even if you are not a Special School do you have any challenged pupils? Complete this table. If your school is a Special School you MUST complete this table. If you are not a Special School you need to count the pupils with problems with their eyes, speech, hearing or physically and intellectually challenged.
2.8	**Ramp**: A ramp is a sloping walkway used by wheelchairs users to access buildings where stairs are used.

3	**SCHOOL INFRASTRUCTURE**
3.1	**Access**: This refers to access in the last 2-4 km from the school
3.14	**School lands**: Does your school have title Deeds or is registered as belonging to the school? Government wants to track whether schools have secured their lands for their own use.
3.15	**Boarding**: This is not hostels or private boarding outside of the school property.
4	**SCHOOL MANAGEMENT AND FINANCE**
4.1	**School Management Committee:** This is a committee that has representatives of the school (Head, teachers), parent community and other key stakeholders in the community. It has a chair elected from the community
4.3	**A School Performance Improvement Plan**: Another name used is Whole School Development Plan and outlines the vision, mission, and key goals of the schools as well as planned activities for the coming school year. It is essential for public schools to have them.
4.4	**Capitation Grant**: Only public Basic schools will receive a small fund per pupil enrolled in their schools.
4.8	**In-Service Training:** This could be both at the school and outside the school by external providers.
4.9	Does the school deliberately include HIV/AIDs issues in each subject at some ppint in the curriculum?
4.10	Any type of free meals eg. School feeding, Catholic Relief, Adventist Relief Agency ect
5	**SCHOOL BUILDING**
5.1 - 5.2	**Condition and Number of Rooms:** Indicate the type of wall, roof and floor construction for each level of school according to the categories provided
5.2	**No. of Classrooms**: Count each room (even if in blocks) as a separate room.
5.3	**What is the number and the conditions of the following structures?** Don't double count if mentioned above.
	Major Repair refers to a situation demanding complete re-roofing, constructing a wall/cladding a pavilion , or changing the floor of a classroom **Minor Repair refers** to repair work on windows, fixing door shutters, or replacing one or two roofing sheets
5.4	**DON'T COUNT ANY ROOMS IN THIS TABLE THAT HAVE ALREADY BEEN COUNTED IN TABLE 5.1 AND 5.2. Note:** Information is being requested on the **dormitory block** not the **hostel block**. The hostel block is usually privately owned and not on the school grounds whereas the dormitory block is owned by the school. When reporting on **Teacher Quarters, Other Staff Quarters** - as a general rule count the bedrooms that are being occupied by a teacher. E.g. If your school has a bungalow and two teachers are staying there then count 2 but if only 1 teacher then count only 1.
6	**CHARACTERISTICS OF SCHOOL'S MATERIALS AND EQUIPMENT**
6.1	Write the actual number of pieces of furniture available under the specific type on the form separately for each level.
9	**ENROLMENT BY GRADE, BY SEX AND BY AGE**
9.1	Note that number of classes per grade is the same as the number of streams per grade.
11	**TEACHER PROFILES**
	Staff number: If no staff number then leave blank. If the teacher has a number do not put Government as a prefix as it will be assumed it is there.
	Year of birth: put last 2 digits of the year in which the person is born.
	Year of First Service: put last 2 digits of the year. **Rank:** refer to codes at back where a letter or number is initialized in bold e.g. **S** =Subject **H** = Head Put the appropriate letter or number in the column.

O Instruction Manual used in filling the EMIS Forms for Senior High Schools

	INSTRUCTIONAL MANUAL SENIOR HIGH SCHOOLS
A	**All questions MUST BE ANSWERED. District Statistics Officers and Circuit Supervisors to check that the questionnaire is as complete as possible.**
B	**If requested information is not applicable to your school please indicate these with N/A or NIL in the spaces provided. Blank means is does not exist or is not needed. If a WHOLE Table is not applicable write in large letters N/A across the whole table. If there is no information for a whole table then write NIL across the whole table. Do NOT WRITE Zeros in every space.**
C	**DO NOT Tick when NUMBERS or HOW MANY is requested. Ticked information in this case is useless. Only tick when a small tick box is provided.**
D	**All information provided should refer to this academic school year unless otherwise requested in the question. Eg. Enrolment, Textbooks, Teachers, etc in this school year whereas Pupil transfers TO other schools, Staff Leave, etc are requested for the past academic year.**
E	**Read through questionnaire briefly before completing it. It will minimize the misfakes you may make. Note, where the questionnaire indicates a code, refer to back pages of questionnaire.**
Intro	The Annual Census must be signed off by the Head (or Acting) Head of the School. It must be checked and signed by the District Statistics Officer.
1	**SCHOOL IDENTIFICATION**
1.1	Please put in the full name of the school
1.2	**The Year Established** refers to the first year the school was opened.
1.3	**School Status**: Public = State owned, Private= Non-State owned, Registered refers to registration of the school with the Ghana Education Service.
1.4	**Registration Number** refers to the Number on the School's Registration Certificate. It is only issued to Private schools
1.6	**Location of School**: Indicate the names of the region, district, locality, etc in full with the appropriate code (refer to code page). Locality refers to the name given to the surrounding area around the school.
1.7	**Type of Locality**: Rural is areas with small population(*less than 5,000*), and no facilities - electricity, water, clinic, - or it is rural if the only facilities *are* some 20kms away.
1.8	**School Address**: If your school has no telephone, fax or email leave blank.
1.9	**Education Management Unit of School**: Refer to back page for codes
	Summary Count: Check that the totals correspond with the totals of tables 5.1, 9 and 11.The totals of the pupils must be the same as the totals of the pupils in table 9; the totals of the classrooms must be the same as the totals of the classrooms in 5.1 and total teacher numbers must be the sum of the teachers in table 11.
2	**SCHOOL PROFILE AND ORGANISATION**
2.6	**Special Education School**: These are schools for pupils with special needs due to physical, mental or psychological challenges they face.
2.3	Even if you are not a Special School do you have any disabled pupils? Complete this table. If your school is a Special School you MUST complete this table. If you are not a Special School you need to count the pupils with problems with their eyes, speech, and hearing or physically and intellectually challenged.
2.4	**Ramp**: A ramp is a sloping walkway used by wheelchairs to access buildings where stairs are used.

3	**SCHOOL INFRASTRUCTURE**
3.1	**Access**: This refers to access in the last 2-4 km from the school
3.11	**School lands**: Does your school has title Deeds or is registered as belonging to the school? Government wants to track whether schools have secured their lands for their own use.
3.14	**Boarding**: This is not hostels or private boarding outside of the school property.
4	**SCHOOL MANAGEMENT AND FINANCE**
4.1	**Board of Governors:** The board has a representative of the Director General selected in consultation with the Minister. Representatives from the teaching and non-teaching staff, old students association and members to represent historical interest.
4.5	**In-Service Training:** This could be both at the school and outside the school by external providers.
4.7	Does the school deliberately include HIV/AIDs issues in each subject at some point in the curriculum?
5	**SCHOOL BUILDING**
5.1	**No. of Classrooms**: Count each room (even if in blocks) as a separate room.
5.4	**Major Repair** refers to a situation demanding complete re-roofing, contracting a wall/cladding a pavilion , or changing the floor of a classroom **Minor Repair refers** to repair work on windows, fixing door shutters, or replacing one or two roofing sheets
5.4	**Note:** Information is being requested on the **dormitory block** not the **hostel block**. The hostel block is usually privately owned and not on the school grounds whereas the dormitory block is owned by the school. When reporting on **Teacher Quarters, Other Staff Quarters -** as a general rule count the bedrooms that are being occupied by a teacher. Eg. If your school has a bungalow and two teachers are staying there then count 2 but if only 1 teacher then count only 1.
6	**CHARACTERISTICS OF SCHOOL'S MATERIALS AND EQUIPMENT**
6.1	Write the actual number of pieces of furniture available under the specific type on the form separately for each level.
11	**TEACHER PROFILES**
	Staff number: If no staff number then leave blank. If the teacher has a number do not put Government as a prefix as it will be assumed it is there.
	Year of birth: put last 2 digits of the year in which the person is born.
	Year of First Service: put last 2 digits of the year. **Rank:** refer to codes at back where a letter or number is initialized in bold e.g. **S** =Subject **H** = Head Put the appropriate letter or number in the column.

P Instruction Manual used in filling the EMIS Forms for TVET

Question No.	INSTRUCTIONAL MANUAL FOR TVET
A	**All** questions **MUST BE ANSWERED.** The Head of the Centre or Institution must sign that the information provided are correct and completed to the best of their knowledge. The Receiving Officer from a Ministry or Body that registers the TVET institution must also sign.
B	If requested information is not applicable to your INSTITUTION please indicate these with N/A or NIL in the spaces provided. Blank means is does not exist or is not needed. If a WHOLE Table is not applicable write in large letters N/A across the whole table. If there is no information for a whole table then write NIL across the whole table. Do NOT WRITE Zeros in every space.
C	**DO NOT Tick** when **NUMBERS** or **HOW MANY** is requested. Ticked information in this case is useless. Only tick when a small tick box is provided.
D	All information provided should refer to this academic year unless otherwise requested in the question. **Eg. Enrolment, Textbooks, Teachers,etc in this INSTITUTION year whereas STUDENT transfers TO other INSTITUTIONs, Staff Leave, etc are requested for the past academic year.**
E	Ensure that **every page** has the **INSTITUTION'S NAME** and where available its **EMIS NUMBER** completed on the top of the page.
1	**INSTITUTION IDENTIFICATION**
1.1	Please put in the full name of the INSTITUTION
1.2	**The Year Established** refers to the first year the INSTITUTION was opened.
1.3	**INSTITUTION Status: Public** = State owned, **Private**= Non-State owned, **Registered** refers to registration of the INSTITUTION with the **Registrar General**
1.4	In addition to registering with the Registrar General, a private TVET institution should be registered with a Ministry. Please indicate the appropriate code in your answer. Only one code is acceptable. **1** = Ministry of Education, Science and Sports **2**= Ministry of Manpower, Youth and Employment **3**= Ministry of Local Government and Rural Development **4**= Ministry of Trade and Industry **5**= Ministry of Transportation **6**= Ministry o Agriculture
1.5	Each registered private TVET institution should have a registration number.
1.6	Please do not indicate more than ONE tick
1.7	Location of INSTITUTION: Indicate the names of the region, district, locality, etc in full with the appropriate code (refer to code page). Locality refers to the name given to the surrounding area around the INSTITUTION.
1.8	**Type of Locality**: Rural is areas with small population, and no facilities - electricity, water, clinic,- or it is rural if the only facilities are some 20kms away.
1.9	INSTITUTION Address: If your INSTITUTION has no telephone, fax or email leave blank.
1.10	Education Management Unit of INSTITUTION: Refer to back page for codes
2	**INSTITUTIONAL PROFILE AND ORGANISATION**
2.2	**Special Education INSTITUTION:** These are INSTITUTIONs for STUDENTs with special needs due to physical, mental or pyschological challenges they face.
2.3	Even if you are not a Special INSTITUTION do you have any disabled STUDENTs? Complete this table. You need to count the STUDENTs with problems with their eyes, speech, hearing or physically and/or are mildly intellectually challenged (ie. mild enough to allow mainstreaming)
2.4	**Ramp:** A ramp is a sloping walkway used by wheelchairs to access buildings where stairs are used.This is for ALL INSTITUTIONs - Special and Mainstream INSTITUTIONs
3	**INSTITUTION'S INFRASTRUCTURE**
3.1	**Access:** This refers to access in the last 2-4 km from the INSTITUTION

	STUDENT ENROLMENT
8.1	This table excludes enrolment in English, Science and Maths and other generic subjects as there is a need to avoid DOUBLE COUNTING these students enrolled in other programmes (ie. Engineering student could also be enrolled in Science).
9	**TEACHER PROFILES**
	Staff Number: It no staff number then leave blank. If a teacher has a number do not put Government as a prefix as it will be assumed that it is there.
	Year of Birth: Put last two digits of the year in which the person was born.
	Year of First Service in TVET Institution: refers to the the first year of appointment as an established teacher teaching TVET at a TVET institution
	Current Rank: Refer to table at back of questionnaire (Not applicable to private institutions.
	Industrial Attachment: This refers to the time spent in a relevant industry or trade and not at the TVET institution teaching.
	Academic Qualification: Always choose the highest qualification of a teacher. Refer to code list at back of questionnaire. HND holders fit into diploma.
	Professional Qualification: This refers only to a TEACHING Professional qualification.Refer to code list at back of questionnaire. Note PGC is a professional qualification. The year of completion must be supplied.
	Pays salary: Tick only one box. Other includes volunteers from USAID, Peacecorps, INSTITUTION for Life, etc.
10	**TEACHER PERIODS AND SUBJECTS TAUGHT**
	Include the HEAD of the Institution's name here and if they are not teaching draw a line through the row and write ADMINISTRATION on the line. Refer to Table 8 or 9 for programme or course code.
11	**EQUIPMENT FOR TRAINING**
	Definitions are found at the bottom of the page. Add any additional course/programmes if necessary.
12	**STUDENT AND TEACHER INFORMATION**
12.1	**Death by Illness**: refers to all sickness leading to death. Other includes accidents, murder, suicide, etc
13	**STAFF MOVEMENT**
13.1	For this table note the number of staff that have taken leave this PAST Academic Year and then add the total number of days leave they have taken. Eg. 4 teachers took 10 days casual leave therefore you would enter 40 days as the total number of leave days next to casual leave under primary.
	Study Leave: includes study leave with pay, without pay and leave for visiting a lecturer or writing an exam if studying through distance education. Please report teachers away on long-term study leave only for this past academic year and calculate the number of days eg. 365 days if away for whole year. DONT count any years in advance.
	Casual Leave: This is emergency leave and a maximum of 10 days in a year can be taken.
	Annual Leave: This refers to support staff and office staff only - not teachers.
	Leave of Absence: This refers to obtaining permission from the authorities to be away from your post. It is unpaid leave. If differs from **Vacation of Post** where permission to leave is not obtained.
13.2	**Transferred:** Includes secondment or transfer to another similar institution within the public sector.

3.11	**INSTITUTION lands:** Does your INSTITUTION have title Deeds or is registered as belonging to the INSTITUTION? Government wants to track whether INSTITUTIONs have secured their lands for their own use.
3.14	**Boarding:** This is not hostels or private boarding outside of the INSTITUTION property.Hostels: This is accommodation outside of the INSTITUTION grounds that does not provide catering. Often privately owned.
4	**GOVERNANCE AND ACCREDITATION**
4.1	**INSTITUTION Board of Governors:** This is a committee that has a representative of the Director General selected in consultation with the Minister. Representatives from the teaching and non-teaching staff, old students association and members to represent historical interest. **GES**= Ghana Education Services **NACVET** = National Coordinating Committee for Technical and Vocational Education and Training **WAEC** = West African Examinations Council **NVTI** = National Vocational Training Institutes
5	**FUNDING**
5.1	Government wants to establish how self sustaining TVET institutions are in accessing funds outside of government sources.
6	**THE BUILDING**
6.1	**No. of Classrooms**: Count each room (even if in blocks) as a separate room.
6.3	**Major Repair** refers to a situation demanding complete re-roofing, constructing a wall/cladding pavilion or changing the floor of a classroom. **Minor Repair** refers to repair work on windows, fixing doors, shutters or replacing one or two roofing sheets
6.4	**DON'T COUNT ANY ROOMS IN THIS TABLE THAT HAVE ALREADY BEEN COUNTED IN TABLE 5.1 AND 5.2.** **Note:** Information is being requested on the dormitory block not the hostel block.The hostel block is ususally privately owned and not on the INSTITUTION grounds whereas the dormitory block is owned by the INSTITUTION. If your institution has indicated that it has **Boarding facilities** in Questions 3.14 and 3.15 then dormitory blocks MUST be reported in this table. When reporting on Teacher Quarters, Other Staff Quarters - as a general rule count the bedrooms that are being occupied by a teacher. Eg. If your INSTITUTION has a bungalow and two teachers are staying there then count 2 but if only 1 teacher then count only 1.
7	**LEARNING HOURS**
7.1	This table requests information on the number of contact learning hours per programme in terms of theory, practice and if applicable industrial attachment for the **WHOLE DURATION OF THE PROGRAMME by level.** Contact hours means the hours STUDENTS spend on the course with direct supervision from the teacher. If your institution's course is not reflected in the list add the course under **Other.** Information on Industrial attachment should limited to the highest level of programme offered.
	Intermediate level= Craft or Foundational Level **Advanced level** = Specialist level **Technician level** = Technician 1 or 2 or 3. Choose the appropriate accreditation code and type of award code for each of the programmes which are offered at your institution. **ACCREDITATION CODES :** **1**= NVTI **2**= WAEC **3**= Government Secretarial **4**= GES **5**= NACVET **99**=Other **TYPE OF AWARD CODE** **1**=Certificate (not Trade Test) **2**= Testimonial **3**= Trade Test Certificate **4**= Diploma **99**= Other