UNIVERSITY OF CAPE COAST

FACTORS AFFECTING UTILIZATION OF INSTRUCTIONAL TIME IN MFANTSIPIM SCHOOL

FRANCIS KORKOENE YAW KUMATIA

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BY

FRANCIS KORKOENE YAW KUMATIA

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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 Name: Francis Korkoene Yaw Kumatia, Signature: .....

Date. 16th Sept. 2008

SUPERVISOR'S DECLARATION

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

Supervisor's Name: Professor A. Amuzu-Kpeglo, Signature: .....

Date. 20th Sept. 2008

ABSTRACT

This study set out to investigate the utilization of teachers in Mfantsipim School in the Cape Coast Municipality of the Central Region of Ghana; considering such indicators as instructional time management and teaching load and its relation to the performance of the students at the end of the senior secondary school programme. A descriptive survey method was adopted for this research. All teachers in the school were used as the sample for the study. Copies of the Questionnaire were served to all the 80 teachers in Mfantsipim. In all 70 respondents (87.5%) returned their completed questionnaire. The study concluded that teachers in Mfantsipim were optimally utilised in terms of student-teacher ratios and work load.

With regard to teaching load, the study revealed that majority of teachers in Mfantsipim School were optimally utilised in terms of Ghana Education Service norms. It revealed that announcements at morning assembly (85.7%) and teachers taking part of other teacher's time (75.7%) respectively took a chunk of the teachers teaching time. It also revealed that teachers spent between 15 and 75 minutes a week on teaching related activities. The study therefore recommended that the authorities of Mfantsipim School need to put in a lot of measures to maximize the contact time between teachers and students.

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DEDICATION

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CHAPTER ONE

INTRODUCTION

Background to the Study

Plato was noted in an article cited in Radio Sai E-Magazine, to have defined education as the upward journey of the soul towards goodness and concludes that it is the exact goal of education. He further made it clear that education is not putting knowledge into a soul which doesn't have it, just as giving sight into eyes that are blind. Though this definition may sound philosophical, its implication is that education is that which brings man to the awareness of what is and that which helps man to understand the world around him and to live in harmony with it.

Education is also seen as including whatever we do for ourselves and whatever others do to bring about perfecting our nature. Bowyer (1970) describes education as "an act of educating to instill discipline of mind or character through study or instruction". He is of the view that education is systematic, has the overall purpose of preparing the individual for a good life and is a discipline concerned with the formation of concepts. Dewey (1968) asserts that education aims at transforming the educand to fit into his environment. He sees it as a fostering, nurturing, and cultivating process. It can also be seen as a process of identifying and developing the ability of man through guidance. It is an acquisition or process of passing the culture of a society from generation to generation.

Education also acts as a mode of transmitting an acquired knowledge and skills within a society. It describes the total process of human learning by which knowledge and skills are imparted.

Education plays a very important role in the socio-economic development of every nation. Nations therefore put in a lot of effort and resources to improve upon the quality and delivery of education. Various studies show a strong positive correlation between educational growth and development and economic growth and development. According to the human capital theorists, schooling or education raises labour productivity through its role in increasing the cognitive abilities of workers. Education equips the individual with skills, technical know how and competencies that are ingredients for higher productivity and a high productivity is essential for a high Gross National Product (GNP), which is a sign of economic development. Forojalla (1993) stipulates that, the relationship between education and production is that, education generates knowledge, transmits it and enables its application to the task of national development.

Various writers seeking to highlight the relationship between educational growth and development and economic growth and development have used the simple correlation approach. The simple correlation approach consists of correlating some overall index of educational activity with some index of the level of economic growth. Several studies have shown positive correlation between educational growth and development and economic development. Bowman and Anderson (1963) are quoted by Blaugh (1980) as stating in their research findings that something like a 40 percent literacy rate seemed to be a prerequisite for

incomes per head to exceed $300, and similarly that 90 percent literacy rate seemed to be necessary to realise incomes over $500. Shultz (1961) correlated education and GNP in the US over the period 1900-1956 and, treating education solely as a consumer good, he found out that the income elasticity of demand for education was 3.5. This meant that a unit increase in income would lead to a 3.5 unit increase in the demand for education. Also, Nwanko (1981), apparently adding more weight to the importance of education to national development, stated that:

> From Shultz, a lot of people began to employ various methods to measure the contribution of education to economic growth. Such studies included the works of Shultz, in the United State of America (1900-1958), Robert M. Solow (1909-1949), and Gray S. Becker (1900-1950). Using different approaches, their findings showed that investments in education, on the average, had paid significant financial as well as non-financial rewards to national (and economic) development. (p.49).

Forojalla (1993) cites Solow (1957) as indicating that technical progress accounts for as much as 90 percent of production. Education therefore provides not only knowledge, skills and the incentives needed by

a modern economy but also the necessary technology. These and many more show the importance of education to economic or national growth.

McWilliam and Kwamena-Poh (1975) makes it clear that, it was not until the last quarter of the 19th century that Ghana began to take a first step towards a state-organized education. This brings to focus that before then, informal systems of education had been the main way in which Ghanaian communities prepared their members for citizenship. It is also interesting to note that in Ghana the first "school" was the home: the "teachers" were the parents, guardians and the elders in the family or society. The "curriculum" was all that took place in our daily life and learning was by observation and apprenticeship. McWilliam and Kwamena-Poh continue to say that, the first major purpose of such education was the inculcation of good character and good health in the young members of the community. The second was to give them adequate knowledge of their history, beliefs and culture, thus enabling them to participate fully in social life". It could be seen from the foregoing comment that the purpose of non-formal education since the beginning of the Ghanaian society has been for national development.

Formal Education in Ghana dates back to the mercantile era preceding colonization. According to historians, the first schools were set up by European merchants and missionaries. A formal state education structure, modeled on the British system, was set up during the colonial period. This structure has been through a series of reforms since Ghana gained independence in March, 1957. A number of famous pioneers from both pre- and post-colonial times have left their mark on the education system of Ghana. Wide-ranging reforms in the late 1980s

have brought the structure of the education system closer to an American model, aiming to make education more responsive to the nation's manpower needs rather than purely academic.

Education is currently universally recognized as a form of investments in human beings which, yields economic benefits and contributes to the country's future wealth by increasing the productive capacity of its people. Education is also regarded as the key to the development of any nation because it develops the human resource needed for socio-economic transformation. Education is defined by Cermin (1978) as "the deliberate, systematic and sustained effort to transmit, evoke or acquire knowledge, attitudes and values, skills and responsibilities and any learning that results from efforts, direct or indirect, intended or unintended". This means that education is concerned with developing the totality of the individual. It must deal with the acquisition of the cognitive, affective and psychomotor dimensions which should be transmitted to the younger generation through the formal and/or informal means. To promote the development of these dimensions, in the schools, the Ministry of Education and other organizations try to encourage academic work as well as co-curricula activities such as the National Science and Mathematics Quiz, National Independence Debates, National Sports festival, Nestle (Milo) sponsored Soccer and Volleyball competitions for boys and girls respectively in the second cycle institutions and cultural festivals.

Various Governments of Ghana since independence, have since the introduction of formal education in the 19th century by the European merchants

and missionaries, adopted several polices to help improve upon the educational system of the country. Such policies include;

1. The Accelerated Development Plan of 1951, which sought to build a large number of classrooms to enable more children gain access to education.
2. The Education Act of 1961 which gave legal backing to the government's decision to make primary education compulsory and universal.
3. The Education Reform Programme of 1987, which focused on the reduction of pre-university education. Among the main objectives of this reform were, improving access to education; giving all children of school going age a basic education, providing equal opportunities and making the educational system more effective by improving the ratio between cost and performance.

One of the objectives of the Free Compulsory Universal Basic Education (fCUBE) is to improve efficiency in the educational system. It is therefore necessary that educational resources are put to optimal use. Efficiency is the ability to put resources; (human, material and time) to optimal use. Producing the desired effect with minimal effort, expense or waste is very necessary to ensure efficiency. According to Akangbou (1987), "efficiency is the ratio between the output of an organisation, establishment or department and the inputs used in producing the output." Educational efficiency is therefore the ratio between the output of the educational system and the inputs used in producing such outputs. The inputs of education can be categorized into; labour (teachers and non teachers), capital (buildings, furniture and equipment), raw materials (students)

and other educational goods and services such as water, electricity, postal and telephone services. The importance of teachers as an input of education can therefore not be overestimated. Vaizey (1972) supports this view when he stated that all educational effort depends on them (teachers). Windham (1988) points out that teachers are central to most (if not all) national systems of education. Indeed, the success of any educational program depends on teachers who would be required to implement the paper decisions to the final stage.

Forojalla (1993) also supports this by saying that the ultimate focus of educational planning and educational administration is the learner and his learning. However, the teacher as the greatest aid to learning is the most important instrument in the school system. The direct personal contact between pupil and teachers remains the linchpin of the educational process. It is therefore imperative that teachers are utilized efficiently to produce the desired result. Dzineku (1992), cites Ginzberg and Smith (1967) as pointing out that the common error in both developed and developing countries is to focus exclusively on matters of manpower supply, while giving brief considerations to manpower utilization.

Harbison (1973) states that, "The utilisation of human resources is the serious and intractable problem facing the less developed country today.... The crucial question is whether appropriate opportunities can be created to utilise effectively a rapidly growing abundance of human resources and thus enable the masses to enjoy some of the fruits of progress". Harbison further assert that the problem of under-utilisation is blindingly obvious and that, manpower, most abundant world resources in the developing countries, is grossly under utilised

even though it is capable of almost limitless development. Under utilisation of human resources have its own implications. According to Ginzberg and Smith (1967), neglect of utilisation (under utilisation) is an error since a trained person who is not used to full capacity is not really an asset. A trained person who is employed to use the skills and competencies he/she has acquired must not be made to go waste. It must be ensured that whatever task he is to perform is done effectively and efficiently.

Teachers' salaries invariably account for a very high proportion of recurrent expenditure on education. This is particularly the case at the basic level because of governments' effort to universalise basic education. Changes in teacher qualification or in the student- teacher ratios can have enormous impact on the educational budget. Moreover, in this era when teacher supply is said to be less than teacher requirement, it is necessary that the few available be really put to maximum use; considering the amount of money spent on them. On the other hand, over utilisation of human resources is seen as being very dangerous. According to Dessler (2000), a recent study reported that role overload, (formerly defined as the degree to which the employees' performance was seen as being affected by inadequate time, training and resources) was significantly associated with unsafe behaviours. Similarly other researchers have suggested that as work overload increases, workers are more likely to adopt more risky methods. Arikewuyo (2000), quotes various researches to confirm that over-utilisation of staff especially manifested by overcrowded classes have been identified to be a major source of stress among teachers. Given this, employers and their

supervisors should monitor employees, (and particularly those, in relatively hazardous jobs) for signs of stress and overload.

In support of this, Owolabi (1996) postulates that, in general, schools where teachers are heavily laden may be over utilising staff but are surely minimising educational costs. But if this minimizing of cost strategy is carried to the extreme, diminishing returns may set in and quality may be lowered significantly. Owolabi further asserts that having less than the minimum or exceeding the maximum number of students per class implies underutilisation or over-utilisation and these may have antithetical bearings on quality and cost of education. This idea from Owolabi suggests that over-utilisation of human resources is as dangerous as underutilisation and both must be critically looked at to strike a balance between staff utilisation and quality.

It is contended that teachers work below 40 hours a week while their counterparts in offices work up to 40 hours a week of 5 days as prescribed by the labour laws for Ghanaian workers. Moreover it is a general view that teachers have holidays during vacation hence, the assertion that, teachers are underutilised. But the teachers contend that their work does not end when they leave the classrooms but they carry their work home and that even when schools vacate, they continue with their work by marking end of term examination scripts and filling class reports. Schools may be on vacation though, yet that does not imply that teachers are on holidays. They continue to work. The work of the teacher is not merely going to class to teach. This view is supported by Akinpelu (1995) who asserts that, in a school setting, what the teacher is employed to do is

'teaching'; but if we enter a school compound we can hardly find him 'talking and chalking' (as teaching is usually called) for more than a half or two- thirds of his time. Even in the classroom, there are many of his activities which are strictly speaking not teaching; such as marking registers, opening the window for ventilation, checking noise and maintaining 'discipline', filling the record book and so on. He describes teaching as an enterprise, a cluster of activities that have the teaching act itself as its centre that facilitates or promotes the teaching act, and in a larger sense that contributes towards the total education of children committed to the teachers charge. The teacher does not have one role, but many; he is a manager organising his students so as to accomplish set objectives. He is a resource person providing his students with information and able to guide them to other fruitful sources, he is what the French call "animateur", stimulating and arousing the interest of the student so that they soon generate their own motivation. These roles are played out in the various tasks that comprise teacher's work.

Teaching is the conscious and deliberate effort of a mature or experienced person to impart information, knowledge and skills to an immature or less experienced person with the intention that the latter will learn, come to believe what he is taught on good grounds or exhibit a change in behaviour. The teacher's work is therefore not limited to the classroom alone but to all other places in society. The teacher is perceived as a role model in society. This implies that the entire life of a teacher encompasses his work. There is therefore not one specific

role that a teacher must play but a generality of roles to bring this change. The job of the teacher must therefore be looked at critically.

Serious efforts were to be made to ensure that the utilization of the school premises, equipment and staff and the length of time used are at the highest possible within the limits of pedagogy, administrative and political considerations. In 1987, Ghana's Ministry of Education introduced a restructured educational system that gradually replaced the British-based General Certificate of Education (G.C.E.) Ordinary level and Advance level system. The transition was completed in June, 1996, when the last class took the Advance level examinations conducted by the West Africa Examination Council (W.A.E.C.). The last Ordinary level examinations were administered in June 1994, although remedial examinations were offered through 1999.

The educational reform affected all Ghanaian schools; public and private. The Senior Secondary School curriculum, including the syllabi, schedules, examinations, marking systems, and to some extent, textbooks, was determined by the Ministry of Education and is identical in the over 400 Secondary Schools in Ghana.

As Ghana's Educational Reforms were being implemented, reviewing and curriculum adjustment were frequent. The list of required subjects, the grading system, and some subject syllabi were different for each successive class. Admission officials were encouraged to contact the United States Information Services (USIS) Educational Advising Center in Accra for clarification and

evaluation of applicants' transcripts and to confirm all secondary school examination results from the West African Examinations Council, WAEC.

The implementation of the Education Reforms of 1987 and the Free Compulsory Universal Basic Education (FCUBE) of 1996 resulted in a significant rise in demand for basic and secondary education. This was noted in a speech delivered by the Principal of Ho Polytechnic, Dr. George Afeti in September 2006 on the new educational reform in Ghana and educational development in Eweland. More recently, the introduction of the capitation grant in basic schools and also the feeding programme in one school in every district in the country have also increased the enrolment in schools. This reform also brought about an increase in the number of weeks per school year from thirty-three (33) to forty (40), the number of teaching period per day from eight (8) to nine (9) or ten (10) in some schools. The five minutes allowance for change over was thus sacrificed to accommodate the extra period in some schools.

The challenge facing schools currently is the ability to effectively combine academic work with co-curricular activities. This can be achieved through the optimum utilization of time. When teachers and students see the importance and cultivate the appropriate time management habits, they will be in the position to meet this target and achieve excellence.

For an illustration, let us assume there are ten periods a day with each teacher utilizing two periods. Each teacher decides to give the students five minutes break before the next teacher comes in. The next teacher also decides to give five minutes rest. This may be considered marginal. However, the two

teachers end up wasting ten (10) minutes which when put together come to fifty (50) minutes a day and four hours ten minutes a week. Within ten weeks, there is a total loss of one week of valuable teaching and learning time; two thousand five hundred (2,500) minutes to be precise. Schools will find it difficult stopping classes for one week just to organize co-curricula activities but this is possible with the change–over time and the head of the institution can easily over look this.

Consider other activities that can disrupt classes; which include all forms of rehearsal for either school or national functions, statutory national public holidays, school holidays, sports and games to mention but a few. It becomes clear that within ten weeks, less than eight weeks teaching actually takes place in the classroom. Mackenzie (1975) states "more work could be done in less time, if time is properly managed". This means that with the little time left after all these holidays, teachers can effectively impart some knowledge if they really plan and make very effective use of the time available.

The change-over time is only a tip of the iceberg. A lot of teaching and learning time is wasted on other factors such as announcements at morning assembly, staff meetings, national holidays, school holidays; for example; John Wesley days in Methodist Institutions and All Saints Day in the Catholic Institutions, preparations for speech and prize giving days, school committee meetings; to mention but a few.

With proper time management, teachers and students may realize that they have more time than they need and can achieve more within what may be

considered a limited time. This will, however, require the efficient and effective supervision of time on the part of the school head and dedication to duty on the part of the teachers.

Graham, (1971) in his book, *The history of education in Ghana: from the earliest times to the declaration of independence.* tells us that Cape Coast, now a municipality in the Central Region of Ghana; can boast of some of the best senior secondary schools in Ghana. Cape Coast is sometimes referred to as the citadel of education in Ghana. The history of education in Cape Coast can be traced to the arrival of the English merchants on the shores of Cape Coast. The British commenced their role in formal education in the Gold Coast (now Ghana) by establishing a school in the Cape Coast Castle in 1694. This was initiated and spearheaded by John Chiltman. This initial attempt was however short-lived. Rev. John Jameson who was appointed chaplain of the Castle by the Royal African Company in 1712 revived the school. The basic aim for reviving this school was to teach the mulattos and a few African children Christianity, good habits and thus generally prepared them to serve the interest of the Royal African Company. The school was however closed down after the death of Rev. John Jameson.

The missionaries also came down to establish schools. The Wesleyan mission established their first school in Cape Coast. It all started with the arrival in Cape Coast of Rev. Joseph Dunwell in 1835. By 1844, the Wesleyans had established schools in 18 towns mostly in the Fante area. The Wesleyans are noted for English Education and are pioneers in Secondary education in Ghana

establishing the first secondary school in Ghana, now Mfantsipim School in 1876. They also established Wesley Girls High School also in Cape Coast, which started as a primary school in 1836. In all these periods, teachers were under-utilised in terms of student-teacher ratios as enrolments were generally low. In terms of total workload, the teachers were over-utilised because a teacher had to teach about three subjects which inflated the number of contact the teacher makes with the with students.

There are ten public senior secondary schools in Cape Coast at present, of which Mfantsipim is one. There are also several private senior secondary schools, a Technical Institution and some vocational schools in the Cape Coast municipality. Apart from Efutu Secondary Technical and Oguaa Secondary Technical, which are considered among the "newly" established Senior Secondary Schools, the other eight were established before 1990 in each case. Incidentally, all the newly established senior secondary schools in the municipality are all mixed sex schools while the other "old' schools are all single sex schools. Wesley Girls High School and Holy Child School are girl schools.

Admission of students into these senior secondary schools used not to be all that easy whenever it was time for the selection of Junior Secondary School graduates into the Senior Secondary Schools. There was so much pressure on the Cape Coast schools, especially the old schools. Whilst the old schools claim to be over populated due to this pressure, the newly established schools are barely full. The teachers in the old schools complain of being over-utilised due to the high population of students and consequent large classes they teach.

They argue that it is very difficult to control large classes, conduct and mark exercises and effectively evaluate and monitor students. Moreover, some complain of teaching more periods than the officially allowed maximum.

Owolabi (1996) asserts that, the main purpose of carrying out a diagnosis of staffing conditions is to assess and gain a better understanding of the conditions of teacher supply so as to make possible a redistribution of teaching in order to improve the use made of the teaching staff and obtain a better teaching learning condition. Towards this end, we need information on the use made of teachers by computing the student teacher-ratio, the teaching load and the average audience of teachers. These indicators can reveal the use-efficiencies of staff. Owolabi explains that, the student teacher ratio, teaching load, class size and average audience are staff utilization measures.

According to Haris and Liba (1960), teaching load includes all the time and energy a teacher must expend in fulfilling duties and responsibilities relating to the task of teaching. Teaching load according to them is usually measured in terms of one or more of the following:

i. Average class size.

ii. Student teacher ratio.

iii. Number of classes per day.

iv. Total enrolment in classes taught.

v. Total clock hours done by the teacher.

vi. vii. The number of different subjects taught.

According to Dzineku (1992), considering the Douglas Formula cited by Good (1959), in measuring teaching load, consideration must be given to the time spent on preparation for classes and the amount of time spent on co- curricular activities, on guidance and on other activities. Dzineku again cites two GES letters dated 7th November 1986, reference PLN. 16/SS/VR/18, (Accra) and 10th April 1991, reference GES /HQ/PG 565/TJ/2 with heading "approved staff establishment for first and second cycle institutions as giving the student teacher ratio of 20:1, a maximum class size of 40 students and a minimum of twenty five (25) periods per week for teachers in the senior secondary schools. Though the researcher could not get a current document on GES approved staff establishment, the Deputy Director, Human Resource Planning at the Central Regional Education Office confirmed that these norms quoted by Dzineku had not changed. He however indicated that teachers were supposed to teach a minimum of 24 and a maximum of 28 periods a week. This does not take into account other duties of the teacher and time spent outside school hours in preparing notes, marking, and offering remedial assistance and other such co-curricular and administrative activities like guidance and supervision.

Statement of the Problem

Teachers are the most important inputs of educational systems. The extent to which teachers are utilised is therefore very important. The efficiency of the educational system depends largely on the effective utilisation of teachers. Apart from the time spent in the classroom with the students, the teacher undertakes such activities as preparing lesson notes, setting and marking exercises, recording

marks, offering remedial assistance, organising and supervising co–curricula activities and performing other administrative duties.

Studies at the JSS level in the Volta Region by Kutor (1999) indicated that Junior Secondary School (JSS) teachers were under-utilised in terms of established norms for teaching load. The study however revealed that teachers were over-utilised in terms of time spent on teaching related activities and total workload. Also, Baffour-Awuah (2004) revealed that senior secondary school teachers in the urban areas of Ashanti Region are generally over-utilised while their counterparts in the rural areas are generally under-utilised.

The problem of the present study is to determine the factors that affect utilization of instructional time in Mfantsipim School in the Cape Coast Municipality and also suggest interventions that could be applied to manage and utilize time effectively and efficiently.

Purpose of the Study

The purpose of this study is to investigate the factors that affect utilization of instructional time in Mfantsipim School in the Cape Coast Municipality of the Central Region of Ghana. The study sought to investigate the extent to which instructional time is utilized and to identify other activities other than normal classroom activities that go into a teacher's job in the school. The study also investigated whether the utilization rates of teachers in Mfantsipim School were higher than that of the Ghana Education Service (G.E.S.) stipulated norms. Also

compared were the utilization rates of teachers in terms of gender, professional status and subject areas taught.

Research Questions

1. What do respondents consider as factors that contribute to the loss of contact hours in the academic year in Mfantsipim School?
2. Does the planning of the timetable allow for effective utilization of contact hours in Mfantsipim School?
3. To what extent do co-curricular activities affect instructional time in Mfantsipim School?
4. To what extent do administrative activities affect instructional time in Mfantsipim School?
5. How efficiently utilized are teachers with respect to the teaching periods that they carry?

Significance of the Study

The study could be of great benefit to the educational system in Ghana as a whole. The results of the study may be useful as a resource material for those who may want to study performances of students in especially the secondary schools, in relation to the amount of contact they make with their teachers, taking cognizance of other related activities that the teachers are supposed to engage in to help in the running of the school.. The results of the study are also a contribution to the development and improvement of knowledge in the field of

teacher student contact and performance of students. It could also serve as a basis for further studies.

The findings and recommendations of the study could not only be useful to Mfantsipim alone, but to all second cycle institutions in all the districts and regions Ghana that share identical characteristics in the planning and allocation of scarce resources (human, time and material). This can also be useful to the new community based schools. Moreover, those 'special' subject areas offered in the school, whose teachers were over-utilised by its nature may be considered when it comes to allocation of other related responsibilities to teachers. Suggestions offered could also help improve teacher efficiency in the schools. Finally, the study has provided information necessary to resolve allegations of teachers who think by the nature of the subjects they teach, most often complain that they are over loaded. Therefore, the conclusions apply only to the teaching staff of Mfantsipim.

Delimitation of the Study

The study covers only the teaching staff of Mfantsipim School in the Cape Coast municipality. Activities of the non-teaching staff were not considered in the study.

Limitations of the Study

Apart from the teaching load of teachers, there is no timetable on teaching related duties like lesson preparation, setting and marking of exercises to mention but a few. Teachers could therefore overestimate or underestimate the time that

they spent on these activities. The use of interviews and observation could have yielded data that would have been more accurate but constraints of finance and time could not allow this. The questionnaire was used to elicit information on utilization of time by teachers in Mfantsipim. It was therefore quite impossible to estimate the time that teachers really spent working.

Another important indicator of the amount of work a teacher does; average audience could not be calculated because it was very difficult to gather the needed information to calculate this. The use of average audience as an indicator of the amount of work teachers undertake would have yielded more insights into teacher load and student performance but the nature of the data available made the use of average audience very difficult.

Organisation of the Research

This dissertation which is based on a case study, "Contact Hours and Student Performance, A Case Study of Mfantsipim" has been organized into five chapters. The first chapter – the Introduction- captures the background to the study, which puts the study in perspective, statement of the problem and the purpose of the study. It also presents the research questions to guide the study. The significance of the study; delimitations and limitations and the definition of terms used in the study are also presented in the first chapter.

The second chapter, reviews literature related to the study. This review of literature took care of the conceptual framework of the study and guided the study. The review was conducted under the sub headings; History of time, Historical development, Cyclical time in schools, The instructional time,

Multifaceted nature, Time for teaching, Increasing teaching time, Delegating tasks, Time for learning, Managed time, Administrative time, Managing instructional time, What teachers need to be, Education reform and the uses of time, Teacher quality and student performance, Resource situation and performance;. The summary of the literature reviewed ends this chapter.

A discussion of the research methodology is presented in chapter three. The research design adopted is discussed together with population and sampling procedure used in selecting the sample. The data collection instruments are also described. The chapter ends with a presentation of the data analysis plan. Chapter four presents the actual analysis of data. The data collected were thoroughly analysed and the findings and discussion of results are presented in this chapter.

The final chapter, chapter five sums up the results and the findings of the study and makes appropriate recommendations. Conclusions drawn from the study and recommendations for further research are also included in this chapter.

Definition of Terms

Official working hours: normal classes' hours. That is when a school officially begins classes to when it officially closes.

Teaching load: actual number of periods a teacher is supposed to teach per week.

Teaching related duties: other activities apart from the actual teaching that goes into the work of a teacher. This includes, lesson preparation, setting and marking exercises etc.

Workload: Teachers contact hours with students and time spent on teaching related activities and administrative / Co curricula activities.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

The review of related literature is very important in any research work. It provides a conceptual framework for the study. It really gives a lot of insight to the researcher. The success or otherwise of a research depends largely on an extensive review of related literature. It is the review of literature that guides the researcher in the selection of a suitable research procedure, methodology and even data analysis plan. As Osuala (1993) puts it, the review of literature serves two purposes in a research report:

1. To set the theoretical base for the research
2. To set the current research into perspective to show the state of art.

It is therefore important that this study on contact hours in relation to student performance in Mfantsipim is put in proper conceptual framework.

The concept of time has been discussed since the earliest record of philosophy, when science had not yet become a separate subject. It is rooted in the subjective experience of the 'passing' present or moment of awareness, which appears to 'flow' through time and thereby to dynamically separate the past from the future. This has led to the formal representation of time by the real numbers, and of the present by a point that 'moves' in the direction characterized by their sign.

The concept of time has been problematical to philosophers. There is even considerable controversy among biblical scholars as to precisely how 'time' is

employed in the divine scheme of things. Eternity is endless, but time is measured by a 'beginning' and an 'end.' The Bible commences with these words: 'In the beginning God created the heavens and the earth' (Gen. 1:1). Jesus once said: 'but from the beginning of the creation, male and female made he them' (Mark. 10:6).

Within the history of thinking about time, the ideas suggested highlighted various aspects of temporality. Fraisse (1968) asserts that the psychology of time began with Kant. Even though earlier philosophical considerations had not been questioned, the reality of time, its essential nature had been disputed. In Plato's theory of mental forms (Light 1980) "eternity was the perfect form known by only the mind". For Plato, time was the image of eternity; moving through the world. Time made all this corrupt meaning that physical images of eternal truths underwent decay in time. Therefore time was a vehicle for deforming eternity and thereby existing only as a debased instantiation of the forms of eternity. This theory implied the existence of both reality in some perfect form and the mind.

Human beings are creatures of 'time,' and are preoccupied with that theme. We wear watches so that we can keep account of 'time.' We ask regarding the criminal:' how much 'time' did he get?' and we ourselves misuse, 'how much' time' do I have left?' our music contemplates this theme. We sing that 'time goes on,' and at the same time laments that; time has stood still since we have been part.

"We need more time to do the work of restructuring our school." Repeatedly we hear this plea for more time in proposals, reports, and presentations on myriad efforts to alter the ways in which American schools

structure their activities. Classroom teachers are finally faced with the exciting prospects of school revitalization, and many school staffs across the country have begun searching for ways to find time for teachers to do the important work of restructuring while they continue to teach. All kinds of methods are employed, from highly original released time schemes to buying more substitute time. However, even in those schools where time has been created, bought, borrowed, or stolen for restructuring work, among teachers there remains a feeling that it still isn't enough. Inevitably, the work quickly surpasses the time allotted. Time, adequate in quantity and rich in quality, is elusive. Yet, we continue to look for more ways to get it. Somehow, if we can find more time, we seem to say, we will be able to successfully meet the task of restructuring schools. Why, despite all the efforts to manage it, does time for teachers in school restructuring remain so elusive?

St. Augustine however construed time differently from Plato. According to St. Augustine (in Light, 1980) the source of all time was God, who existed before time began and would after it ended. He also believed (as in Hawking, 1990) that time had no meaning before the beginning of the universe because time was a property of the universe God created, and it did not exist before the beginning of the universe. Kant declared that the notion of time was imposed on man by the activity of the mind. He also suggested that one of the forms of human sensibility, reality is understood in terms of the idea of time. Durkheim (in Goody 1968) argued that the categories were not arrived at, only through the operations of the mind but were social constructions. This is in line with Kant's view that the

basic categories of the understanding existed in the mind. Thus Durkheim saw time not only as man-made but also as a social convention. Explaining the source of the idea of time in this way throws some light on the variety of cultural understandings of time.

On the measurement of time, both Aristotle and Newton (in Hawking, 1990) believed in absolute time; that one could unambiguously measure the interval between two events, and that the time would be the same whoever measured it; provided they use a good clock. Time in this direction, was completely different from and independent of space.

In view of that, some experiments in physics showed that the notion of absolute time did not work at all in some situations. Using a pair of very accurate clocks mounted at the top and bottom of a water tower, scientists found that the clock at the bottom, which was nearer the earth, ran slower. This leads to the relativity of time; that each observer must have his own measure of time, as recorded by a clock with him and that identical clocks carried by different observers would not necessarily agree (Hawking, 1990).

Some functionalist also expressed some ideas about time. Zerubavel quoted in Cambone, (1994: 5) saying, "Time functions as one of the major dimensions of social organization along which involvement, commitment and accessibility are defined and regulated in modern society". Whether time is created by God, or a human invention, whether its measure is dependent, or independent of an observer, it undoubtedly refers to a system of occurrences to which other occurrences are referred. Hence, time is a series of regular changes

with which one can recognize, synchronize effect and measure other changes. It is a notion of a system that structures thinking and life in society. Teacher time is not just time scheduled for them in that; externally imposed schedules often disrupt teacher participation in school work (Cambone, 1994; Fraise, 1968). With a deep understanding of the multiple meanings of time for teachers, one may be in a better position to assist teachers in taking active role in their schools because people use time to structure their lives.

Moving all students toward high academic standards means making more time for teachers: time to share lessons and ideas with other teachers; time for workshops, professional networks, observing other teachers in action; time for figuring out how to make the change toward high-performance teaching and learning in their own classrooms.

Yet today, as put up by Linda Darling-Hammond in Phi Delta Kappan, (June 1993): and cited on EBSCO a search software;

> Time is rarely available for planning, for working with other colleagues on changes in the school organization, for meeting individually with students or parents, and for working on the development of curriculum or assessment measures -- activities that are not considered part of the teacher's main job. In contrast, teachers in most countries work with large groups of students only 15 to 20 hours per week and spend the other 20 to 30 hours per week working individually with students and parents, planning and

consulting with other teachers, and developing curriculum and assessments.

Concern about instructional time is not new. No adult who ever taught a child could fail to learn that instructional time, particularly time-on-task, is an important instructional variable. Throughout the ages, in virtually all treatises on teaching and learning, the obviousness of this relationship was made apparent. In the scholarly literature of modern times we find Currie (1984) in an early teaching methods book, *The Principles and Practice of Common School Education*, informing teachers that,

"The art of teaching consists of the means by which the teacher sustains the attention of his class". Attention in this text does not mean the mere absence of noise and trifling; or that inert passive state in which the class, with eye fixed on the teacher, gives no symptom of mental life. It does not mean that intermittent and almost unconscious attention bestowed on some casual topic which strikes their fancy. It is also not the partial attention given by a few in the immediate neighborhood of the pupil addressed. The only satisfactory attention is that which is given voluntarily and steadily by all during the entire instruction and in which the mental attitude of the class is actively engaged along with the teacher in working out their own instruction.

Carroll (1963) states, "perseverance; the willingness to attend; and for what some call cognitive engagement *or* active learning". The terms cognitive engagement and active learning are used by some researchers to refer to time

spent by students processing information in a non-automatic, non-passive way, and at a deeper level, with more genuine thought about the information that is being processed. It is worth noting that the first empirical study of classroom teaching that was used to inform arguments about the school curriculum was also a study of instructional time, with a particular concern for cognitive engagement or active learning. Rice (1897), states that, "rather than philosophizing or using moral reasoning to inform his position about schooling, as was the custom of the time, instead used modern scientific methods". He observed teachers and students in classrooms and tested learning outcomes associated with instructional time spent on spelling. His report of the "spelling grind" – the deadly, daily, extensive time spent on spelling – is a landmark study in the history of research in education, particularly in research on teaching. He examined the effects of allocated time on learning, engaged time and, particularly pointing out the lack of cognitive engagement by even the most studious of the elementary school children. He yielded a negatively accelerated, asymptotic learning curve as a description of the relationship of spelling time to achievement in spelling. This curvilinear relationship, showing first an increase in spelling achievement as time spent in spelling drill increases, and then a lack of any increase in achievement after a certain amount of time in spelling drill was spent, still is a reasonable description of a good deal of school subject-matter learning.

In the Journal of Psychology Interdisciplinary & Applied, Nichols (1984) writes that often, terms are used which have different applications. For instance, the term 'solar system' may refer to our own planetary chain and its evolution.

Thus seven chain-rounds of our earth chain might be called one solar manvantara for our earth chain, but the sun will be as lively as ever. When seven complete embodiments of our planetary chain have taken place, that is a solar manvantara for our chain; for when a new manvantara for our chain shall again begin, a new sun will shine upon that chain; or, from the standpoint of our earth globe, we shall see that particular sun of the next higher cosmic plane of the solar chain on which our globe will then begin to manifest.

He continues to say that, a chain-round is a passage of the life-waves or families of monads from the highest globe through all the globes once. (When a chain-round passes through any one globe we call it a globe-round.) When seven such chain-rounds have been completed, that is a Day of Brahma or planetary chain manvantara. Seven of these Days of Brahma make a solar manvantara for this chain because, taking our globe earth as an instance, at the end of seven such planetary days the seven subplanes of the cosmic plane on which our globe earth is will have been passed through and every experience gained therein. Then, in order to begin its new solar manvantara, the entire chain within our solar Brahmanda will begin its evolution on higher planes. And therefore a new sun will appear.

It might be as well to state here that the esoteric year contains 360 days, equal to the 360° of the zodiac, whether of the signs or of the constellations; and in a past period of the solar system our earth year was actually 360 days long. Since then, due to a number of cosmic interacting causes, under the governance of

the fohatic magnetisms of the zodiacal constellations, the speed of rotation of the earth somewhat increased, so that the present year contains roughly $365^{1}/_{4}$ days. This acceleration has now probably reached its maximum, in which case the rotation of the earth will slowly again decrease and in time pass through and beyond the median point of 360 days, so that the year will then contain somewhat less than 360 days, possibly as few as 354. When this minimum period has been reached, the earth's rotation will again quicken slightly, and in time will pass through the median point of 360 days until it reaches again its maximum. Thus it is that during the planetary chain's manvantara the average rotational yearly period is 360 days.

This is the reason that 360 days is recognized in occultism as the standard year; and many cultured nations, such as the Babylonians, Egyptians and Hindus, all famous throughout antiquity for their astronomical skill, used the 360-day period in their calculations for the length of a year.

Modern scientists, scholars and mathematicians ascribe to the ancient Babylonians our present reckoning of 360 degrees in a circle, each degree divided into 60 minutes, although this same practice was as well known in ancient India as it was in Egypt and elsewhere. Simply because of the vast knowledge of occult astronomy and astrology, in the archaic Mystery schools, wherein the 'standard' year was usually employed for secret calculations, as well as being also the basis of civil and economic computations.

Zerubavel cited in Cambone, (1996) asserts that, "The structure of sociological time is cycle". The characteristics of these socio-temporal cycles are important for a clearer understanding of time in schools. Socio-temporal cycles have characteristics such as structure, marked by beginning, middles and endings, each with some sort of routine, rules and rituals. In schools, the day begins and ends in a particular way; with both students and teachers performing quite specific tasks. Thus, teaching periods have their structure as do semesters, and full school year.

Cambone, (1994) identified ten actual cycles in schools. These are; annual, holiday, monthly, weekly, six day, duty, day, teacher, report and within class cycles. To these can be added the most grand cycles that mark the end of primary school and secondary school education for example. In their view, each varied in duration, sequence, temporal location and rate of occurrence. The cycles also differed for participants in school life. For instance, an administrator is most likely to deal with monthly cycles because of monthly reports. Similarly, the daily cycle of schools may differ for students, teachers, and administrators with each keeping schedules different from the other.

This edu-cotemporal cycles overlap and many different cycles run concurrently. Annual, semester, monthly, weekly, and daily cycles all overlap in the life cycle of a school and the overlapping may vary by the job that one has. An administrator's cycle may overlap in ways that are quite different from that of a teacher whose cycles are quite different from that of a student. The varying and

overlapping structures lead to a strong sense of regularity and of cultural rhythm in schools.

To understand teacher time in school, it is important to understand that school life is deeply cyclical. Class periods repeat until they become days, which become weeks, semesters and years. The cycles are characterized in ways that help to define school structure. People in schools derive meaning from the way time is structured and used and they come to rely on its regularity and predictability.

Teaching takes time. And in schools, as elsewhere, there is never enough of time for teaching. Like any executive responsible for the efforts of others, you will find that managing time; yours and that of students'; is one of the biggest challenges.

Time management is the thread running through almost all aspects of teaching — organizing the day, organizing the classroom, deciding how long and how often to teach various subjects, recording student progress, or keeping time-consuming behavior problems to a minimum. Students only have so much time to teach them.

Effective use of school time begins with efficient classroom organization and management; and vice versa. Much of the essentials of classroom life involve time management in some way: paring down paperwork; planning; establishing routines that eliminate wasted time and confusion; using learning centers, independent assignments, and seatwork to give you time to work with small

groups; and classroom environments that allow students and activities to move smoothly from one activity to the next.

Some scientists and educational scholars find the concept of instructional time to be intellectually unexciting, so commonsensical, and of such obvious importance that it only leads to trivial understandings and to findings that have the status of truisms (e.g., students who spend more time studying learn more) (Jackson, 1985; Phillips, 1985). Some have dismissed the results of research on instructional time as ideology, not research (McNamara, 1981). Others have found that when the concept of instructional time becomes the basis for creating a variable with which to do research, the measurement issues prove to be vastly more complex than most scientists first believe. (Karweit, 1985). Some have argued that even when measured adequately, instructional time variables are not particularly powerful (Karweit, 1983; Levin, Glass, & Meister, 1984; Levin 1987). And others note, in line with the cognitive revolution that has changed the focus of contemporary research, that instructional time is really a poor proxy for examining what is going on in the heads of students, which is really where instructional research should he focused (Peterson, Swing, Braverman, & Buss, 1982). The critiques, both the uninformed and the helpful ones, have failed to persuade many scientists and reformers in the field of education. The latter groups, in which I include myself, have found this rather commonsensical and quite obvious concept to possess very desirable characteristics. The fact is that instructional time has the same scientific status as the concept of homeostasis in biology, reinforcement in psychology, or gravity in physics. That is, like those

more admired concepts, instructional time allows for understanding, prediction, and control, thus making it a concept worthy of a great deal having more attention than it is usually given in education and in educational research. But before the concept of instructional time can be understood, and its desirable properties explored, some clarification of what is meant by instructional time is in order. The multifaceted nature of this concept and its historical roots must first be understood.

Instructional time should be thought of as a super ordinate concept, and in this way is no different from the concept of "mammal," which encompasses organisms as disparate as elephants, mice, platypuses, bats, and us, homo sapiens. Thus, when we speak of instructional time we refer to a family of concepts, some of which have not yet achieved the status of concepts in other, more mature scientific fields. That is, we do not always have agreement about the meaning of the concept and about the operations by which it can be reliably and validly measured. Among the many terms encompassed by the super ordinate concept are the following:

(i) *Allocated time* usually defined as the time that the state, district, school, or teacher provides the student for instruction. For example a school may require that reading and language arts be taught 90 minutes every day in the second grade. Allocated time is the time block set aside for that instruction–90 minutes a day, or 7 .5 hours a week or 300 hours a school year. Sometimes this is called *scheduled time*, to distinguish it from the time actually allocated by teachers. This

can prove in important distinction when the *concept* of allocated time is used to create a *variable* for a research study. When that is the case it has been found that measures of allocated time derived from any source other than direct observation of teachers invariably overestimate the actual time provided in schools for instruction in a curriculum area. In the "model of school learning," (Carroll, 1963, 1985, 1989), allocated time was called "opportunity to learn."

(ii) *Engaged time,* usually defined as the time that students appear to be paying attention to materials or presentations that have instructional goals. When the concept of engagement is used to create the variable of student engaged time the variable is usually measured by classroom observers or coded from videotapes of students in learning situations. Students' self-reports of engagement have also been used as a variable. Engaged time is always a subset of allocated time. A synonym for engaged time is "attention."

(iii) *Time-on-task,* usually defined as engaged time on particular learning tasks. The concept is not synonymous with engaged time, but is often used as if it were. The term *time-on-task* has a more restricted and more complex meaning than does the term *engaged time*. It makes clear that engagement is not all that is desired of students in educational environments. Engagement in particular kinds of tasks is what is wanted. Thus, engagement may be recorded when a student is deeply involved in mathematics or a comic book during a time period

allocated to science. Time-on-task, however, would not be recorded because the task in which students were to be attentive was science. Time-on-task should be thought of as a conjunctive concept, not nearly as simple a concept as engagement. This distinction, though often lost, makes clearer that time is, in a sense, a psychologically empty vessel (Gage, 1978). Time must be filled with activities that are desirable (Carroll, 1989). Time-on-task as a variable in empirical research is usually measured in the same ways as engagement, though when the distinction noted above is kept in mind, the curriculum, instructional activities, or tasks in which the student engages are also recorded.

(iv) *Academic learning time* (ALT), usually defined as that part of allocated time in a subject-matter area (physical education, science, or mathematics, for example) in which a student is engaged successfully in the activities or with the materials to which he or she is exposed, and in which those activities and materials are related to educational outcomes that are valued (Berliner, 1987; Fisher et al., 1980). This is a complex concept related to or made up of a number of other concepts, such as allocated time (the upper limit of ALT); time-on-task (engagement in tasks that are related to outcome measures, or, stated differently, time spent in curriculum that is aligned with the evaluation instruments that are in use); and success rate (the percent of engaged time that a student is experiencing a high, rather than low, success experience in class). Academic learning time is often and

inappropriately used as a synonym for engagement, time-on-task, or some other time-based concept. Its meaning, however, is considerably more complex than that, as will be elaborated on below.

(v) *Transition time* usually defined as the non-instructional time before and after some instructional activity. The occurrence of transition time would be recorded within a block of allocated time when a teacher takes roll or gives back homework at the beginning of an instructional activity; and it would be recorded when books are put away or jackets and lunches are brought out at the end of an instructional activity. The concept describes the inevitable decrease in time allocated for instruction that ordinarily accompanies mass education.

(vi) *Waiting time* usually defined as the time that a student must wait to receive some instructional help. The time spent waiting to receive new assignments from the teacher, on a line to have the teacher check work, or waiting for the teacher's attention after raising one's hand in class are examples of waiting time. This member of the family of instructional time concepts is concerned with instructional management and is not to be confused with wait-time the time between the end of a question asked by the teacher and beginning of a response by a student. The latter member of the family of instructional time concepts is concerned with instruction and cognition, rather than classroom management (Rowe, 1974; Tobin, 1987).

(vii) *Aptitude*, usually defined as the amount of time that a student needs, under optimal instructional conditions to reach some criterion of learning. High aptitude for learning something is determined by fast learning; low aptitude is reflected in slow learning. This time-based definition of aptitude is unusual and will be elaborated on below. A definition of this type serves to point out how some members of the instructional time family do not, at first glance, seem to be family members.

(viii) *Perseverance*, usually defined as the amount of time a student is willing to spend on learning a task or unit of instruction. This is measured as engagement, or the time-on-task that the student willingly puts into learning. Perseverance is another of the instructional time concepts that do not at first appear to belong to the family. Although this concept is traditionally thought to be a motivational concept, when operationalized in a certain way, it becomes a variable that is measured in time, and thus becomes an instructional time concept as well.

(ix) *Pace*, usually defined as the amount of content covered during some time period. For example, the number of vocabulary words covered by Christmas, or the number of mastery units covered in a semester will differ from classroom to classroom. In educational systems where standardized tests are used as outcomes, and where those tests sample items from a broad curriculum, students whose teacher exposes them

to the most content ordinarily have a better chance of answering the test questions. As the pace of instruction increases, however, depth of coverage usually decreases.

The concept of instructional time, also referred to as curricular time, is a complex one because, apart from having various meanings, it deals with the way time is allocated, by whom, and the way the time is used for instruction.

In a centralized system of education, where curriculum developers who work outside the actual teaching situation prescribe curricular time, this is the time teachers need to teach learners. For example, in Ghana, the Ministry of Education (M.O.E. 1996) stipulates seven (7) periods a week to be used at the Senior Secondary School level in teaching the subject accounting. Supporting such an administrative measure, the Commonwealth Secretariat (1993) insists that timetables should ensure that, "the time allotments prescribed by the Ministry of Education are adhered to" (p.18). From experience, it was observed that a 40 minutes teaching period, an eight period day and a five day week with each covering 40 periods a week was the common pattern used in schools. This shows that the amount of time scheduled for teaching say, accounting in some Ghanaian Secondary Schools are decided by a central planning body at the national level.

You may have less time to teach than you think. Lunch, recess, breaks, down-time between lessons and activities, moving from one classroom to another, interruptions, and other periods of non-instructional time account for at least 27% of an elementary school day. In many classrooms, that figure climbs beyond 40

percent. Incredible as those statistics may sound, they have been confirmed by separate studies conducted at the Far West Laboratory for Educational Research and Development, (1976) and the former Institute for Research on Teaching at Michigan State University (1987).

Sure, lunch, recess, staff meeting, Independence Day celebrations, sports and games, preparation for speech and prize giving day and restroom breaks are important. But too much teaching time is lost. Add to that the time that slips away when students stare out the window or are otherwise disengaged during instruction, and you get the point.

Sanders & Donald, (1982) gave some suggestions to beginners and veterans alike which could substantially increase teaching time:

(1) Decrease the time allotted for breaks and social activities. Contrary to popular belief, students do not need a lot of break time to refresh themselves. In fact, research shows that long or frequent breaks may actually lower their involvement with academic work.

(2) Find out which aspects of school time you can control. In some schools, teachers discover they can change the scheduling of class periods, pull-out programs, lunch breaks, extracurricular activities planning time, and outside interruptions. Ask your principal to help you control time-wasters such as unexpected visitors and frequent intercom announcements.

(3) Schedule solid blocks of teaching time for each day. You might hang a "Do Not Disturb" sign outside your door during those times. Also, secure

your principal's help in scheduling pullout programs around those blocks and ask parents not to schedule medical or dental appointments then.

(4) Plan for smooth transitions between lessons and always try to have materials ready for each lesson or activity.

(5) Assign homework to extend practice time. Homework should allow students to practice skills they have already learned.

(6) Reconsider how you schedule restroom breaks.

(7) Improve student attendance. Attendance has a big effect on teaching and learning time. Impress upon parents the importance of good attendance and teach an actual lesson on how it hurts to miss school. "At the end of each day, I try to tell kids what we will be doing the next day," notes first-grade teacher Susie Davis. "I emphasize the kinds of activities they look forward to, such as hands-on activities. This seems to encourage attendance."

The utilisation of teachers is very important. It is a fact that the extent to which public education succeeds in delivering services with an efficient use of scarce inputs will depend largely on the quality of the personnel especially teachers engaged in the educational process and on the effectiveness with which they discharge individual and group responsibility. A World Bank report (1988) identified under-utilization of teachers as one of the problems facing the education sectors in sub-saharan Africa. Poor performance in education in sub-saharan Africa is said to be due to the ineffective use of available manpower resources.

In a joint module by the Ministry of Education and Culture (Ghana) and the International Institute for Educational Planning (1988), a teacher can be utilized in terms of the students in the class and the number of lessons he teaches. This implies that pupil-teacher ratios and teaching load have been identified as indicator for the measurement of teacher utilisation.

Other writers have identified other indicators of staff utilisation. Owolabi (1996) identified student-teacher ratios, teaching load, class size and average audience as staff utilisation measures. He noted that these staff utilisation measures have antithetic consequences on quality of a lesson and cost of a lesson. Student-teacher ratio gives an idea as to the number of students to be supervised. Owolabi indicates that the student-teacher ratio is obtained by dividing the total number of students in a school by the total number of teachers. He explains that in the situation where there are part-time teachers, it is necessary to calculate the number of teachers in full time equivalents.

Harris and Liba (1960) on their part identified teaching load to include all the time and energy a teacher must expend in fulfilling duties and responsibilities relating to the task of teaching. They identified: average class size, student teacher ratio, number of periods per day, total enrolment in classes taught, and the number of different subjects taught.

Kutor (1999) cites the Ministry of Education, Ghana and the International Institute for Educational Planning (IIEP), Paris as jointly defining the teachers' workload to include the number of classes taught, class size, total enrolment in classes taught and the number periods taught per week.

Forojalla (1993) supports all these staff utilization measures when he quotes Williams (1979) as giving three components used in measuring staffing levels of teacher requirements as: class size, class contact/staff load and pupil-teacher ratios.

Owolabi (1996) defines a class as a group of students taught by one teacher. The number of students in that group therefore constitutes the class size. Forrojalla (1993) defines a class size as a group of pupils constituting a recognized permanent subunit of the pupil body in the school. He explains that limits of class size are often related to the level of education, available teaching-learning facility and a country's educational policy. Average class size on the other hand refers to the average number of students in all the classes in a school. Forrojalla (1993) further explains that an average class size is normally obtained by finding the total number of pupils in a school and dividing it by the number of classes in the school.

Teaching load is the number of periods that a teacher teaches per week. Forrojalla (1993) refers to it as class contact and explains that it is an approach to planning required teacher numbers on the basis of the time tabled class contact periods or load of a teacher per week. He introduced another parameter-class contact fraction or ratio (C) which he stipulates to be the part or fraction of the week a teacher devotes to teaching. He defines this class contact fraction as: the number of periods per week taught divided by the total number of periods per week.

He explains that the nearer (C) is to one for a school, the nearer the number of classroom contacts per teacher converge to the maximum number, meaning the fewer number of contact-free periods available to the teacher. This, he asserts is an indication of under staffing and hence over utilization of staff which may in turn have adverse effect on the quality of classroom performance, administrative efficiency and job satisfaction.

Owolabi (1996) also talks of another indicator, Average Audience, which is the average number of students in a group being taught by one teacher. He explains that this measure is obtained by dividing the total number of periods of teaching received by the students by the number of periods taught by the teachers. He indicates that if average audience is very high, it is an indication that teachers are overstretched.

Forojalla (1993) indicates that for the proper comprehension of what is involved in teacher utilization, it is necessary to distinguish among staffing standards, staffing levels and staffing criteria. He explains that whereas staffing standards are criteria laid down by the educational organization or system (example GES norms), staffing levels are measured. It is the difference between what has been prescribed (what ought to be) and what is prevalent (what is).

Owolabi (1996) is of the view that a student teacher ratio does not really tell us whether or not a given stock of teachers is optimum unless there is a norm for the ratio. Further, he mentions the idea of established norms when he indicated that having less than the minimum or exceeding the maximum number per class

imply under-utilisation or over-utilisation of staff and these may have antithetical bearings on quality and cost of education.

Also, Baffour-Awuah (2004) cites the Ministry of Education and Culture, Ghana (1989) that norms are to guide planners so that they can provide places for pupils in conditions that are acceptable both in terms of learning process and cost. He further asserts that norms vary from one county to another, from region to region and between one educational cycle and the other. It is very important to set class norms in primary and secondary schools, because such norms provide the basis for the need to use premises, equipments and teachers intensively as possible. The statement by the Ministry of Education and culture (1989) cited by Baffour- Awuah further indicates that it is necessary to set minimum class sizes in sparsely populated regions or areas where communications are difficult; to make sure the schools are economically viable. But maximum class sizes have to be set in densely populated urban area to maintain contact between teachers and pupils.

Teaching staff utilization norms have been given by the Ghana Education Service. Dzineku (1992) cites two G.E.S letters dated 7th November 1986, reference PLN. 16/SS/VR/18, (Accra) and 10th April (1991), reference G.E.S/HQ/PG 565/TJ/2 with heading "approved staff establishment for first and second cycle institutions as giving the student teacher ratio of 20:1, a maximum class size of 40 and an optimum of 25 periods per week for teachers in the Senior Secondary Schools. Baffour-Awuah (2004), on his part refer to a GES circular letter addressed to Osei Kyeretwie Senior Secondary School, dated January 2003, with reference number PLN/16/SS/AR/18/64 as indicating that there should be

one teacher to 20 students, class size of 40 students and each teacher should teach a minimum of 25 periods a week. The assistant Director of Education in charge of Human Resource in the Central Regional Education Office also gave a minimum teaching period of 24 periods a week and a maximum of 28 periods.

Forrojalla (1993) indicated that, the implementation committee for National Policy of education in Nigeria advocated for an average class size of 40 pupils in the primary school and 35 pupils in the secondary schools. According to Gotelman-Duret (June, 1996), the official pupil teacher ratio in Malawi is 60: 1.

Adherences to teaching load norms have been identified to be problematic. Owolabi (1996) explains that distribution of teaching load is easy and simple at the first level of education, where a teacher is fully in charge of a class or a section. Here, everyone carries full load, but organisation becomes complicated when there are specialist teachers (subject teachers) or where enrolments are small and there are multi grade sections. This claim is because optional subjects do not enjoy equal popularity among students.

To support this, Carron (1982) as cited by Dzineku (1992) notes that teaching load norms in secondary schools pose some problems. He identifies such problems as class sizes, the number of sections per grade and relatively little time given to particular subjects on the time table. He also mentioned time table construction as a factor that can affect teaching load. Williams (1979) also identified that teachers with marked level of experience and qualifications as well as different subjects would have different loads.

These norms given by educational authorities are silent on other duties that go into the teacher work. Williams (1979) posses that the total work period of the teacher includes the time devoted to lesson preparation and marking. Harris and Liba (1960) also noted that the teachers' total work load is made up of both teaching load and load resulting from teaching related duties. Such duties include preparing lessons, setting and marking of exercises, offering remedial assistance to students and so on. The Douglas Formula sited by Good (1959) also agrees that, to measure teaching load, it was important to consider the time spent on preparation for classes and the amount of time spent on co-curricula activities in guidance and on activities.

Various studies by researchers such as Dewotor (1992), Dzineku (1992), Kutor (1999) and Baffour-Awuah (2004) are of the view that the total work load of teachers encompasses their teaching load and the time they spend in teaching related activities.

Edem (1987) notes that the teacher would be demoralised if he found his class too large or if he had too many lessons to teach daily which required a great deal of preparation. By this, Edem recognizes the effect of lessons preparation on teacher's total work load. He therefore suggests six points that must be taken into account in assigning responsibility to the teacher. These are:

1. His qualifications, experience and previous training;
2. The number of pupils and lessons to be taught daily or weekly;
3. The amount of preparation required;

4. The nature of the subjects taught with the amount of time required for grading pupils work;
5. The characteristics of the pupils, and
6. The length of class periods.

He is of the opinion that if a teacher's responsibilities were of intolerable magnitude so that he exceeds an average of 25 to 30 periods a week, his morale is likely to be affected.

Cresswell (1982) also notes that work load issues have constituted an area of bargaining between teacher unions and educational management in the United States of America. He shows that the major areas of bargaining have been class size, contact hours and definition of duties. He maintains that these negotiations have often resulted in changes in the teacher's workload. He shows that co-curricular and supervisory duties are now divorced from teaching duties. Districts, therefore hire additional staff to perform these duties or pay extra remuneration to teachers who participate in them. Kutor (1999) also cites Boyer & Redman (1969) who proposed that high school teachers are given a maximum daily load of only four regular classes and one small seminar. He suggests that teachers are exempted from monitoring halls, lunchrooms and recreational areas. This suggests that the teachers work is not limited to classroom teaching alone.

Miskell (1994) also contend that workload which is the time and energy directly and indirectly expended by the teacher in performing his duties, have created undue hardship and personal sacrifice for teachers who want to leave a mark by working conscientiously.

Various studies into teaching staff utilisation have yielded varying results. Baffour–Awuah (2004) revealed that teachers in senior secondary schools in the Ashanti Region of Ghana were not efficiently utilised in terms of GES norms for class size. He observed that teachers in the urban schools were better utilised in terms of teaching loads than their counterparts in the rural schools. He also reported that professional teachers were more efficiently utilised than their untrained counterparts in terms of teaching load and that Mathematics/Science teachers were better utilized than their colleagues who taught other subjects.

Kutor (1999) on his part observed that generally, the teaching load of junior secondary school teachers in the Volta Region of Ghana was below the minimum norms. He however noted that teachers were over-utilised in terms of time spent on teaching related activities. He also observed that school ownership has an influence on teacher utilisation. Kutor again established that junior secondary school teachers in the Volta region were over-utilised in terms of total workload. Owolabi (1999) reported that at the primary level, the pupil-teacher ratios were generally lower than 30 for four years (1988/89 to 1991/92). He indicated that, taking the trained teachers alone, the pupil-teacher ratios alternated between 39 and 47. He also observed that trained teachers were much less and more stable in the JSS level. He gave the highest pupil- trained teacher ratios for the JSS level between 1988-1995 as 27.32 in 1989 and the lowest to be 24.40 in 1993. He indicated that there were 25.1 pupils to a trained teacher on the average. He therefore concluded that the ratio of about 30 pupils to 1 teacher was quite normal in primary schools and at the JSS level a low pupil- teacher ratio of 18:1

prevailed. Gotelman-Duret (1996, June) revealed that primary school teachers in Malawi were over-utilised in terms of student -teacher ratios. He observed that it was not uncommon that a primary teacher teaches up to 150 pupils when the official pupil teacher ratio actually implemented is 60:1. He established that in the urban areas, a significant part of the teaching staff appeared to be under-utilised. These findings by Gotelman-Duret and those of Baffour-Awuah (2004) indicate that there are geographical imbalances in the utilisation of teachers.

The National Education Association (NEA) (1994) cited by Nelson (1994)) observed that along with Secondary School teachers in England, Scotland, Ireland and the Netherlands, Secondary School teachers in the United States had the highest number of instructional hours per week, approximately five classes each day for five days. He noted that United States Secondary School teachers easily had the highest number of required working hours per week when all activities are considered.

The Ministry of Education (1996) report revealed that the average teaching load per teacher in Senior Secondary Schools declined from 22.08 periods (14.72 hours) in 1991/92 to 17.67 periods (11.78 hours) in 1992/93 and to 15.33 periods (10.22 hours) in 1993/94. This however shot up to 20.46 periods (13.04) in 1994/95.

Achilles and Sharp (1998) observed that the pupil-teacher ratio in the United States was 12.1 and an average of 27 students to a class. They also cited the National Centre for Education Statistics as revealing that the elementary school pupil teacher ratio had fallen from 30.2 in 1995 to 18.6 in 1997.

Agarwala (2001) cited studies in India to reveal a student teacher ratio of 42:1 in the Primary /Junior basic level, 37:1 for Middle /Senior Basic level, 37:1 for Post Basic School level and 30:1 for Higher Secondary School level.

Good classroom managers know how to delegate. Aides, volunteers, and students can handle many classroom tasks and save you enormous amounts of time. Learn to use these valuable helpers.

If you are one of the lucky ones assigned a full- or part-time aide, draw on that person's special strengths and abilities. Aides can work with small groups or tutor individuals. They can make instructional games and resources, keep bulletin boards current, monitor seatwork and learning centers, read stories to the class, and assist you in testing. They can also help with clerical and housekeeping duties (those the children can't do for themselves). And their assistance with field trips, special programs, and class parties is invaluable. Help your aide become increasingly responsible and involved in the classroom.

Volunteers are another valuable asset. Volunteers generally can do anything aides do — with your supervision and guidance, of course. Volunteer programs not only give teachers' much-deserved help, they can also improve home-school relations. Parents, grandparents, businesspersons, and other volunteers become sympathetic to the problems facing schools, and supportive of better budgets and improved opportunities. Also, they learn to play an active role in educating children. It's a winning proposition for everyone!

In Carroll's model, the time needed for a given student to learn a given concept depends upon five factors:

(a) Aptitude - the amount of time an individual needs to learn a given task under optimal instructional conditions

(b) Ability - capacity to understand instruction

(c) Perseverance - the amount of time the individual is willing to engage actively in learning

(d) Opportunity To Learn - the time allowed for learning

(e) Quality Of Instruction - the degree to which instruction is presented so as not to require additional time for mastery beyond that required by the aptitude of the learner

Teaching time is the actual doing of instruction, a different way of constructing instructional time. Lockheed and Verpoor (1991) share this view about instructional time and state that any interaction between teacher and pupils inside or outside the class room where either the teacher is teaching or the pupils are doing something related to a given subject at a given time or both. Thus, it comprises the hours teachers spend in the classroom, laboratories, studios and workshops trying to engage students in learning. But one needs to take a caution from the lack of consensus, among educators, on what constitutes the task of teaching. Some teachers will differ from those who consider teaching time to be the equivalent of instructional minutes. They may say for instance, that the time spent interacting with students about their social and emotional growth is as much the task of teaching mathematics, science or reading. It can be seen that teaching

time is construed differently by different teachers even when they have the same amount of minutes to use.

Teachers need time to understand new concepts, learn new skills and to develop new attitudes. But learning new ideas or ways of working is largely a volitional activity for adults who for that matter can avail themselves of new situation or ideas or willfully avoid them. More crucial to adult learning is the point that the adult is not always easily induced with new ideas.

In attempting to understand learning of new concepts, Cambone (1994), finds Berliner's concepts of allocated time, engaged time, perseverance and pace as particularly useful even though the ideas are meant to explain how learning takes place in the classroom. Cambone (1994), divides the time for learning into two;

- The time allotted for the purpose of learning, for example, in the form of workshop, an in-service or even a course
- Time used by a person to experience and digest new ideas or ways of working.

With regard to the allocated time for learning, it is not clear how individuals will actually use that time. The concept of engaged time thus, becomes salient. Engaged time, that is, the amount of time a participant actually attends to the learning presentation; is a difficult thing to engender in teachers attending school wide in-service. Berliner (in Cambone, 1994: 7) defines perseverance as "the amount of time someone is willing to spend on the task" and pace as "the amount of content covered in a given time period". One can see from

this that teachers need some amount of time to encounter different ideas, reflect upon them, test them and experiment with them in practice.

In a typical school day, teachers apply multiple time constructs. A teacher deals with instructional time, finds time to grade papers, prepare materials while arranging for transport or to seek medical attention for a student. The teacher is on the move, both physically and intellectually, shifting his attention from task to task, trying to give each the kind of time it needs.

According to Cambone (1994), during the workday, every worker participates in some form of managed time either as the manager or the managed. Teachers may engage in managing time to prepare for a lesson, staff meetings and a host of other duties; all outside their teaching time and within a school schedule managed by someone else. The time managed by teachers is that for which they are responsible for deciding on; for instance, its use, duration or location. The teacher may be hard up when it comes to his managed time because as in the words of Cambone, the daily, weekly, semester and yearly cycles of school time are decided by others and not managed by teachers. This means that the time teachers can manage themselves depends on what schedules operate in the school. So, if a teacher is not scheduled on the timetable to teach from 7:30am to 10:30am on a school day, the teacher cannot decide to teach. This is due to the fact that so many overlapping schedules of students, teachers and administrators must be coordinated to establish order and purpose in the school.

Teachers perform administrative duties in school in their densely loaded work lives. The tasks that seem to appear most often in this literature are management of meetings and co-planning lesson periods for teachers.

Some headmasters who involve teachers in the administration of their schools engage them in the work of committees on academic examination, health and sanitation, sports and culture, guidance and counseling and disciplinary issues. Also, schools hold regular staff meetings "to plan the term's work, discuss administrative directives, and strengthen teaching methods ..... and review the term's work". (Atakpa & Ankomah, 1998). When teacher time is taken to do some administrative work, it affects their teaching time. As long as the tasks they must accomplish as teachers remain the same, and the school schedules remain the same, teachers will not find adequate administrative time.

Like any other resource, the amount of time available for instructional time does not bring about expected quality school achievement. It is the use to which school authorities put such time that matters when the issue of reaching school goals comes up. Talking about the use of time and the job of a school head, the Commonwealth Secretariat (1993) points out that, "Before you can manage your time effectively, you should first know and thoroughly understand the tasks you are expected to perform". That is to say that, you should have no doubts about what exactly your duties are and you need to perform as required. Atakpa and Ankomah, (1998) identified some activities undertaken in the management of instructional time. This include keeping staff and students attendance records, planning lessons, vetting lesson notes, checking the roll for the classes, checking

teacher and student work output and control of social events that tend to disrupt school work.

A research has found that in effectively managed Ghanaian schools, "the role is checked for all classes just after assembly to check lateness and absenteeism" (Atakpa & Ankomah, 1998). This means that some of the school time is used to ensure punctuality and regularity in school attendance. The research also found that some schools adopted strategies "to control social events that tend to disrupt school work" to ensure that schools use their time in school without interruption. This is to guarantee completion of instructional tasks.

To make effective use of time for instruction, one has to engage in expected tasks and getting things done at the required time. Very relevant to this is the issue of eliminating time wasters, for instance, lack of planning can be as much a waste of time as unnecessary meetings (Seidel, 1970; Bonde, 2001).

Some guides for managing time can be applied to a wide variety of situations in which the use of time is crucial and it is worthwhile to pay attention, however, brief to some of these. Better Schools (1993), a resource material for school heads, suggests the following steps among others to heads of institutions to eliminate time wasters.

- Setting goals and sticking to them.
- Reaching selectively
- Taking time to plan.
- Differentiating between urgent and important tasks
- Putting first things first

- Taking time to do a task to avoid having to do it again
- Staying uninvolved with all but the essentials
- Not planning or attending unnecessary meetings
- Screening visitors
- Learning to say no.

Anything that needs to be done needs time for it to be done well. One can therefore agree with the Commonwealth Secretariat (1993: 31) on the observation that, "Effective time management is a process that takes time". In the school, it takes time for a teacher to plan lessons, check students attendance, and grade student work. Teachers must therefore find adequate and suitable time to perform any time management function that is expected of them.

One teacher stated that, "An important task is one that involves matters of great significance, especially those concerning children and their learning. An urgent task is one that demands prompt action. These actions include; the checking of equipment for your next lesson" (Lawson 1992).

When things do not seem urgent, it is tempting to put them off, some one has to make sure that an understanding of what is important is not clocked by a sense of urgency (Bonde 2001). Concerning the management of instructional time one principal point is that efficient time management is a process that requires sufficient time. This is illustrated by the construction of a timetable in schools, which shows a schedule listing the events of a school, and the times at which they take place.

The most important factor for school effectiveness is teacher quality. Principals and personnel directors, for the most part, agree that the basics for effective teachers; qualities that benefit students, improve instruction, and help an organization run more smoothly are as follows;

(1) Exhibit enthusiasm. If you are enthusiastic about teaching, show it! Make learning fun. Your eagerness for teaching will make a difference in the motivation of your students. Beyond the classroom, it helps build a sense of teamwork. Enthusiasm is contagious.

(2) Know your content. Keep up with your field of expertise. If you teach kindergarten, subscribe to an early childhood journal. If you teach chemistry, attend the local college seminar. No matter if this is your first year or your thirtieth, keep up with changing trends in your field.

(3) Be organized. Efficient organization allows you to spend more learning time with students. Have a way to handle routines: collecting student work, handing out materials, posting assignments, what to do when finished with an assignment, communicating class news, etc. Established routines keep the class on track and give you more time for teaching and engaging students.

(4) Teach actively. Effective teachers are involved. They move around. They don't stand around but are busy. They are actively involved with students and other staff.

(5) Show a good attitude. Voltaire, a French philosopher and writer said, "The most courageous decision one makes each day is the decision to be

in a good mood." Children don't need teachers who stay in a foul mood. They need models with positive attitudes. Listen to what you say to others and to your tone of voice. You should be displaying care, concern, and respect. Likewise, administrators need to reflect good attitudes for teachers, students, and the community.

(6) Establish successful classroom management. Establish and enforce your classroom management system from the first day. Discipline and reasonable structure are essential for students to be on task and to have an orderly class environment. Be consistent and fair. Avoid making rules you do not enforce consistently, for students soon learn that what you say does not matter.

(7) Pace Instruction. The amount learned is related to the Opportunity to learn. Students learn the most by doing, not by watching, standing in line, or listening. Plan an instructional timeline for your courses. Nothing is worse than approaching the school year's end and realizing there is not enough time to finish all that is in the course of study.

(8) Maintain good people skills. Teachers must work well with others. If people don't like your behavior as a teacher, they will not want to be around you, much less perform for you! This is true for colleagues and parents as well as students. Education is a people business. Good human relations skills are imperative.

(9) Communicate clearly. Effective teachers give information clearly. Be concise. Demonstrate as well as explain. In presenting new information,

teachers must give accurate directions. This process includes explaining, outlining, summarizing, and reviewing. Too often children have no idea what they are learning or why.

(10) Question effectively. Questioning is a powerful teaching tool, through which productive thinking occurs. Ask questions directed to the whole class as well as to individuals. When directing a question to individual students, ask the question first before calling student names. Give wait time for students to think through their responses. Do not call on names too soon. A less effective approach is, "Nancy, what do you think was Edison's most useful invention and why?" When someone's name is mentioned, others relax and are not involved. But the teacher could say "What was Edison's most useful invention and why?" and pause about 3 to 5 seconds. This wait time keeps everyone involved and gives students a chance to think. It seems like a long time to wait, but the method is used efficiently by many successful teachers.

(11) Differentiate instruction. One of the biggest challenges to teaching is working with students of varying learning styles, personalities, and learning rates. Teachers need to mix auditory, visual, and hands-on techniques. For specific lessons, sub-group students with similar weaknesses or skill gaps.

(12) Build success into your class. Success rate is important. The student for whom work is continuously too hard can become frustrated, resulting in behavior problems and loss of effort. Research indicates that a success rate

of at least 80% is optimal. When students are not successful, provide further instruction and/or simplify the task until they can master t.

(13) Hold high expectations. Teachers must expect their students to learn. High expectations must be communicated for good performance. Successful teachers don't just accept participation--they require it. One can be demanding without being unpleasant or mean, Students respect teachers who expect them to do their best.

(14) Create a pleasant atmosphere. A classroom that is dismal, drab, and dreary will decrease the percentage of learning success. Cheerful and happy classrooms stimulate learning. Teachers don't have to create magic kingdoms to promote learning, but a pleasant room where students feel comfortable is a must for turning up the academic burner.

(15) Be flexible. Teaching requires flexibility. Can you adjust when timely topics come up instead of staying with your lesson plan? Are you sensitive enough to student needs to vary from routines and rules when necessary to help a child? Do you stay positive and in control of your emotions when your best-made plans have to be altered due to circumstances beyond your control? "The flexible shall not be bent out of shape."

Education is not an exact science: the qualities needed in teaching personnel will vary somewhat depending on different objectives and needs of schools. But the traits listed here will generally be the ones conscientious administrators seek when looking for new teachers and the ones they will try to develop and improve in the veteran teaching force.

Again, Durojaiye (1974) and Fuller (1987) cited in the Journal of Educational Management Volume Four (4)asked whether teachers qualification in terms of post secondary teacher training are related to the teachers proficiency in organizing instruction and motivating students. While rough measures of teacher's quality have been observed to be related to higher levels of student's achievements, findings are mixed on the effect of teacher's length of schooling.

An early study of schooling quality in Puerto Rico found that teachers schooling level was most related to the achievement of primary school students and among pupils from lower income families. No significant relation was however found for secondary school students (Carnoy, (1971) cited in the Journal of Educational Management Volume Four 4).

In contrast to this assertion, it was (cited in the Journal of Educational Management Volume 4 pg 37, that the achievement effects are more consistent for teacher's length of post secondary schooling or the number of teacher training courses completed. Heyneman and Loxley (1983) cited in the Journal of Educational Management Volume Four 4, found significant effects of teachers schooling attainment and pupil performance in an independent work they had in ten (10) other countries, which revealed significant effects. It was observed in their studies that twenty-two (22) out of the thirty-one (31) studies have found a significant achievement effect from teacher's general university or specific teacher training.

Fuller (1987) also discovers an achievement effects for the interaction of teacher training and the length of teaching experience. However, the teachers

credential level was the strongest predictor of student achievement in a sample of 46.3 primary school graduates in Uganda when compared against several other school factors. (Durojaiye, 1974).

Oni (1992) cited in the Journal of Educational Management Volume 4 pg 38 also found a significant relationship between recommended textbooks, quality of teachers and academic performance. Obemeata (1995) also sees an improvement of staffing situation in schools, in terms of quality and quantity, a way to an appreciable improvement in quality of education in Nigerian Schools.

Scholars, (Bajah & Ogunniyi, 1984), are all in agreement that availability of physical and material resources are very important for the success of any worthwhile educational endeavour. These researchers have pointed out that the availability of adequate school buildings, number of classrooms, chairs, desks and other instructional facilities are imperative for the attainment of any educational objectives. In a study conducted by Hallak (1977), he identified facilities as a major factor contributing to academic achievement in the school system. This according to him includes the school buildings, classroom accommodation, furniture, libraries, laboratories, recreational equipment and other instructional materials.

Bajah and Ogunniyi, (1984) also found a significant relationship between teacher, facilities and schools academic performance. Similarly, Eshitet, (1987) found adequate provision of instructional materials to be one important method that science teachers can use in promoting skill acquisition in consonance with the

objectives in developing manipulative skills in students as spelt out in the junior secondary education science curriculum.

Summary

Literature was reviewed on the historical perspective of time, managing instructional time, and time for teaching, educational review on the use of time, teacher quality and resource situation on student performance.

Data reviewed indicated that quality human resources who are determined by the number of years one spends to become a teacher helps a lot in the education of students especially in the developing countries. The literature revealed that the utilisation of teachers could be in terms of student teacher contact and teaching load or periods, coupled with the required facilities available. It was also noted that the teachers' job is not restricted to the classroom alone and that teaching is not merely conducting classes but goes beyond that.

Moreover the literature reviewed considered the effect of such characteristics as sex, age, professional and academic qualifications, years of teaching experience and the required educational facilities on the performance of the products of every educational institution.

CHAPTER THREE

METHODOLOGY

This chapter deals with the procedures that were adopted in conducting the study. It deals with the research design, description of the population and the sample used, the instrument used for the collection of data and the procedure followed in the collection of data and also the analysis of the data collected.

Research Design

According to Oppenheim (1973), the function of a research design is to help us obtain clear answers to meaningful problems. He asserts that the choice of the best design or method depends on the extent to which it is appropriate for the study. The design used for this research is the descriptive survey method of social investigation. By this design, copies of the questionnaire were distributed to respondent to elicit responses for analysis. Oppenheim further explains that the purpose of the descriptive survey is to count and when it cannot count every one; it counts a representative sample and makes inferences about the population as a whole. Descriptive survey chiefly tells us how many members of a population have certain characteristics or how often certain events occur; they are not designed to explain any thing or to show any relationship between one variable and another. The job of such survey is essentially fact-finding and actuarial-although the data thus collected are often used to make predictions.

Oppenheim (1973) defines a survey as a planned collection of data for the purpose of describing or predicting as a guide to action or for the purpose of

analysing the relationship between certain variables. Osuala (1993) on the other hand, defines a survey research as that which studies both large and small populations by selecting and studying samples chosen from the population to discover the relative incidence, distribution, and interactions of sociological variables. He also explains that surveys covered by this definition are very often called sample surveys probably because survey research developed as a separate research activity, along with the development and improvements of sampling procedures.

Survey researchers usually study samples drawn from populations. From these samples, the researcher infers the characteristics of the defined population or universe. Fraenkel and Wallen (2000) give the three major characteristics of surveys as follows:

i. Information is collected from a group of people in order to describe some aspect or characteristics (such as abilities, opinions, attitudes, beliefs/or knowledge of the population of which that group is a part.

ii. The main way by which this information is collected is through asking questions; the answers to these questions by the members of the group constitute the data for the study.

iii. Information is collected from a sample rather than from every member of the population. Generally, in a descriptive survey such as this, researchers are not so much concerned with why the observed distribution exists, as with what the distribution is.

As discussed, it becomes obvious that the descriptive survey design is the most appropriate research design for this study. This is because the study described the nature of existing conditions of teacher utilisation in the schools covered by the study. It also used samples to represent the relatively large population. Moreover, Osuala (1993) identifies the following as some of the strengths of the survey design. According to him, survey research:

1. focuses on people, and their beliefs, opinions, attitudes motivations and behavior;
2. is particularly visible and practical;
3. can provide information to base sound decision on;
4. does more than merely uncover data. It interprets, synthesises and integrates these data and points to implications and inter-relationships. While the fact finding aspects of the survey are occasionally semi-clerical by nature, there is ample opportunity for the investigator to display infinity and scholarliness in his interpretation of the data and his understanding of the strengths and weaknesses, their inter-relationships, their apparent antecedents and especially implications;
5. constitutes a primitive type of research in that the investigation of any problem must begin with a "survey" of its nature before it can move into the more structural and rigorous phases; and,
6. is more realistic than the experiment in that it investigates phenomenon in their natural setting.

Survey research may however introduce some degree of error if the sample is not representative enough. Moreover, since respondents give their opinions, some responses may be exaggerated. These shortfalls notwithstanding, the survey design is the most appropriate design for this research.

Population and Sampling Techniques

The study targeted all the eighty (80) teachers; (respondents) on the staff who gave academic instruction in Mfantsipim School, but seventy (70) of the answered questionnaire were retrieved; thus these were selected respondents by the researcher. This was made up of the teachers and the two assistant headmasters. Mfantsipim School was chosen for the study due to its convenient location to the researcher. In addition to this, the school for the study was chosen because this school was noted for achieving good results in external examinations.

Research Instrument

One major data gathering instrument was used. This instrument is the structured questionnaire. The design of the questionnaire was aided by some of the literature reviewed especially Dzineku (1992), Dewotor (1992), Kutor (1999) and Baffour-Awuah (2004). A questionnaire is not just a list of questions or a form to be filled out. It is essentially a scientific instrument for measurement and for collection of particular kinds of data. The questionnaire was used because it is a very powerful instrument in survey research especially when all the respondents could read and write. Also, given the busy schedule of teachers, it would have been a bother to attempt to interview them. Some of the items too demanded some

estimates which needed some time to produce. The questionnaire was therefore more convenient as respondents had the opportunity to take home and respond at their own convenience.

The researcher also took cognisance of the various aspects of the school life that take a chunk of the teacher/student contact hours. These are;

i. Morning assembly

ii. The teaching time

iii. The students use of time

iv. Staff meeting

v. Committee meetings

vi. Co-curricula activities

The questionnaire had to be scrutinized by my supervisor before the final one came out for its administering.

A form was also designed to extract information from documents such as staff list, enrolment list and class registers to supplement the questionnaire. The staff list, class registers and the enrolment lists provided the data which were used to calculate the student- teacher ratios and the average class sizes.

The questionnaire (Appendix B) begins with an introductory statement, which specifies the purpose of the research and solicits frank responses from the respondents. The introductory statement also assures respondents of confidentiality of their responses. The questionnaire consisted of forty-two (42) items. All the questionnaire items were closed ended, demanding that teachers tick those responses that best applied to them. Seven open-ended items were

included to enable respondents express their opinions or add any item that might suit them but has been omitted. The questionnaire was divided into two sections captioned A and B. Section A elicited information on biographic data of the respondent. Factors emphasized in this section included, gender, age, educational background and teaching experience. Section B consisted of thirty-four (34) items and sought to elicit information on activities that has to do with contact hours between the teachers and students and the performance of the students in especially their external examinations.

These activities included:

i. Teaching periods.

ii. Time spent on lesson preparation, setting and marking assignments, exercises.

iii. Time spent on related or co-curriculum and administrative duties.

iv. Teachers' perception of their workload.

The questionnaire items were designed to answer the research questions enumerated in chapter one. Questionnaire item 8 –helped in finding out if factors such as announcements at morning assembly, teachers taking part of other teachers' instructional time, response to the change over signal, official and emergency staff meetings took part of the teacher-students contact time. Item 8 on the questionnaire which elicited information on the number of subjects taught by respondents provided information on the effect of number of subject taught on teacher utilisation. Questionnaire items 19 – 25 seek to find out the teaching load of all the teachers, the duration of each period and how convenient this load is in

relation to the syllabus to be covered. The data gathered from the responses to this item was used to answer research question 2. Item 26 – 30 provided the co-curricula activities that are held in the school and how much time is spent on them. Items 31 – 34 brought out information on the various administrative duties performed by teachers and its effect on contact hours. This was used to answer research questions 3 & 4.

The gender of respondents was taken care of by questionnaire item 2. Responses to this item and the utilisation rates of teachers obtained were used to compare the utilisation of respondents. Questionnaire item 4 and 5 elicited information on the professional status of respondents. Responses to this item enabled the researcher to compare the utilisation rates of professional teachers. The highest educational backgrounds of respondents were obtained from responses to questionnaire item 5 whereas responses to questionnaire item 6 provided data on respondents' years of teaching experience.

Research question 2 was on teaching load (periods). Responses to questionnaire item 20 provided the data to answer this research question. Responses to questionnaire item 25 & 27 provided the necessary data to answer research question 3 & 4, which was on the time that teachers used outside official working time on teaching related activities such as co-curricular and administrative duties. Items 35 – 42 on the questionnaire provided data to respond to research question 6. This seeks to find out the amount of work given to the students as a way of soliciting feed back on the understanding of the students on the topic discussed.

The table used to extract data from class registers, staff lists and enrolment lists (Appendix B) helped to crosscheck some of the data. The data on the number of teachers and the number of students were used to calculate the student-teacher ratio. Also the number of students in a school and the number of classes in a school were used to calculate the average class sizes of the school.

Data Collection Procedure

The questionnaire was administered by the researcher in person. The administration of the questionnaire was facilitated by the issuance of a covering letter by the Director of the Institute for Educational Planning and Administration (I.E.P.A.) which introduced the researcher to the school. This was to help establish an identity and also seek co-operation of all respondents.

The teachers were initially briefed on the objectives of the study. This further lead to the obtaining of the support and co-operation needed to conduct the study. The duration of distribution and collection of the answered questionnaire took about four weeks (that is from 9th May 2005 to 6th June 2005). Although the researcher had envisaged a much shorter period, this was not possible for a number of reasons.

a. First of all, the members of the National Association of Graduate Teachers (NAGRAT); at Mfantsipim School had embarked on an industrial action to back home for better conditions of service. This made it very difficult to get the teachers to have the questionnaire for them to answer.

b. Coupled with the above, most of the respondents collected the questionnaire and forgot to fill and return them on schedule. This made the researcher to make a house to house retrieval of the completed questionnaire. It sometimes took the researcher the pain to replace missing questionnaire for them to answer.

c. Teachers who were not resident on campus became a problem as the researcher had to move round to collect the answered questionnaire.

Not withstanding all these problems, the researcher was able to retrieve seventy (70) out of the eighty (80) copies of the questionnaires distributed.

Data Analysis Procedure

To arrive at an effective statistical presentation, the data was sorted and coded and quality control checks made with the Statistical Package and Service Solutions (SPSS 10.1 version) used to generate descriptive and inferential statistics. Frequency counts were made for groups of opinions observed and percentages calculated so that closer views of the responses made by respondents were obtained. The descriptive survey method was used to describe roles of teachers in making effective use of contact hours in Mfantsipim School. Descriptive statistics indicating frequencies, percentages, means and rank ordering were used to assess the responses to all items of the instrument.

CHAPTER FOUR

FINDINGS AND DISCUSSION

This study sought to find out the extent to which teachers in Mfantsipim utilize contact hours and its related effect on the performance of the students at the end of their programme of study during their secondary education. To this end a table was designed to extract data on the number of teachers, number of students and number of classes in the school. This is shown in Table 1.

Table 1

Number of teachers, students and classes by gender in Mfantsipim

	No. of Teachers	No. of Classes	No. of Students	Student-teacher ratio
S. S. One (1)	25	14	440	17.60
S. S. Two (2)	25	12	529	21.16
S. S. Three (3)	30	12	502	16.73
Total	80	38	1471	18.50

The table above shows the number of teachers that teach in the various levels in the school, the number of classes, the population and the teacher to student ratio for each class. The student-teacher ratio in Mfantsipim School as shown on the table is 18.50. This ratio is lower than the stipulated teacher-student ratio for the G. E. S. of one 1 teacher to 20 students.

The average student-teacher ratio for Mfantsipim Schools was also seen to be lower than the national averages of 22.5 for the 1992/93 academic year, 19.55 for the 1993/94 academic year and higher than what was recorded in 1994/95 academic year as 17.7 as cited by Baffour-Awuah (2004). Also, Owolabi(1999), commenting on the pupil-teacher ratios of primary and junior secondary school levels in Ghana for the years 1988-1995 mentioned that the ratio of about 30 pupils to 1 teacher was quite normal at the primary level whereas about 18 pupils to 1 teacher at the junior secondary school level. The average student-teacher ratio of this study was higher than that mentioned by Owolabi for the junior secondary school level but lower than that of the primary level.

Research Question One (1)

What do you consider as factors that contribute to the loss of contact hours in the academic year?

This research question sought to find out the factors that contribute to the loss of contact hours between the teachers and students.

The table two (2) below shows the distribution of the factors that reduce contact hours in Mfantsipim School.

Table 2

Frequency distribution of factors that reduce contact hours

Factor	Positive Response	Percentage (%)	Negative Response	Percentage (%)
Announcement at morning assembly.	60	85.7	10	14.3
Teachers taking part of other teachers' time.	53	75.7	17	24.3
Response to change over signal.	12	17.1	58	82.9
Official staff meeting.	50	71.4	20	28.6
Emergency staff meeting.	56	80	14	20

It was observed from the respondents that sixty (60) out of seventy (70) respondents representing 85.7% indicated that announcements which were given at morning assembly; held every day, took a large chunk of contact hour time in the school day. These announcements were first of all given by the leader of the morning devotion, then the assistant headmaster or senior housemaster and then the school prefect. Movement from the assembly ground to the various classrooms also took some time since some of the classrooms were about three hundred (300) meters away.

It was also observed that teachers taking part of other teachers time for teaching was also common in the school. Out of the seventy (70) respondents, fifty-three (53) representing 75.7% took part of the teaching time of the next

teacher either concluding the lesson or highlighting the topic to be discussed in the next lesson or giving assignments.

Response to the change over signal for the teaching periods in the school identified from respondents, was a bell and/or siren, had twelve (12) out of the seventy (70) of the respondents responding positively; this representing 17.1% of the respondents. This indicates that very few students took very little of the teaching and learning time to be ready for the next lesson; whiles fifty-eight (58) respondents representing 82.9 % responded negatively showing that majority of the students took much of the teaching and learning time to be ready for the next lesson.

Official staff meeting as indicated by the responses from respondents had fifty (50) out of the seventy (70) responding positively that, it took much of the teaching time; representing 71.4%. This indicates that official staff meetings took much of the teaching time. As indicated, this was held most often from the second break till the end of the school day; which is made up of three periods each of thirty-five (35) minutes each in duration.

Emergency staff meetings which are held very often also had fifty-six (56) respondents representing 80% responding positively to the fact that emergency staff meetings took a chunk of the contact hours between the teachers and students. As indicated, this was most of the time always held during the second break which lasts for forty-five (45) minutes and extends to the rest of the school day due to other discussions that might have come up and need to be given the needed attention. Here, it is observed that these three periods each lasting thirty-

five (35) minutes making a total of one hundred and five (105) minutes are sacrificed for that day.

From the above frequency distribution table, it was observed that when these responses were ranked, announcements at morning assembly contributed immensely to the loss of contact hours in the school. This was indicated by sixty (60) representing 85.7% of the respondents seeing it as a major factor where teachers sometimes loose the whole teaching period; the first period for that matter. This was followed by emergency staff meetings where 80% of respondents indicated that emergency staff meetings took part of the contact hours while 75.7% of the respondents indicated that some teachers took part of the next teachers' period. A total of, 71.4% respondents responded positively to official staff meetings taking part of the teaching time and 82.9% responding negatively to the fact that response to the change over signal contributed to loss of contact hours.

The responses received from the analysis in this research work conforms to a similar study conducted by Atakpa and Ankomah (1998) on a similar work conducted on managing instructional time in sixty (60) selected schools in nine districts in Ghana; thirty of which were in the rural area. They observed that, teachers, pupils and head teachers of schools did not pay much attention to the use of time as a resource and use it beneficially. Teaching hours that were to be used to facilitate learning, for the pupils were normally used on other non academic activities. This showed that time that was lost in the school for other activities were usually not catered for and was left to go waste.

Further questions in the questionnaire items (9-18) revealed that respondents were in favour of the fact that these factors identified took a chunk of the contact hours between teachers and students. For example, 51 respondents representing 72.9% agreed that announcements took a lot of contact time, 75.7% agreed that teachers took part of the teaching time when the change over signal is effected. They also agreed that response to the change over signal was satisfactory. This was represented by 54% of the respondents. Emergency Staff meetings were also seen as taking a lot of contact or instructional time. This was represented by 80% of the respondents responded positively to this fact.

This conforms to separate studies conducted at the Far West Laboratory for Educational Research and Development, and the former Institute for Research on Teaching at Michigan State University where they agreed that, lunch, recess breaks, down-time between lessons and activities, moving from one classroom to another, interruptions, and other periods of non-instructional time account for at least 27% of an elementary school day. In many classrooms, that figure climbs beyond 40%. Independence Day celebrations, sports and games, preparation for speech and prize giving day and restroom breaks are important. But too much teaching time is lost.

Research Question Two (2)

Does the planning of the timetable allow effective utilization of contact hours?

This research question sought to find out whether the planning of the school time table allows effective utilization of the contact hours between the teacher and student. The norm of the Ghana Education Service is that all teachers are to teach a minimum of twenty three (23) and a maximum of twenty-eight (28) periods a week. Each of these periods according to the Ghana Education Service (G.E.S.) was to have duration of thirty-five (35) minutes.

Table three (3) below shows the average frequency distribution of the number of periods that respondents teach a day.

Table 3

Frequency distribution of the number of periods that respondents teach in a day

Number of Periods Per Day	Frequency	Percentage (%)
Between 1 – 2	2	2.8
Between 3 – 4	9	12.9
Between 4 – 5	38	54.3
Between 5 – 6	21	30.0
Total	70	100.0

From the distribution in table 3, 54.3 % of the respondents representing 38 out of the 70 respondents on the average teach between four (4) to five (5) periods a day. This is the largest; signifying that, in a week these teachers teach on the average, between twenty (20) to twenty-five (25) periods. This conforms to the Ghana Education Service (G.E.S.) norms for the allocation of teaching periods in a school which states that, each teacher must teach a minimum of twenty-four (24) and a maximum of twenty-eight (28) periods a week.

It was also observed from the frequency distribution table above that, a sizeable number of teachers that is, twenty-one (21) representing 30.0%, teach between five (5) and six (6) periods of forty (40) or thirty-five (35) minutes a day. This shows that they teach between twenty-five (25) and thirty (30) periods on the average a week.

From the distribution table 2.8% of the teachers teach between one and two periods. These teachers have other responsibilities such as an assistant headmaster, senior housemaster and the school counselor and daily have some administrative duties to perform.

With the internal teaching structure of Mfantsipim, contact hours between teachers and students last for ten (10) periods of six and half ($6^1/_2$) hours a day excluding the rest periods (break). The first seven (7) periods last forty (40) minutes and the last three (3) which usually starts after 12.35pm last 35 minutes. This is to make room for the ten periods needed for the day satisfy the fact that assimilation is best in the morning and also to end the school day at the approved Ghana Education Service (G.E.S.) time. If on the average, a teacher teaches for

between five (5) and six (6) periods, then it means that, between three hours twenty minutes to four hours of time is spent on teaching everyday. The rest of the time is used for movement from one class to the other, getting equipment/apparatus ready for the lesson and students settling down for the next lesson; not forgetting exhaustion on the part of the teacher as he moves from one class to another.

It was observed in the school that, the Technical Block which accommodates the first year Technical and Arts classes was located down hill and about three hundred (300) meters away from the staff common room. The problem identified with the teaching on this block was that, by the construction of the teaching the time-table some teachers had to move down hill and up hill sometimes twice in a day to teach causing a lot of exhaustion due to the climbing and descending. It was also observed that there was no rest room for such teachers hence had to come up to the staff common room if for instance, there is a period where the teacher has no lesson and wants to rest.

It was also observed that, forty-three (43) of the teachers in Mfantsipim had their teaching load between twenty-two (22) and twenty-five (25) periods a week representing 61.4%. A total of fifteen (15) had their load below twenty-one (21) periods while only twelve had more than twenty-six (26) periods to teach in a week. This is shown in the table four.

Table 4

Frequency distribution of teachers' work load per week

Number of Periods Per Week	Frequency	Percentage %
14 – 21	15	21.4
22 – 25	43	61.4
26 – 33	12	17.1
Total	70	100

This distribution as observed was fair since a few teachers representing 21.4% who had their load below the norm of the Ghana Education Service (G.E.S.) was due to an additional administrative position they handle in the school. Notable among these administrative positions is the senior house master and assistant head master. A few was also identified to have teaching periods above the norms of the Ghana Education Service. This was due to their area of specialization. Some of these areas of specialization of these teachers include physics, applied electronics, metal and wood technology; where it was quite difficult to employ teachers for these subjects.

Questionnaire item 21 sought to find out whether respondents would like a change over period of at least five (5) minutes, where students would be allowed to settle and get ready for the next lesson to avoid interruptions. Majority of the respondents, 56 representing 80% responded negatively. In introducing this change over period, 30 of the respondents (42.9%) responded positively while 14 representing 20% did not indicate any response.

Research Question Three (3)

a. To what extent do co-curricular activities affect instructional time?

b. When do you usually undertake such activities?

Teachers usually complain that their private time was eroded by the time they spend outside official working hours on co-curricular activities. Co-curricular activities identified in Mfantsipim include; sports and games, clubs and societies, gardening/school farm and cultural activities. To this end, teachers were asked to estimate the time they spent outside official working hours on co-curricular activities. Though some teachers may under estimate or over estimate the time they actually spend on teaching related activities, the responses obtained gave an idea as to how much time teachers perceived they spent on engaging on such related activities.

It was also observed from the respondents that the time they engage in these activities was usually after class hours. This was indicated by 56 of the respondents (80.0%). A total of six (6) (8.6%) indicated during the week ends; four (4) (5.7%) indicated during classes' hours and six (6) also indicated during the break period. It was also observed that four (4) indicated they had these activities during the weekend. This shows that very little time is spent on co-curricular activities during the contact period in the school when the teacher is suppose to be attending to the academic needs of the students. It was indicated by the respondents that the timing of these co-curricular activities did not affect instructional time. This was indicated by 85.7% of the respondents.

Table 5

Frequency distribution of the periods during which teachers engage in co-curricular activities.

Period of Co-curricular activities	Frequency	Percentage %
During Class Hours	4	5.7
During Break	6	8.6
After Classes	56	80.0
On Weekends	4	5.7
Total	70	100

To answer this research question, a list as mentioned earlier, of co-curricular activities was provided for respondents to tick as many as they took part in. Space was provided for respondents to indicate any other co-curricular activities that they undertook, but which were not listed. A follow up question required respondents to estimate the time they spent each week on these co-curricular activities. Respondents were grouped according to the number of co-curricular activities they performed. It came out that each respondent took part in at least 2 co-curricular activities. The responses were thus grouped into two:

a. Those who took part in 2-5 co-curricular activities; and,

b. Those who took part in more than 5 co-curricular activities.

Table 6

Frequency distribution of the type of co-curricular activities teachers engage in.

Co-curricular activities engaged in	Frequency	Percentage %
Sports and games	30	42.9
Clubs and societies	28	32.2
Gardening/school farm	18	25.7
Culture	11	12.6
Total	70	100

It was observed that majority of the respondents took part in 2-5 co-curricular activities. Out of the 70 respondents, 30 of them, representing 42.9% gave responses within this range while 18 respondents, representing 25.7% of the sample took part in more than 5 co-curricular activities. Incidentally, no respondent indicated that he/she took part in any co-curricular activities. This goes to buttress the fact that the teacher's work is not restricted to the classroom alone, but also other activities that go on outside the classroom and help in making the student integrate positively after his education. Table 7, gives a summary of the time estimates provided by respondents the time that they spent weekly on co-curricular activities.

Table 7

Frequency distribution of the time that respondents spent weekly on co-curricular activities.

Time (Minutes	Frequency	Percentage %
15 – 30	17	24.3
31 – 45	18	25.7
46 – 60	13	18.6
61 – 75	2	2.8
75 and above	20	28.6
Total	70	100

Table 7 shows that most of the respondents gave time estimates between 31 – 45 minutes followed by the estimates within 15 – 30 minutes in a week. The proportion of respondents who gave time estimates between 15 - 45 minutes was 50.0%. However, 20 respondents representing 28.6% of the sample gave time estimates 75 minutes and above which was the highest. The average time estimate for co-curricular activities in Mfantsipim was 1.50 hours a week. This average is lower than the time estimates quoted by Nelson (1994) for the United States cited by Baffour-Awuah (2004) and the OECD (1971) findings in Yugoslavia.

Research Question Four (4)

To what extent do administrative activities affect instructional time?

Respondents were given a list of administrative duties that they performed. Space was provided for respondents to indicate any other

administrative duties that they performed but were not listed. The data gathered suggest that each of the respondents performed at least two administrative duties, the most common being a form master/mistress on duty. This confirms Haskew and McLendon's (1968) assertion that the teacher is engaged in management, supervision and administrative duties. Cambone (1994) and Fraise, (1968) also support this by coming out that, "Teacher time is not just time scheduled for them, in that externally, imposed schedules often disrupt teacher participation in school work" The bulk of the teachers 44 representing (55.0%) as can be observed indicated that they were form master/mistress. This was followed by ten (10) of the respondents representing 14.3% indicating that they were housemaster/mistress. There were also various committees in the school. This was represented by 10% of the respondents. The rest were found to be an assistant headmaster, senior housemaster, staff secretary, guidance and counselling member and also a head of department.

Table 8

The frequency distribution of the various administrative duties performed by teachers in Mfantsipim.

Administrative type	Frequency	Percentage %
Assistant Headmaster	4	5.0
Senior House Master	2	2.5
Housemaster/mistress	10	14.3
Form master/mistress	44	55.0
Staff secretary	2	2.5
Guidance/counselling	6	7.5
Committee member	8	10.0
Head of Department	4	5.0
Total	80	100.0

It can also be observed from table 8 that, the total frequency for this table was eighty (80). This shows that some of the teachers perform more that one administrative duty; hence there were some multiple responses.

Various time estimates for administrative duties were provided by respondents. This ranged from one hour to over three hours a week. Table 8 gives the frequency distribution of time estimates on administrative duties performed by the teachers. It shows that 15 respondents making 21.4% gave time estimates of two hours a day and 22 respondents representing 31.4% of the sample gave time

estimates of 1.30 hour a day. Most of the respondents (32.9%) indicated that they spent 3 hours and above a day on administrative duties.

Table 9

Frequency distribution of time teachers spent performing administrative duties.

Time in minutes	Frequency	Percentage %
1hr	4	5.7
1hr 30 min	22	31.4
2hrs	15	21.4
2hr 30 min	6	8.6
3hrs and above	23	32.9
Total	70	100.0

However, only 4 respondents, representing 5.7% of the sample gave time estimates of one (1) hour a week whiles 6 representing 8.6% estimated 2 hour 30 minutes a week. The average time estimate provided by the respondents was 2.20 hours a week. The time estimates provided by respondents in this study are more than a similar research work recorded by Baffour-Awuah (2004) in the Ashanti Region of Ghana. He observed that majority of his respondents (66.7%) spent up to 2 hours a week on administrative duties. Arends (1991) cited a study by Cypher and Willower (1984) as giving a detailed account of several activities that go into the teachers work and their respective time estimates. The answer to research question 4 is therefore that Mfantsipim teachers spend on the average 1.50 hours

and 2.20 hour respectively on co-curricular activities and administrative duties daily.

Research Question Five (5).

How efficiently utilized are teachers with respect to the teaching periods they carry?

The question of whether teachers in Mfantsipim were under utilized, optimally utilized or over utilized in terms of teaching load (period) that they carry was also examined. Answers to this research question was provided by responses to questionnaire item 18 – 23; which asked respondents to indicate the number of periods they teach in a day and week and the duration of each period. As required by the teaching staff of the Ghana Education Service (G.E.S.) the work load of a teacher, should be of a minimum of twenty-three (23) periods of thirty-five (35) minutes a period per week and a maximum of twenty-eight (28) periods of thirty-five (35) minutes per period a week. This has been indicated as due to an internal structure of the school. To this end, the data collected was grouped into responses below the Ghana Education Service (G.E.S.) minimum and those above the norm.

As one can observe from Table 10 above, majority of teachers in Mfantsipim had teaching periods ranging from 23 to 28 inclusive per week. Out of the seventy (70) respondents, 43 of them representing 61.4 % worked within the Ghana Education Service category.

Table 10

Frequency distribution of number of periods that teachers teach in a week.

Number of Periods per week	Frequency	Percentage (%)
Between 14 – 17	3	4.3
Between 18 – 21	12	17.1
Between 23 – 28	43	61.4
Between 29 – 33	12	17.1
Total	70	100.0

Also twelve (12) of the teachers making 17.1% of the sample had teaching periods above the stipulated norm of the Ghana Education Service (G.E.S.). It was also observed that 12 of the teachers representing 17.1% had teaching periods below the Ghana Education Service (G.E.S.) norm while only three (3) teachers representing 4.3% had teaching periods below the stipulated Ghana Education Service norm per week. This suggests that only 4.3% of teachers in Mfantsipim School were being underutilized in terms of the teaching load (period) that they carry. All the teachers as observed who were under utilized were teachers with other responsibilities like an assistant headmaster, a senior housemaster, the school counselor and chaplain to mention but a few.

As indicated, 61.4 % of the teachers representing forty-three (43) were optimaly utilized in terms of the teaching periods they carried. This indicates that the proportion of teachers who are optimally utilized in terms of teaching load (periods) was greater than those who were inefficiently utilized. Owolabi (1996)

indicated that, both the under utilization and over utilization of staff amounts to inefficient use of staff. For this reason it can be said that, 15 + 12 = 27 respondents of the sample representing 38.6% of the respondents were inefficiently utilized in terms of teaching load (periods). This figure that is, 27 representing teachers who are inefficiently utilized, although lower than those who are optimally utilized shows that a number of teachers are under utilized. This proportion is quite high and needs comment taking into consideration the implications of inefficient use of staff on quality and cost of education as postulated by Owolabi (1996) and also Akangbou (1987).

Distribution of Respondents by Age.

Owolabi (1996) explains that the age distribution of the teaching force can provide information on the rates of replacements and guide planners to make projections of replacement needs. To this end, the age distribution of respondents was explored. The data gathered indicated that most of the teachers who returned the questionnaire were between the ages of 31 years and 40 years. Out of the 70 respondents, 49 of them, representing 70.0% of the sample were between the ages of 20 years and 40 years. Table 17 shows the frequency distribution of the ages of respondents.

Table 11

Frequency distribution of ages of respondents

Ages (Years)	Frequency	Percentage %
20 – 30	18	25.7
31 – 40	31	44.3
41 – 50	14	20.0
51 - 60	7	10.0
Total	70	100.0

Only 7 respondents, making 10.0% of the sample were above 50 years. This suggests that the teaching manpower in Mfantsipim was young and a young workforce implied a longer working life, considering, all things being equal.

Table 12

Frequency distribution of the academic qualification of respondents

Highest Qualification	Frequency	Percentage %
Bachelors Degree in Education	56	80.0
Post Diploma in Education	2	2.9
Masters Degree in Education	12	17.1
Total	70	100.0

Table 18 reveals that majority of the respondents hold a bachelor's degree in education. The proportion of bachelors degree of education holders recorded in this study is higher than what Dewotor (1992) observed for teacher training

colleges in the Volta Region of Ghana. In Dewotor's study, only 26% of respondents were bachelors' degree holders. This indicates that the academic base of teachers in Mfantsipim is up to the required standard has improved. This supports the assertion that, achievement effects of students are more consistent for teacher's length of post secondary schooling or the number of teacher training courses completed. (JEM Vol 4 pg 37).

Distribution of Teachers by Years of Teaching.

The data gathered indicates that majority of the teachers in Mfantsipim had between 1 to 20 years of teaching experience and only three (3) representing (4.3%) indicated that they have more than twenty (20) years teaching experience. Table 19 provides the frequency distribution of the years of teaching experience of respondents.

The data indicates that majority (31.4%) respondents had taught from 1 year to 20 years. The proportion of teachers who had taught for 6 years and above was 77.1%. Though this figure is lower than what Baffour –Awuah (2004) reveals of in the Ashanti region (79.3%).

Table 13

Frequency distribution of teaching experience of teachers in Mfantsipim

Number of Years	Frequency	Percentage %
1 – 5	16	22.9
6 – 10	15	21.4
11 – 15	14	20.0
16 – 20	22	31.4
20 +	3	4.3
Total	70	100.0

It shows that majority of the teachers had taught for six years and above. The findings are therefore consistent with the findings of Whitwort (1965) in Canada. The Results indicates that majority of the teachers have been teaching for quite a number of years and have gained more experience in the handling of their individual subjects, hence develop better strategies in the handling of the subjects.

Utilisation of Teachers by the Number of Subjects Taught.

The study also examined the effects of the number of subjects taught by a teacher on staff utilisation. The data gathered indicated that 34 respondents, representing 48.6% of the sample taught only one subject and 36 respondents making 51.4% of the sample taught two subjects. Table 20 gives the frequency distribution of the number of subjects taught.

Table 14

Frequency distribution of the number of subjects taught.

Number of subjects taught	Frequency	Percentage %
1	34	48.6
2	36	51.4
Total	70	100.0

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a summary of the study. The major findings and conclusions from these findings are also presented. Recommendations based on the findings and conclusions and recommendations for further studies are also given in this chapter.

Summary

This study has therefore been set out to explore the utilisation of Mfantsipim teachers in the Cape Coast Municipality to examine the extent to which teachers make effective use of the contact time with the students and to see if this contact has a reflection on the performance of students at the end of their secondary education in the school. The information gathered has filled some of the information gap identified by Gottelman-Duret (1996).

Variables that this study explored include such teacher utilisation measures as, student teacher ratios, teaching load (periods), class size and time spent on teaching related activities, co-curricular activities, administrative duties methods of conducting examinations in the school. The study assessed the effects of characteristics such as gender, school, professional and academic qualification, subjects taught and number of subjects taught. Six research questions were posed to guide this case study in which the descriptive survey method was used to answer the research questions

The major data gathering instrument used was the structured questionnaire. The design of the questionnaire was based on similar instruments used by Dzineku (1992), Dewotor (1992), Kutor (1999) and Baffour-Awuah (2004). A table was also designed to extract information such as, staff and student enrolment and the number of classes in the school. All the teachers in the school were selected and served with copies of the questionnaire but was able to retrieve seventy (70) out of the eighty (80) administered.

The researcher was given an introductory letter from the Institute for Educational Planning and Administration (IEPA) of the University of Cape Coast which he took to Mfantsipim to enable him gather the necessary data. The researcher administered the research instruments personally. The retrieval of the answered questionnaire was facilitated by some teachers who were assigned to help the researcher. Eventually, seventy (70) of the eighty (80) questionnaire given out were retrieved, representing a return rate of 87.5%.

The data collected were coded and fed into the computer. The Statistical Package of Social Sciences (SPSS 10.1 version) computer package was used to analyse the data. Descriptive statistics such as frequencies and percentages on the SPSS programme were used for the analysis. Various cross tabulations were made to aid the analysis.

Summary of Major Findings

The study revealed that the student-teacher ratio of Mfantsipim was lower than the Ghana Education Service (G.E.S.) stipulated norm of 20:1. It came out

therefore that low student-teacher ratios had an association with Mfantsipim. The student teacher ratio for Mfantsipim in the sample was found to be 19.6: 1; which was lower than the Ghana Education Service (G.E.S.) norm.

With regard to teaching load (periods), the study observed that most of the teachers in the sample (61.4%) had teaching periods within the Ghana Education Service (G.E.S.) norms of 24 periods to 28 periods a week. Whereas 21.5% of teachers taught below the Ghana Education Service (G.E.S.) established minimum of 24 periods a week, 17.1% had weekly teaching periods above the GES maximum of 28 periods. This implies that 38.6% of teachers in Mfantsipim were inefficiently utilised in terms of teaching load (periods). The average weekly teaching load for the study was 23.24 periods. This observed average was within the Ghana Education Service (G.E.S.) norm, suggesting that teachers in Mfantsipim were efficiently utilised.

It was also found that one out of that, Mfantsipim had an average class size above the Ghana Education Service (G.E.S.) established minimum of 20 students per class. The Arts classes had an average class size of thirty-six (36) while that of the Science classes was worked out to be thirty-two (32). An average class size of 36.8 was obtained for Mfantsipim. This average is almost twice higher than the Ghana Education Service (G.E.S.) established maximum of twenty (20).

Another significant finding of this study was that, teachers spent between 15 to 75 minutes a week on teaching related activities. Majority of the respondents spent more than 75 minutes a week on teaching related activities. The

average time that teachers in the sample spent on teaching related activities was found to be 18.70 hours a week. There were significant differences in the time estimates that respondents in the various schools reported to spend on teaching related activities. Most of the teachers as identified spent 75minutes or more a week on teaching related activities.

All the teachers in the sample took part in some co-curricular activities and administrative duties. Majority (34.5%) of the respondents took part in 2-5 co-curricular activities. The average time spent on co-curricular activities was 2.20 hour a week. Also, all the teachers in one way or the other performed some administrative duties. This includes being a form master, house master and various committee members. It was observed that teachers spent from 1 hour to 3 hours a week on administrative duties. Majority of teachers (32.9%) spent between 3 hours and above a week on administrative duties. Most of the teachers (80.0%) also indicated that they performed the co-curricular activities after school hours, While administrative duties were performed most of the time at the officially designated time for that and also during school hours when the need arise.

On teaching related activities, the study observed that Vocational/Technical subject teachers spent much time than all the other subject areas. They recorded a mean time of 22.23 hours a week whiles the 'Other' subjects category recorded the least average of 13.25 hours a week.

It was also observed that 48.6% taught one subject while 51.4% indicated that they taught two subjects. The study also revealed that 77.3% of the

respondents were aged between 20years and 40 years and that 80.0% were bachelors' degree holders whiles 94.3% of them had been teaching in Mfantsipim for the past sixteen (16) years.

Conclusions

The following conclusions were drawn from the findings of the study. Teachers in Mfantsipim School were optimally utilised in terms of GES norm with regard to student-teacher ratios. Most of the respondents indicated that they found time to make up for contact time lost. The study supports the assertion that the number of subjects that a teacher taught influenced his/her total workload. The study revealed that teachers who taught two subjects were most efficiently utilised with regards to teaching load.

It can also be concluded that Mfantsipim teachers were over-utilised in terms of class size. It was observed that most of the classes had average class sizes above the GES norms; the overall average exceeded the GES maximum.

Another conclusion that can be drawn from this study is that, teachers spent quite some time on teaching related activities such as lesson preparations and evaluation.. The findings of this study support the assertion that the teachers work is not merely 'talking and chalking'. Teachers are very active in co-curricular activities and administrative duties.

Recommendations

The following recommendations are made based on the findings of this study:

1. The school need to provide an additional classroom structure to house those at the Technical Block which is about 300meters away so that teachers will not have to be moving up and down the hill to teach.
2. The time table should be designed such that teachers who go to the Technical Block have all their lessons over there before coming up to continue teaching for the day.
3. Announcements after morning assembly which took most of the teaching time especially the first period need to be stopped and rather made at meals time when all students can listen while eating. Very important information that could affect activities of the day could be made within the shortest possible time.
4. The study also observed that co- curricular activities and administrative duties were part of the teachers' job. It was also observed that teachers who taught certain subjects were underutilised in terms of teaching load or periods. It is therefore recommended that more co- curricular activities and administrative duties should be given to teachers who are under utilised in terms of teaching load (periods) than those who may be over burdened to ease some of the stress. This will make them have more time to have contact with the students.

5. The study also observed that teachers spent a lot of time on such teaching related activities as setting and marking of exercises, compiling continuous assessment records and filling reports. The study thus recommend that computers and other time saving devices should be provided and permanent non teaching staffs recruited to take care of the data entries and processing. Teachers will therefore be required to submit their marked scripts and other relevant data to the officer in charge for entry and processing. This will help to save the time and energies that are spent on assessment and other teaching related activities.

6. There will be the need for teachers to establish rules and routines in the classes that are in line with that of the school. This will make the students prepare for the lesson before the teacher comes in.

7. Emergency staff meetings which took most of the teaching time can be avoided if teachers are well informed in advance on what is to be discussed by the sending of memoranda before the meeting.

8. Morning assembly can be held ones a week; preferably, the first period of the first teaching day of every week. All other information could be made either at the chapel or during morning devotions. This should not last for more that fifteen minutes. The first period lost during the morning assembly can be recovered by starting lessons of the other days of the week earlier; for example at 7am instead of 7.15am. The use of notice boards could also be encouraged to disseminate information to save contact time between teachers and students.

Suggestions for Further Research

Since this study only looked at what teachers are supposed to be doing, it is suggested that studies be conducted into what students really do during the instructional time. Teacher time on task and the effective and efficient utilisation of instructional time by both teachers and students needs to be explored.

Further research is also required into the relationship between such staff utilisation measures as student teacher ratios, class size and teaching load on students' academic performance.

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APPENDIX A

iepa
UNIVERSITY OF CAPE COAST
FACULTY OF EDUCATION
INSTITUTE FOR EDUCATIONAL PLANNING AND ADMINISTRATION

TEL.: 042-33824

University Post Office
Cape Coast, Ghana

Our Ref.: EP/90.2/80

June 13, 2005

The Head Master
Mfantsipim Secondary School
Cape Coast

LETTER OF INTRODUCTION

The bearer of this letter, Mr. Francis Korkoene Yaw Kumatia is a graduate student of the University of Cape Coast. He is collecting data/information in your outfit for the purpose of writing a Dissertation as a requirement of the programme.

I should be grateful if you would help him collect the data/information from your outfit. Kindly give the necessary assistance that Mr. Kumatia requires to collect the data.

Mr. Y. M. Anhwere
for Director

APPENDIX B

QUESTIONNAIRE FOR TEACHERS.

The focus of this questionnaire seeks to determine the academic performance of students of Mfantsipim School in relation to the contact hours they have with teachers during the teaching and learning process.

The information provided is for academic research purpose only. Confidentiality of your responses is therefore assured.

SECTION A – PERSONAL DATA

Please respond to the items below with a tick (√) where applicable in the space provided.

1. Gender:
   - Male ( )
   - Female ( )

2. Age
   - 20 – 30 ( )
   - 31 – 40 ( )
   - 41 – 50 ( )
   - 51 – 60 ( )

3. Rank
   - Superintendent ( )
   - Senior Superintendent ( )
   - Principal Superintendent ( )
   - Assistant Director ( )
   - Director ( )

4. Professional Qualification
   - Certificate in Education ( )
   - Diploma in Education ( )
   - Post Graduate Diploma in Education ( )
   - Others (specify) .....

5. Academic Qualification
   - Diploma in education ( )
   - Bachelor's Degree in education ( )
   - Post Diploma in education ( )

- Bachelor's Degree in education ( )
- Post Diploma in education ( )
- Masters Degree in education ( )
- Others (specify) .....

6. Teaching Experience
   - 1 - 5 years ( )
   - 6 - 10 years ( )
   - 11 - 15 years ( )
   - 16 - 20 years ( )

7. Number of years teaching in Mfantsipim School
   - 1 - 5 years ( )
   - 6 - 10 years ( )
   - 11 - 15 years ( )
   - 16+ years ( )

8. Number of subjects being taught.
   - 1 ( )
   - 2 ( )
   - 3 ( )
   - 4+ ( )

SECTION B

9. Do announcements at morning assembly take part of the teaching time?
   ( ) - Yes
   ( ) - No

10. If "Yes" would you recommend that the number of announcements be reduced?
   ( ) - Yes
   ( ) - No

11. Do other teachers take part of your teaching time when it is time to change over?
   ( ) - Yes
   ( ) - No

12. Is there any signal for the change over of each lesson?
   ( ) - Yes
   ( ) - No

13. What is the signal?
   ( ) - Drum
   ( ) - Bell

( ) - Sirens
( ) - Any other .....

14. How would you rate the students' response to the change over signal?
( ) -Very prompt & immediate,
( ) - Prompt & immediate,
( ) - Satisfactory,
( ) - Poor,
( ) - Very poor

15. Do you have official staff meetings during school hours?
( ) - Yes
( ) - No

16. Do you have emergency staff meetings during school hours?
( ) - Yes
( ) - No

17. Do you think the emergency staff meetings waste time for teaching?
( ) - Yes
( ) - No

18. When would you suggest the staff meetings be held?
( ) After classes
( ) During the lunch break
( ) During week ends
( ) Any other (Specify) .....

19. How many periods do you teach in a week?
( ) - Between 14 & 17
( ) - Between 18 & 21
( ) - Between 22 & 25
( ) - Between 26 & 29
( ) - Between 30 & 33

20. How many periods on the average do you teach in a day?
( ) - Between 1 & 2
( ) - Between 2 & 3
( ) - Between 3 & 4
( ) - Between 4 & 5
( ) - Between 5 & 6

21. What is the duration of each period?
( ) - 30 minutes
( ) - 35 minutes
( ) - 40 minutes

( ) - 45 minutes

22. Do you have a change over period (at least 5 minutes) between subjects on the timetable?

( ) – Yes
( ) – No

23. If "NO", would you like it to be introduced?

( ) – Yes
( ) – No

24. Is the number of periods you teach in a day convenient?

( ) – Yes
( ) – No

25. If "NO", what would you like to be done?

( ) - increase it
( ) - decrease it

26. Which of the following co curricular activities are you engaged in (tick as many as possible)

( ) - Sports and games
( ) - Clubs and societies
( ) - Gardening/ school farm
( ) - Culture
( ) - other (Specify)

27. Estimate the time that you spend in a week on the co curricular activity mentioned above.

( ) - 15 - 30 minutes
( ) - 31 – 45 minutes
( ) - 46 – 60 minutes
( ) - 61 – 75 minutes
( ) - 75 minutes and above.

28. When do you usually undertake these activities?

( ) - during Class hours
( ) - during break
( ) - After classes
( ) - other specify

29. Does the timing for the co curricular activities affect instructional time?

( ) – Yes
( ) – No

30. If "Yes", what would you suggest?

( ) - reduce the time
( ) - remove it
( ) - all should be done after classes
( ) - other (Specify).....

31. Which of the following administrative duties are you engaged in the school?
( ) - Assistant Headmaster
( ) - Senior House Master
( ) - House master/Mistress
( ) - Form master/mistress
( ) - Staff Secretary
( ) - Guidance/Counseling
( ) - Committee member
( ) - Other (Specify).....

32. Estimate the time you spend on the administrative duties mentioned above.
( ) - 10 - 20 minutes
( ) - 21 – 30 minutes
( ) - 31 – 40 minutes
( ) - 41 – 50 minutes
( ) - 51 – 60 minutes and above

33. When do you usually undertake these activities?
( ) - Before classes begin
( ) - During Classes hours
( ) - During break hours
( ) - After classes
( ) - other (specify).....

34. How does the timing of these affect instructional time?
( ) – Very serious
( ) – Serious
( ) – Quite serious
( ) – It does not affect it.

35. How many assignments do you give in a week?
Class assignments
( ) - 1
( ) - 2
( ) - 3
( ) - 4
( ) – 5

36. How many Project/Home work do you give in a week?
( ) - 1
( ) - 2

( ) - 3
( ) - 4
( ) – 5

37. How many class tests are given during the term?
    ( ) - 2
    ( ) - 3
    ( ) - 4
    ( ) – 5

38. Do you organize remedial teaching when the need arise?
    ( ) – Yes
    ( ) – No

39. If No, would you like it to be introduced?
    ( ) – Yes
    ( ) – No

40. What method is used in promoting students in the school?
    ( ) - Wholesale
    ( ) - End of term examination results only
    ( ) - End of third term results only
    ( ) - Cumulative marks for the academic year

41. What would you recommend to students who fall below the belt at the end of the academic year?
    ( ) - Repetition .....
    ( ) - Withdrawal .....
    ( ) - Promotion on probation .....

42. How would you rate the following as a problem that adversely affect academic performance by both teachers and students?

RATINGS:

Very Serious (VS) Serious (S) Minor (M) Not a problem (NP)

No	STATEMENT	RATINGS			
		VS	S	M	NP
a	Absenteeism on the part of the teacher.				
b	Absenteeism on the part of the student				
c	Assignments are not marked and returned regularly to students				
d	Students do not do corrections for marking after class discussion.				
e	Teachers do not mark corrections and return books to students.				
f	End of term exams are regular				
g	Examination scripts are not marked to assess students				
h	Teachers do not discuss questions with students when school re-opens				
i	The required number of invigilators are not adequate				
j	Invigilation of examination is not strict and to the letter				

THANK YOU

APPENDIX C

ANALYSIS OF REPONSES

FREQUENCIES WITHOUT MULTIPLES

Q1. Gender

		Frequency	Valid Percent	Cumulative Percent
Valid	Male	54	77.1	77.1
	Female	16	22.9	100.0
	Total	70	100.0	

Q2. Age

		Frequency	Valid Percent	Cumulative Percent
Valid	20 – 30	18	25.7	25.7
	31 – 40	31	44.3	70.0
	41 – 50	14	20.0	90.0
	51 – 60	7	10.0	100.0
	Total	70	100.0	

Q3. Rank

		Frequency	Valid Percent	Cumulative Percent
Valid	Superintendent	6	8.6	8.6
	Senior Superintendent	9	12.9	21.4
		37	52.9	74.3
	Principal Superintendent	18	25.7	100.0
	Assistant Director	70	100.0	
	Total			

Q4. Professional Qualification

		Frequency	Valid Percent	Cumulative Percent
Valid	Nr	2	2.9	2.9
	Certificate in Education	9	12.9	15.7
	Diploma in Education	21	30.0	45.7
	Post Diploma in Education	25	35.7	81.4
	Degree in Education	13	18.6	100.0
	Total	70	100.0	

Q5. Academic Qualification

		Frequency	Valid Percent	Cumulative Percent
Valid	Bachelor's Degree	56	80.0	80.0
	Post Diploma	2	2.9	82.9
	Master's Degree	12	17.1	100.0
	Total	70	100.0	

Q6. Teaching Experience

		Frequency	Valid Percent	Cumulative Percent
Valid	1 – 5 years	16	22.9	22.9
	6 – 10 years	15	21.4	44.3
	11 – 15 years	14	20.0	64.3
	16 – 20 years	22	31.4	95.7
	20+ years	3	4.3	100.0
	Total	70	100.0	

Q7. Number of years teaching in Mfantsipim

		Frequency	Valid Percent	Cumulative Percent
Valid	1 – 5 years	37	52.9	52.9
	6 – 10 years	17	24.3	77.1
	11 – 15 years	12	17.1	94.3
	16+ years	4	5.7	100.0
	Total	70	100.0	

Q8. Number of subjects being taught

		Frequency	Valid Percent	Cumulative Percent
Valid	1	34	48.6	48.6
	2	36	51.4	100.0
	Total	70	100.0	

Q9. Do announcements at morning assembly take part of the teaching time?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	60	85.7	85.7
	No	10	14.3	100.0
	Total	70	100.0	

Q10. If 'Yes' would you recommend that announcements be reduced?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	51	72.9	72.9
	No	7	10.0	82.9
	Na	12	17.1	100.0
	Total	70	100.0	

Q11. Do other teachers take part of your time when it is time to change over?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	53	75.7	75.7
	No	17	24.3	100.0
	Total	70	100.0	

Q12. Is there any signal for the change over of each lesson?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	69	98.6	98.6
	No	1	1.4	100.0
	Total	70	100.0	

Q13. What is the signal?

		Frequency	Valid Percent	Cumulative Percent
Valid	Bell	64	88.9	88.9
	Siren	8	11.1	100.0
	Total	70	100.0	

Q14. How would you rate the students' responses to the change over signal?

		Frequency	Valid Percent	Cumulative Percent
Valid	Very prompt and immediate	3	4.3	4.3
	Prompt and immediate	17	24.3	28.6
	Satisfactory	38	54.3	82.9
	Poor	10	14.3	97.1
	Very poor	2	2.9	100.0
	Total	70	100.0	

Q15. Do you have official staff meetings during school hours?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	50	71.4	71.4
	No	20	28.6	100.0
	Total	70	100.0	

Q16. Do you have emergency staff meetings during school hours?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	70	100.0	100.0
	No	0	0.0	100.0
	Total	70	100.0	

Q17. Do you think the emergency staff meetings waste time for teaching?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	56	80.0	80.0
	No	14	20.0	100.0
	Total	70	100.0	

Q18. When would you suggest the staff meetings be held?

		Frequency	Valid Percent	Cumulative Percent
Valid	After classes	36	51.4	51.4
	During the lunch break	32	45.7	97.1
	During weekends	2	2.9	100.0
	Total	70	100.0	

Q19. How many periods do you teach in a week?

		Frequency	Valid Percent	Cumulative Percent
Valid	Between 14 – 21	15	21.4	21.4
	Between 22 – 25	43	61.4	82.8
	Between 26 - 33	12	17.2	100.0
	Total	70	100.0	

Q20. How many periods on the average do you teach in a day?

		Frequency	Valid Percent	Cumulative Percent
Valid	Between 1 – 2	2	2.9	2.9
	Between 3 – 4	9	12.9	15.7
	Between 4 – 5	38	54.3	70.0
	Between 5 - 6	21	30.0	100.0
	Total	70	100.0	

Q21. What is the duration of each period?

		Frequency	Valid Percent	Cumulative Percent
Valid	35 minutes	21	30.0	30.0
	40 minutes	47	67.1	97.1
	45 minutes	2	2.9	100.0
	Total	70	100.0	

Q22. Do you have a change over period (at least 5 minutes) between subjects on the timetable?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	14	20.0	20.0
	No	56	80.0	100.0
	Total	70	100.0	

Q23. If 'No' to Q21, would you like it to be introduced?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	30	42.9	42.9
	No	26	37.1	80.0
	Na	14	20.0	100.0
	Total	70	100.0	

Q24. Is the number of periods you teach in a day convenient?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	64	91.4	91.4
	No	6	8.6	100.0
	Total	70	100.0	

Q25. If 'No' to Q23, would you like it to be done?

		Frequency	Valid Percent	Cumulative Percent
Valid	Decrease it	6	8.6	8.6
	Na	64	91.4	100.0
	Total	70	100.0	

Q26. Which of the following co-curricular activities are you engaged in (Multiple response)?

		Frequency	Valid Percent	Cumulative Percent
Valid	Sports and Games	30	34.5	34.5
	Clubs and Societies	28	32.2	66.7
	Gardening/School farm	18	20.7	87.4
	Culture	11	12.6	100.0
	Total	70	100.0	

Q27. Estimate the time you spend in a week on the co-curricular activities?

		Frequency	Valid Percent	Cumulative Percent
Valid	15 – 30 minutes	17	24.3	24.3
	31 – 45 minutes	18	25.7	50.0
	46 – 60 minutes	13	18.6	68.6
	61 – 75 minutes	2	2.9	71.4
	75 minutes and above	20	28.6	100.0
	Total	70	100.0	

Q28. When do you usually undertake the co-curricular activities?

		Frequency	Valid Percent	Cumulative Percent
Valid	During class hours	4	5.6	5.6
	During break	6	8.3	13.9
	After classes	56	77.8	91.7
	On weekends	4	5.6	100.0
	Total	70	100.0	

Q29. Does the timing of the co-curricular activities affect instructional time?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	10	14.3	14.3
	No	60	85.7	100.0
	Total	70	100.0	

Q30. If "Yes" to Q 28, what would you suggest?

		Frequency	Valid Percent	Cumulative Percent
Valid	Reduce the time	2	2.9	2.9
	Remove it	2	2.9	5.7
	All should be done after Classes	6	8.6	14.3
	Na	60	85.7	100.0
	Total	70	100.0	

Q31. Which of the following administrative duties are you engaged in the school?(multiple response)

		Frequency	Valid Percent	Cumulative Percent
Valid	Assistant Headmaster Senior	4	5.0	5.0
	Housemaster/mistress	2	2.5	7.5
	Housemaster/mistress	10	12.5	20.0
	Form master/mistress	44	55.0	75.0
	Staff secretary	2	2.5	77.5
	Guidance/counseling	6	7.5	85.0
	Committee Member	8	10.0	95.0
	Head of Department	4	5.0	100.0
	Total	80	100.0	

Q32. Estimate the time you spend on the administrative duties.

		Frequency	Valid Percent	Cumulative Percent
Valid	10 - 20 minutes	4	5.7	5.7
	21 - 30 minutes	22	31.4	37.1
	31 - 40 minutes	15	21.4	58.6
	41 - 50 minutes	6	8.6	67.1
	51 - 60 minutes	23	32.9	100.0
	Total	70	100.0	

Q33. When do you usually undertake these administrative duties? (Multiple response)

		Frequency	Valid Percent	Cumulative Percent
Valid	Before class begins	13	16.3	16.3
	During class hours	16	20.0	36.3
	During break hours	10	12.5	48.8
	After classes	30	37.5	86.3
	When the situation demands	11	13.8	100.0
	Total	80	100.0	

Q34. How does the timing of these affect instructional time?

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	4	5.7	5.7
	Serious	8	11.4	17.1
	Quite serious	18	25.7	42.9
	It does not affect it	40	57.1	100.0
	Total	70	100.0	

Q35. How many assignments do you give in a week?

		Frequency	Valid Percent	Cumulative Percent
Valid	1	24	34.3	34.3
	2	16	22.9	57.1
	3	21	30.0	87.1
	4	7	10.0	97.1
	5	2	2.9	100.0
	Total	70	100.0	

Q36. How many project/home work do you give in a week?

		Frequency	Valid Percent	Cumulative Percent
Valid	1	40	57.1	57.1
	2	19	27.1	84.3
	3	8	11.4	95.7
	4	3	4.3	100.0
	Total	70	100.0	

Q37. How many class tests are given in a term?

		Frequency	Valid Percent	Cumulative Percent
Valid	2	46	65.7	65.7
	3	13	18.6	84.3
	4	11	15.7	100.0
	Total	70	100.0	

Q38. Do you organize remedial teaching when the need arise?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	56	80.0	80.0
	No	14	20.0	100.0
	Total	70	100.0	

Q39. If No to Q 37, would you like it to be introduced?

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	2	2.9	2.9
	No	12	17.1	20.0
	Na	56	80.0	100.0
	Total	70	100.0	

Q40. What method is used in promoting students in the school?

		Frequency	Valid Percent	Cumulative Percent
Valid	Wholesale	2	2.9	2.9
	End of term exam results Only	12	17.1	20.0
	End of third term results Only	19	27.1	47.1
	Cumulative marks for the academic year	37	52.9	100.0
	Total	70	100.0	

Q41. What would you recommend to students who fall below the belt at the end of the academic year?

		Frequency	Valid Percent	Cumulative Percent
Valid	Repetition	60	83.3	83.3
	Withdrawal	10	13.9	97.2
	Promotion on probation	2	2.8	100.0
	Total	70	100.0	

How would you rate the following?

Q42a. Absenteeism on the part of the teacher.

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	6	8.6	8.6
	Serious	5	7.1	15.7
	Minor	19	27.1	42.8
	Not a problem	40	57.1	100.0
	Total	70	100.0	

Q42b. Absenteeism on the part of the student.

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	2	2.9	2.9
	Serious	8	11.4	14.3
	Minor	13	18.6	32.9
	Not a problem	47	67.1	100.0
	Total	70	100.0	

Q42c. Assignments are not marked and returned to students regularly.

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	5	7.1	7.1
	Serious	7	10.0	17.1
	Minor	24	34.3	51.4
	Not a problem	34	48.6	100.0
	Total	70	100.0	

Q42d. Students not doing corrections for marking after class discussions.

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	5	7.1	7.1
	Serious	15	21.4	28.6
	Minor	24	34.3	62.9
	Not a problem	26	37.1	100.0
	Total	70	100.0	

Q42e. Teachers not marking students' corrections and returning books to students.

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	7	10.0	10.0
	Serious	14	20.0	30.0
	Minor	15	21.4	51.4
	Not a problem	34	48.6	100.0
	Total	70	100.0	

Q42f. Regularity of end of term exams.

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	7	10.0	10.0
	Serious	8	11.4	21.4
	Minor	4	5.7	27.1
	Not a problem	51	72.9	100.0
	Total	70	100.0	

Q42g. Examination scripts are not marked to assess students.

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	4	5.7	5.7
	Serious	4	5.7	11.4
	Minor	11	15.7	27.1
	Not a problem	51	72.9	100.0
	Total	70	100.0	

Q42h. Teachers do not discuss questions with students when school re-opens.

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	5	7.1	7.1
	Serious	6	8.6	15.7
	Minor	10	14.3	30.0
	Not a problem	49	70.0	100.0
	Total	70	100.0	

Q42i. Number of invigilators for examination not adequate.

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	12	17.1	17.1
	Serious	13	18.6	35.7
	Minor	16	22.9	58.6
	Not a problem	26	41.4	100.0
	Total	70	100.0	

Q42j. Invigilation of examination not strict as required.

		Frequency	Valid Percent	Cumulative Percent
Valid	Very serious	12	17.1	17.1
	Serious	16	22.9	40.0
	Minor	17	24.3	64.3
	Not a problem	25	35.7	100.0
	Total	70	100.0	

APPENDIX D

SOME OF THE COMPARATIVE ANALYSIS OF THE SSSCE RESULTS OF MFANTSIPIM: 2002 – 2004

SUBJECTS	PERCENTAGE (%) OVERALL PASS		
	2002	2003	2004
English Language	96.1	96.3	99.5
Core Mathematics	88.9	93.3	98.5
Integrated Science	95.8	98.9	98.7
Social Studies	98.2	98.4	100.0
Geography	77.9	84.7	99.4
Economics	94.4	92.2	99.8
History	88.5	82.3	100.0
C.R.S.	89.2	72.4	92.3
French	86.0	100.0	100.0
English Literature	93.2	91.9	100.0
Elective Mathematics	81.0	88.8	99.2
Physics	76.9	80.2	97.5
Chemistry	88.4	82.8	99.6
Biology	94.0	98.0	98.6
Technical Drawing	95.0	90.9	100.0
Applied Electricity	90.9	93.1	97.3
Metal Work	100.0	94.4	100.0
Wood Work	88.9	100.0	-
Build Construction	100.0	87.5	100.0
Ceramics	75.6	97.0	100.0
Graphics	88.9	97.0	91.4
G.K.A.	60.0	96.3	98.7
Music	100.0	100.0	100.0

APPENDIX E

Table used to extract data from enrolment list, class registers and staff list.

Class	Number of Teachers	Number of Classes	Number of Students