

# UTILIZATION OF TEACHING MANPOWER IN THE JUNIOR HIGH SCHOOLS OF AJUMAKO-ENYAN-ESSIAM DISTRICT, GHANA

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**ABSTRACT:** In The study investigated the extent of teacher utilization problems in the junior high schools (JHSs) in the Ajumako-Enyan-Essiam District. It specifically sought to find out whether there were differences in teacher utilization with respect to gender, ownership of school, number of subjects taught, teaching experience, qualification, professional status and rank in the Ghana Education Service. A sample of 192 teachers made up of 160 teachers and 32 head teachers provided data for the descriptive study. Two set of questionnaires were designed for heads and teachers with reliability coefficients of 0.78 and 0.81 respectively. The SPSS was used to analyze data collected by using statistical tools such as frequencies, percentages, means, standard deviations, Chi-square test, t-test and Pearson's correlation. All the analyses were at a significance cutoff of 0.05. The study revealed that although majority (88.8%) of the teachers were under-utilized in terms of teaching load, they were over-worked in the areas of teaching-related and co-curricula activities. There was a statistically significant association between subject(s) taught and teaching load of the teachers, and both male and female teachers had comparatively equal teaching load. Also, the junior-rank teachers had greater and heavier teaching workload than their senior-rank counterparts. It is recommended that additional Mathematics, Integrated Science, ICT and English teachers should be posted to the District's junior high schools to augment the existing teacher population.

**Keywords:** Teaching Workload, Teacher Utilisation, and Teachers' Workload Rating

## 1. INTRODUCTION

It is generally accepted by governments that education is the pivot of economic and social development of any nation. Education is essential in a nation's development because it equips the individual with skills, competencies, technical know-how and knowledge that are ingredients for higher productivity. Productivity helps to raise the gross national product and the rise in productivity is an indicator of economic growth and development. Education also enhances good citizenship, morality, sense of patriotism, ecological consciousness, self-reliance, fellow feeling, internationalism, empathy and dignity of labour. Studies have also shown that literate workers are more productive (World Bank, 1988). Many prominent people and statesmen in Ghana have also recognized the importance of education and described it to be the lifeblood of a nation. For instance, Bimbila Naa, Dasani II made reference to the value of education and opined that education is the only foundation of a nation's development and therefore it is only when our children are given adequate education now that we can hope for a prosperous Ghana

tomorrow (Baffour-Awuah, 2004).

The recognition of the importance of education makes it necessary for policy makers in developing countries like Ghana to be concerned with the issues relating to the educational sector. Since Ghana's independence in 1957, governments have set up educational review committees which have made recommendations for the reforms of the educational system in Ghana. For instance, the Dzobo committee report of 1972 (recommended the JHS Concept) and the free compulsory Universal Basic Education Programme (FCUBE) policy Document (1992 constitution) and 2007 educational reform have contributed immensely to the structure of Basic Education in Ghana.

Before the educational reform, the curricula was bookish hence the new reform intended to vocationalise the curricula. The JHS concept which was implemented in 1987 stipulated that all children enter the first year of primary school at age 6 and are expected to go through a minimum of 9 years education (i.e. 6 years of primary and 3 years of Junior High Education). At the end of Junior High School, children can

either enter the world of work or continue to the secondary level. The senior secondary level which comprise 3 years, began in 1990. In line with this, the old Educational system (middle School System) was phased out in 1989.

The general view held by the people in the Ajumako-Enyan-Essiam District is that the teaching load of teachers is less than 40 hours a week. During an education forum held in 2004, some workers of the public departments in the District expressed the view that Junior Secondary School (JSS) teachers in the District do less teaching than required. They attributed this to tardiness, absenteeism, lateness and laziness.

Junior High School teachers of the Ajumako-Enyan-Essiam District complained about their private time being denied them as a result of marking of assignments, recording of marks and preparing lesson notes, undertaking co-curricula activities and performing administrative duties. According to the teachers, most of activities often took place outside school hours. They therefore, argued that the total time used in carrying out teaching and teaching-related duties far exceeded the 40 hours a week work period prescribed by labour laws for workers in Ghana. This argument supports Horrick's (1973) complaint that the average teacher works longer hours and receives less pay than most semi-skilled workers.

The GES norm for the pupil-teacher ratio in the JSS is 20:1 while that for teaching load is a minimum of 25 periods per week (GES, 1988). The minimum number of periods to be taught by every teacher in the JSS did not take account of the other duties of the teacher such as time spent on lesson preparation, marking, and co-curricula activities like supervision.

It identified and examined the duration of the teachers' time on task with pupils and teaching-related activities. These variables were considered to make up the teachers' total workload per week. The computation of the time schedules was based on the time on task specified on the teaching time table and the average time estimates that were given by the teachers' responses regarding teaching related activities which were undertaken outside the time table schedule.

## 2. STATEMENT OF THE PROBLEM

Notwithstanding the general opinion of the public that JHS teachers are working below 40 hours a week, JHS teachers of the Ajumako-Enyan-Essiam District claim they are overburdened with work. This complaint by the teachers had been compounded by the implementation of the Education Reform Programme of 1987, which stresses the importance of the continuous assessment concept. Other JHS teachers

complained that teachers in some subject areas are over-utilized while others are under-utilized. The major concern of the study was to find out the rate of utilization of the JHS teacher in the district. The study has become necessary in order to establish whether the JHS teacher (in the Ajumako-Enyan-Essiam District) works above or below 40 hours a week.

A number of determinants could contribute to the existing situation. These include preparing lesson notes, teaching load, the setting and marking of exercises, recording of marks, performing administrative duties and organising co-curricula activities such as clubs and society meetings and income-generating projects. It was worth analysing these determinants in order to measure the extent to which teacher utilization in the JHS of Ajumako-Enyan-Essiam district was influenced. The aim was to find out whether the determinants individually or collectively contribute to teachers working above or below 40 hours a week.

Another area of concern of this study was to find out whether significant differences could be observed in the rate of teacher utilization in the Junior Secondary Schools of the district in relation to the stipulated national norms on teacher establishment and utilization. It was equally expedient to find out if comparisons of school location, size, subject(s) taught and ownership would reveal major differences in teacher utilization rates.

A thought-provoking question that emerged out of the casual complaint by JHS teachers was, were the teachers actually overburdened? If yes, was it all the teachers were being overburdened? It therefore, became necessary to examine the situation on the ground in order to determine the staff strength and the utilization capacity, which would tell whether or not the teachers are being overburdened.

The findings of the study may be useful to the District Education Directorate when it wishes to post new teachers and redistribute existing teachers in the field in order to solve the problem of under-utilization and over-utilization of teachers in the District.

The study could be a guide to policy makers and educational planners, in the recruitment and placement exercise of teachers. Moreover, the results of the study may be useful in finding out reliable and meaningful time estimate of the teachers' out-of-classroom activities for policy making. This may provide new insights on how teachers should be utilized, especially with the advent of continuous assessment.

### 3. RESEARCH QUESTIONS

The following research questions had been constructed to guide the study:

- What is the evidence that teachers are over-worked in Ajumako-Enyan-Essiam (AEE) District?
- i. In which subject areas are differences in teaching loads significant?
- ii. What difference exists between utilization rates of teachers teaching in the public and private Junior High Schools of Ajumako-Enyan-Essiam (AEE) District?
- iii. How significant are differences in the teaching workload of male teachers and that of female teachers in junior high schools in the AEE District?
- iv. How significant is the difference in the teaching workload between teachers of the ranks of principal superintendent or higher and teachers of ranks below principal superintendent?

### 4. REVIEWED OF RELATED LITERATURE

#### 4.1 Human Resource Utilization

A number of studies have been undertaken in the area of human resource utilization in general and teaching manpower in particular. Gillis et al. (1987) as reported by Baffour-Awuah (2004) noted that characteristic of labour in the poorest economics is widespread underutilization of the available labour supply. Much of this underutilization, from their point of view takes the form of disguised unemployment familiar in industrial countries. That is people do have some kind of a job, and work long hours, but the contribution to output is small. They noted with concern that, with some reallocation of resources and improvement of institutions their labour could be made more productive. They however observed that the degree of labour underutilization varies greatly in most Asian countries and in the sub-Saharan Africa. Kutor (1999) reported similar findings; that manpower survey conducted in Ghana in 1960 pointed out that the most serious problem facing the country was the widespread underutilization and low productivity of labour.

#### 4.2 Time on Task and Total Workload

Dzineku (1992) and Dewotor (1992) shared common views. They explained the total workload of teachers as constituting their teaching load and the time spent performing teaching related duties. Dewotor (1992), and Harbison and Myers (1974) shared a common view that the problem of incentive and proper utilization of human resources must not be underestimated in manpower evaluation. Atta-Boison (1992) and Dewotor (1992) quoted Miskel et al. (1990) said teaching load

of teachers is lower than the minimum norm. They claimed that this is compensated for by the load for lesson preparations, setting, marking and recording continuous assessment work, performing administrative duties and involvement in co-curricula activities. In the researchers' view, teaching related duties have raised the workload of teachers beyond the Ministry's prescription. Kutor (1999) reported Perry (1998), Mitchell (1986) and Doherty (1980) findings showed that there was a reduction of school hours in Britain. That, school hours reduced from 1000 hours annually to 900 hours. It was also established that the school day has reduced between 30 and 35 minutes.

However, Kutor (1999) cited the work of Herrick (1973) who argued that the average teacher in USA works longer hours and receives less pay than most semi-skilled workers. This assertion by Herrick is contended or supported by Hoy and Miskel (1978), who shared the same view that teachers are doing an average of 46 hours per week in the United States of America and that about 45 percent of these teachers sacrifice their lunch breaks to supervise pupils. Baffour-Awuah (2004) cited the work of Cresswell (1982) who revealed that through collective bargaining between teacher unions and educational managements in the USA, co-curricula and supervisory duties are separated from teaching duties. He suggested that districts should hire additional staff to perform those duties or pay extra remuneration to teachers who performed such duties. Kutor (1999) observed that time spent by majority of the teachers and heads on teaching and teaching-related duties exceeded norm laid down by the labour laws of the country – more than 40 hours a week. He also observed in the same study that the teachers in the Languages, Science and Mathematics spent much more time on their teaching related duties than teachers of Social Studies, Vocational and Technical Subject groups. However, Kutor's definition on teaching-related duties appeared to be too broad because it included co-curricula activities and administrative duties, which many teachers do not participate. Therefore, teacher workload comprises the time spent in performing his teaching duties as well as time expended in performing teaching-related duties.

#### 4.3 Staffing and Teacher Workload

Lewin (1987) as reported by Dzineku (1992) observed that teacher workload was very light in a study conducted in China, 1985. According to Lewin, teaching loads in Secondary schools were light, and a teacher was allocated about 10 – 12 periods a week out of 30 periods a week. A related study conducted by Lewin (1992) in China, Papua New Guinea, Singapore, Thailand, Nigeria, Zimbabwe, Ghana and the Philippines on science Education in developing countries

revealed similar results. He indicated that the average teaching load for the science teachers in the countries used for the study was about 14 hours per week with about 80% of the time devoted to science teaching. According to him, in most cases, the teachers claimed to spend much time on lesson preparation and marking. Dzineku also found out that the average workload of the male teachers was higher than that of the females. The study conducted by Kutor (1999) also revealed that the proportion of Languages, Mathematics and Science with teaching load above the Ghana Education Service minimum norm was higher than that of teachers in the Social Studies, Vocational and Technical subject groups. But Dzineku (1992) in a related study in Senior Secondary School found out that those teachers of social studies and science in the southern part of the Volta Region had an average teaching load slightly higher than that of teachers of Arts subjects. In the same study, Kutor (1999) found out that more teachers in the rural schools teach above the Ghana Education Service minimum norm for Junior Secondary teacher than those in urban Schools. Dzineku (1992) also conducted a study which revealed that majority of the schools had student-teacher ratio of more than the GES minimum norm of 20:1.

#### 4.4 Teacher Utilization in Ghana

Dzineku (1992) and Dewotor (1992) share a common view that teacher utilization vary according to subjects of specialization. Kutor (1999) mentioned again that surveys conducted by the Ministry of Education suggested that teachers at the basic education level were not fully utilizing their instructional time.

## 5. METHODS AND MATERIALS

### 5.1 Research Design

Our The research design adopted for this study is descriptive survey, to describe time utilization of respondents in terms of total workload, that is teaching and teaching- related duties as compared to the norms laid down by labour laws of Ghana. This objectives of the study made the descriptive survey design the most appropriate design to provide a meaningful and accuracy picture of the situation and provide a report on the respondents behaviour on the basis of data collected.

### 5.2 Population

All the teachers and school heads of the 67 public Junior High Schools and those of the 7 private JHSs in the Ajumako-Enyan-Essiam District constituted the target population for the study. The available statistics, for the 2011/2011 academic year from the District Education Office, Ajumako put this population at 493 teachers and 77 heads in the seven GES' circuits and all private JHSs as another circuit. The teacher population was made up of 323 and 170 trained and untrained

teachers, respectively. Only teachers and headteachers with at least a year's duration of service were considered. Hence, the targeted population was 402, while that of the heads was 68 (i.e. 68 schools). In all, the targeted population was 470.

### 5.3 Sample and Sampling Technique

Teachers under study were many and spread over the whole district. As a result, a sample of these teachers was used. However, all the teachers and heads who have been in the district for at least one year in the selected schools participated in the study because they have had adequate information about the quality of teachers and their attitudes towards work.

The classroom teachers and heads of schools constituted the respondents because they were in position to provide information on the subject being studied. They formed the core of the instructional system of the schools. Their views on workloads, class sizes and co-curricula activities in which they were involved were considered vital for a clearer understanding of the issues under the study.

Out of the 68 schools (heads), 32 were randomly selected for the study. Hence, the sample size for the study was 192. This sample size was determined based on a suggestion made by Fraenkel and Wallen (2000) that for a descriptive study such as this, a sample with a minimum number of 100 elements is essential.

The proportional stratified random sampling technique was used in the selection of the schools, heads and teachers. The criterion for stratification and selection was circuit, and the proportional allocation according to size was adopted. All schools randomly selected had their heads as automatic members of the sample. The sample size in the various strata was proportional to size because the numbers selected from each circuit was in relation to the number of schools and teachers in each stratum. In each case, the names of the schools in each circuit were written on pieces of paper and folded. They were then put into a box, well-shuffled and picked one after the other without replacement. The names of the selected schools were then compiled and used in the study. Table 1 presents the number of schools, heads and teachers selected for the study.

Table 1: Sample Selection by Circuit

Circuit	Heads		Sample of Heads	Teachers		Total
	Total Schools/Heads	No. of		Total No. of Teachers	Sample of Teachers	
Abaasa	9		4	37	15	19
Ajumako	10		5	68	27	32
Amia	9		4	68	27	31
Bisease	12		6	59	23	29
Denkyira	7		3	52	21	24
Enyanmia	6		3	54	22	25
Senkwaa	6		3	41	16	19
Private	9		4	23	9	13
Total	68		32	402	160	192

Source: Annual School Census, 2009.

On the selection of the teachers, the staff list of each school selected was compiled in a staff register per circuit and fed into the SPSS, where the Random Number Generator was used to select the teacher respondents according to the various sample sizes. This procedure was adopted with the aim of making sure that representative samples were chosen for the study.

#### 5.4. Instruments

The sources of information were mainly two. These comprised factual information from the teachers and information from documents such as school time-table, continuous assessment records, etc. Research instruments for the study were two set of questionnaires, one for teachers and the other for head-teachers. Kutor's (1999) research instruments were adapted and revised to collect relevant information from these two sources.

These instruments were purposely used to collect information on the time teachers and school heads spend on performing teaching related duties. The majority of the items were closed-ended. This provided uniformity of responses and made the processing of the data easy. The questionnaire for heads was used to confirm or reject the claims of the teachers.

The items were constructed in such a way as to allow frequency counts and to avoid blank and ambiguous answer categories of "Yes" and "No." Where such answers were unavoidable they were followed by contingency questions demanding explanation. A few open-ended items were included to enable respondents express their views on the time spent performing their duties.

The two set of questionnaires used were in two sections. Section A was on biographic data, while Section B was on the demanded information on the various aspects of the teaching related duties. The researcher also designed a form for extraction of information from documents. This form helped the researcher to collect information on the teaching load, class size, classes taught, subjects taught and volume of continuous assessment work.

#### 5.5 Data Collection Procedure

Using a letter of introduction from the Institute for Educational Planning and Administration (IEPA), permission was sought from the District Director of Education, Ajumako, to conduct the research in the schools of his District. Schedules of visits to the schools, as well as Director's letter of consent were forwarded to the schools through the District Directorate.



The questionnaires were personally administered to the respondents and retrieved by the researchers after a week. However, where there were failures in the retrieval after a week the researcher revisited those schools to collect the answered questionnaires.

The visits to the schools started with a meeting with the headmaster/headmistress or in his absence, his assistant. Copies of the various letters of introduction (i.e. from IEPA and the District Director) were presented. The purpose of the research was then explained to the head.

The meeting with the teachers usually took place during one of the break periods either in the staff common room or in the head's office. The teachers were given insight into the purpose of the research after the introduction of the researcher. Researcher established rapport and won the confidence of the teachers so as to encourage teachers to accept and complete the questionnaire as objectively as possible. Teachers were taken through the rubrics of each item after the distribution of the questionnaires. The researcher spent the time before the collection of the responses from the teachers to interview the head and spent part of the time to extract data from documents like teaching time-table, class registers and continuous assessment records. The researcher went round the schools to collect the completed questionnaires back a week after the initial distribution. There were few instances where the researcher had to make several rounds of follow-up visits to be able to collect the completed questionnaires.

It is worth pointing out that in the midst of these problems, 142 out of 160 representing 88.8% of the questionnaires for teachers were retrieved, while 24 (75.0%) out of 32 questionnaires for school heads were also retrieved.

## 5.6 Data Analysis Procedure

Both descriptive and inferential statistics were used in the data analysis. The study employed the SPSS version 17.0, a computer software, to capture and run analyses. Statistical tables were constructed. In analysing the first research question: What is the evidence that teachers are over-worked in the AEE District? Frequencies, percentages, means and standard deviations were computed and discussed. The second research question: in which subject areas are differences in teaching loads significant? The Chi-square test was run.

The research question three: What difference exists between utilization rates of teachers teaching in the public and private junior high schools of Ajumako-Enyan-Essiam (AEE) District?, the Independent-samples t-test was conducted since the comparison was between only two variables. Also, research question four: "How significant are differences in the

teaching workload of male teachers and that of female teachers in junior high schools in the AEE District?", here too the t-test was conducted and discussed.

Lastly, the fifth researcher question: How significant is the difference in the teaching workload of teachers who are of the rank of principal superintendent or higher and teachers of ranks below principal superintendent?, the t-test was done again. For further exploration, the effect size ( $d$ ) and the Pearson correlation coefficient ( $r$ ) were used to investigate why senior teachers had less teaching workload than the junior ones. According to Cohen (1988),  $d = 0.1 - 0.4$  is "small,"  $d = 0.5 - 0.7$  is "medium," while  $d \geq 0.8$  is "large."

## 6. RESULTS AND DISCUSSION

Out of the 192 sample size (made up of 160 teachers and 32 heads), 166 (made up of 142 teachers and 24 heads) of them responded representing 97.6% coverage rates. Responses were summarized on frequency distribution to enhance understanding and also to answer the research question posed in Chapter One.

### 6.1 Background Characteristics of Respondents

The study examined the background characteristics of the respondents. These include gender, age, highest academic qualification, professional status, rank, and duration of teaching experience. It also looked at the status of the studied schools (public and private). The study took cognizant of the fact that these factors could influence the responses of the respondents.

Table 2 presents the gender and age distribution of the teachers and heads.

Table 2: Gender and Age Distribution of Respondents

Age(in years)	Male		Female		Total	
	No.	%	No.	%	No.	%
Below 21	8	6.6	2	4.5	10	6.0
21 – 30	49	40.2	25	56.8	74	44.6
31 – 40	42	34.4	10	22.7	32	31.3
41 – 50	14	11.5	5	11.5	19	11.4
51 – 60	6	4.9	2	4.5	8	4.8
Above 60	3	2.4	0	0.0	3	1.9
Total	122	100.0	44	100.0	166	100.0

Table 2 indicates that majority (73.5%) of the respondents were males, while the remaining (26.5%) were females.

Again, most (44.6%) respondents were between 21 – 30 years, while 31.3% fell within the age bracket of 31 to 40 years. Only 4.8% of the respondents aged between 51 – 60 years, while 6.0% aged below 21 years. Table 2 also reveals that some (1.9%) of the respondents were above the retirement age of 60 years. It can be deduced from Table 1 that the male teachers and heads' numbers in the District far outnumbered that of the

female teachers and heads. Again, there appeared to be youthful teachers and heads in the District, which was encouraging.

The study also requested highest academic qualifications of the teacher and the head respondents in the Ajumako-Enyan-Essiam (AEE) District.

Table 3: Highest Academic Qualifications

Qualification	Teachers		Heads		Total	
	No.	%	No.	%	No.	%
Second Degree	1	0.6	0	0.0	1	0.7
First Degree	9	6.3	3	12.5	12	7.2
Diploma	50	35.2	16	66.7	66	39.8
Cert. 'A' Post-Sec.	36	25.4	1	4.2	37	22.3
4-year Cert. 'A'	10	7.11	2	8.3	12	7.2
Others	36	25.4	2	8.3	38	22.8
Total	142	100.0	24	100.0	166	100.0

Most of the respondents (39.8%) (teachers and heads) obtained diploma while 36 (25.4%) and one (4.2%) of the teachers and heads were certificate 'A' Post-Secondary holders. Twelve representing 7.2% made up of nine teachers and three heads had 1st degrees, while only one of them obtained 2nd degree. It can be deduced that the academic profile of the respondents (teachers and heads) was fairly impressive. Again, the data

gathered revealed that all the 24 (100.0%) heads and 93 (65.5%) of the teachers were professionally trained while others were not.

### 6.1.1 Distribution of Respondents by Ranks

The respondents were asked to indicate their ranks in the Ghana Education Service from Superintendent II to Assistant Director I ranks, and Table 4 contains their responses.

Table 4: Ranks of Respondents

Rank	Teachers		Heads		Total	
	No.	%	No.	%	No.	%
Assistant Director I	2	1.4	3	12.5	5	3.0
Assistant Director II	1	0.7	0	0.0	1	0.7
Principal Supt.	13	9.2	7	29.2	20	12.0
Senior Supt. I	31	21.8	5	20.8	36	21.7
Senior Supt. II	10	7.0	2	8.3	12	7.2
Superintendent I	30	21.1	3	12.5	33	19.9
Superintendent II	38	26.8	1	4.2	39	23.5
Others	17	12.0	3	12.5	20	12.0
Total	142	100.0	24	100.0	166	100.0

It can be observed from Table 4 that 62.5% of the heads were of the ranks of Senior Superintendent I, Principal Superintendent and Assistant Director I. It also reveals that 68 (47.9%) of the teacher respondents were of the Superintendent ranks. In all, only six of the 166 respondents were Assistant Directors. The situation depicts that majority of the respondents were of a considerably high rank in the Ghana Education Service.

### 6.1.2 Duration of Service of Respondents

The study also explored how long the heads and teachers had served in the teaching profession. Table 5 contains the details.

Table 5: Teaching Experience of Respondents

Duration (in years)	Teachers		Heads		Total	
	No.	%	No.	%	No.	%
Below 5	74	52.1	1	4.2	75	45.2
5 – 9	38	26.8	5	20.8	43	25.9
10 – 14	15	10.6	1	4.2	16	9.7
15 – 19	6	4.2	9	37.5	15	9.0
20 – 24	6	4.2	8	33.3	14	8.4
Above 25	3	2.1	0	0.0	3	1.8
Total	142	100.0	24	100.0	166	100.0

Table 5 shows that majority (52.1%) of the teacher respondents had taught for less than 5 years. Also, 41.6% of them had been teaching between 5 and 19 years, while only 9 (6.3%) had taught beyond 20 years. It can also be seen that although 15 teachers remained as teachers despite long service duration, six heads became heads just for teaching for less than 10 years. Although there was no available empirical evident, the study conjectured that this might be due to the refusal of many qualified teachers to go to hinterlands in the District. On the average, the teachers had 6.9 years of teaching experiences. Similarly, most (45.2%) of the heads had below 5 years teaching experience, while 17 (10.2%) had acquired atleast 20 years of experience. The average duration of service of the heads was 15.8 years.

### 6.1.3 Status of Schools

On the status of the schools in the study, the data revealed the information in Table 6.

Table 6: Status of Schools

School	Teachers		Heads		Total	
	No.	%	No.	%	No.	%
Public	119	83.8	19	79.2	138	83.1
Private	23	16.2	5	20.8	28	16.9
Total	142	100.0	24	100.0	166	100.0

It can be observed from Table 6 that overwhelming majority (138) representing 83.1% of the respondents were from the public schools. Specifically, 119 (83.8%) and 19 (79.2%) of the teachers and heads respectively taught in the public schools. Twenty-eight representing 16.9% of the respondents came from the private Junior High Schools.

**Research Question One:** What is the evidence that teachers are overworked in AEE District?

This research question sought to determine the teaching load, teaching-related and extra-curricula activities' load of the teachers in the District in order to see whether they are overworked or not. By the norms of the Ghana Educational Service, Junior High Schools teachers are expected to teach a minimum of 14.3 and a maximum of 16.3 hours a week. Accordingly, optimum load is expected to be 15.8 hours per week.

### Teachers' Teaching Load in Ajumako-Enyan-Essiam (AEE) District:

The study sought to determine teaching loads of the teachers per week. Data collected are presented in Table 7. Table 7 reveals that none of the respondents taught less than 5 hours in a week, while majority (88.7%) of the 142 teacher respondents in the District had teaching load between 6 and 15 hours per week.

Table 7: Teaching Load of Junior High Schools Teachers

No. of Hours	No. of Teachers	Percentage
0 – 5	0	0.0
6 – 10	11	7.7
11 – 15	115	81.0
16 – 20	16	11.3
Total	142	100.0



The data also revealed that 16 (11.3%) of them taught for at least 16 hours per week. Computationally, the average teaching load of the teachers from the Ajumako-Enyan-Essiam District was 13.2 hours per week. This average value is even below the Ghana Education Service's stipulated minimum teaching load of 14.3 hours per week.

Figure 1 presents the teaching load of the teachers based on the Ghana Education Service's classification.

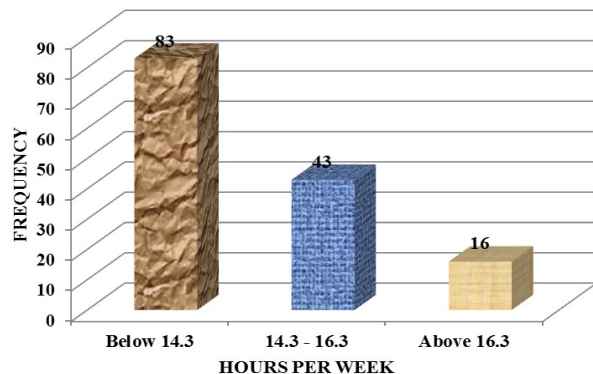


Figure 1: Classification of Teaching Load based on GES's Norms

It can be seen from Figure 1 that 16 representing 28.2% of the teachers in the District taught above the maximum average of 16.3 teaching hours per week, while 43 representing 30.3% spent below 14.3 and 16.3 hours in a week. Majority (58.5%) of them had teaching load less than 14.3 hours per week. This finding indicates that majority (88.8%) of the junior high schools teachers in the District were under-utilized in terms of teaching load.

#### Teaching Load of the School Heads

Data gathered indicated that 10 of the heads in the public Junior High Schools also taught as well, while the 5 private Junior High School heads were fully detached and had no teaching load. The 10 public Junior High heads had an average teaching load of 6.8 hours a week which by far exceeded Ghana Education Service's norms of 2.9 hours a week. This reveals that the public Junior High Schools' heads were being over-stretched.

#### Time Estimates for Teaching-Related Duties

Since there was no time-table indicating periods for the performance of teaching-related duties, teachers were asked to estimate the time used in performing such duties. Table 8 summarised the estimated hours spent on subjects.

Table 8: Average Hours Spent on Non-Teaching Activities

Activity	Eng (45)	Maths (32)	Int. Sci. (31)	Soc. Std. (36)	RME (25)	BDT (24)	Fante (27)	French (1)	ICT (19)
Lesson plan preparation	3.9	3.2	4.9	3.5	2.9	3.6	3.1	1.7	3.1
TLM preparation	2.9	3.0	3.5	3.7	3.0	3.6	2.7	2.0	2.5
Setting assignments	3.1	3.2	3.5	3.5	3.2	3.4	3.3	0.7	2.8
Marking assignments	3.9	3.7	3.2	3.3	2.9	3.2	3.3	6.0	2.8
Recording assignments	2.8	2.8	2.8	3.5	2.9	3.6	3.2	2.0	2.5

According to the data in Table 8, 45 teachers who handled English Language in their respective schools, they spent, on the average, 3.9 hours per week preparing their lessons plans,

2.9 hours on TLM preparation, 3.1 hours setting assignments, 3.9 hours on marking assignments and 2.8 hours recording assignments. Additionally, 32 teachers taught Mathematics,

and on the average they spent 3.2 hours per week on preparing lesson plan, 3.0 hours on TLM preparation, 3.2 hours on setting assignments, 3.7 hours on marking assignments and 2.8 hours on recording assignments. Again, on the hours spent on teaching-related duties by the 31 Integrated Science teachers in the District, the data revealed that averagely, 4.9 hours per week was used on preparing lesson plan, 3.5 hours on TLM preparation, 3.5 hours on setting assignments, 3.2 hours on marking assignments and 2.8 hours on recording assignments. Also, 36 teachers were found to teach Social Studies in the District, and they spent 3.5 hours per week on preparing lesson plan, 3.7 hours a week on TLM preparation, while 3.5 hours per week on setting assignments. They expended average hours of 3.3 per week on marking assignments and 3.5 hours weekly on recording assignment scores.

On teaching-related duties of the 25 Religious and Moral Education (RME) on the average, 2.9 hours was used a week on lesson plan, 3.0 hours per week on TLM preparation and 3.2 hours per week on setting assignment. Also, they spent averagely, 2.9 hours per week each on marking and recording of assignments. Moreover, 24 BDT teachers who participated in this study indicated that on the average, they used 3.6 hours each weekly on preparing lesson plan, and TLM. Meanwhile, they spent average of 3.4 hours weekly on setting assignment, 3.2 hours per week on marking assignment and 3.6 hours per week on recording BDT assignment marks.

In addition, 27 Fante teachers were found in the study. On the average, 3.1 hours per week was used to plan lesson, and 2.7 hours per week on TLM preparation. Again, they spent 3.3 hours each weekly on the average on setting, and marking assignments, and 3.2 hours per week on recording assignments. There was only 1 French teacher in the study who used 1.7 hours per week on lesson plan, 2.0 hours per week on TLM preparation, 0.7 hours per week on setting assignments, 6.0 hours per week on marking assignments, and 2.0 hours per week on recording assignments. Also, 19 ICT teachers were involved in the study, who reportedly used average of 3.1 hours per week on lesson plan, and 2.5 hours per week on TLM preparation. They also, used an average hours of 2.8 each on setting assignments and marking assignments, while 2.5 hours per week was used on recording assignments.

Evidently, 79 out of the 142 teachers handled at least two subjects. As expected, those who taught two or more subjects spent more time on the preparation of lesson plan, TLM, setting marking and recording of assignments than those teaching single subject even though the teaching load per week was the same. It can be concluded that there is a close

relationship between teachers' time estimates and the number of subjects taught.

The analysis further revealed that on the teaching-related activities (including lesson plan, TLM preparation, setting assignments, marking assignment, and recording assignments), Integrated Science teachers spent the higher time of 9.0 hours per week on the average, followed by Social Studies. (Mean = 3.5 hours), BDT (Mean = 3.5 hours), Mathematics (Mean = 3.2 hours), RME (Mean = 3.0 hours), Ghanaian Language – Fante (Mean = 3.1 hours), English (Mean = 2.9 hours), ICT (Mean = 2.7 hours), and French (Mean = 2.5 hours) teachers in that order.

The teacher respondents were asked to rate their workload from “too heavy” to “light,” and Table 9 contains their responses.

Table 9: Teachers' Rating of their Workload

Response	Frequency	Percentage
Too heavy	31	21.8
Heavy	65	45.8
Quite heavy	38	26.8
Light	8	5.6
Total	142	100.0

It can be seen from Table 9 that only eight (5.6%) of the teacher respondents rated their workload (both teaching and teaching-related activities) as light. Overwhelming majority (94.4%) of the 142 teachers indicated somewhat heavy.

#### School Heads and Time Estimates for Vetting Lesson Notes

The data revealed that majority (75.0%) of the heads vetted teachers' expanded scheme of work (lesson plans) once in a week, while three (12.5%) did that daily. Also, one (4.2%) and two (8.3%) of them inspected their teachers' lesson plans once in a month and once in a term respectively. On hourly basis, the heads used an average of 2.8 hours per week to vet lesson plans of their teachers. However, this amount of time appears to be inadequate as vetting of lessons is a very important duty of heads that needs enough time. What might have accounted for this was the fact that all the heads also had subject(s) to teach hence over-stretched with loads.

#### Teachers' Time Estimates for Co-curricular Activities

Teachers' time estimates for performing co-curricular activities ranged from 1.0 – 34.0 hours per term. On field trips

and excursions, the 31 teachers who engaged themselves in this activity spent an average of 7.0 hours per term. Ninety teachers engaged in sports. They used on the average, 5.9 hours in a term on sporting activities.

The data further revealed that 58 teachers participated in cultural activities in a term whereby an average hour of 5.7 was used. Again, on activities of clubs and societies, the 38 teachers who engaged in them claimed that they spent on the average 6.0 hours per term. Other activities they involved in were gardening, and quizzes and debates. Expectedly, teachers performing two or more activities spent much more time on those activities than those involved in only one activity.

**Research Question Two:** In which subject areas are differences in teaching loads significant?

The study sought to identify the subject areas which influence the teaching loads of the teachers in the District. By this, four subject-groups were identified. These were Languages (i.e. English, Ghanaian Language – Fante, and French), Mathematics, Science and ICT, Social Studies and RME, And Basic Design and Technology (BDT). Two groups of teachers were studied. Firstly, those who taught two or more subject and secondly, those teaching single subject.

Table 10 presents the breakdown of the teachers' teaching load based on subject(s) taught.

Table 10: Teaching Loads of Teachers Based on Subject(s) Taught

Hours per week	Mathematics/Integrated Science and ICT		Languages		Social Studies and RME		BDT	
	N	%	N	%	No	%	No	%
< 14.3	0	0.0	28	62.2	34	94.4	21	87.5
14.3-16.3	26	70.3	15	33.3	0	0.0	2	8.3
>16.3	11	29.7	2	4.5	2	5.6	1	4.2
Total	37	100.0	45	100.0	36	100.0	24	100.0

Table 10 indicates that none of the 37 Mathematics, Integrated Science, and ICT teachers had teaching load less than 14.3 per week as compared to those teaching Languages (English, Fante, and French) with 62.2% of the 45 teachers, Social Studies and RME with 94.4% of the 36 teachers, and BDT with 87.5% of the 24 teachers. Also, majority (70.3%) of the Mathematics, Integrated Science and ICT teachers had teaching load between 14.3 – 16.3 hours per week, compared with 33.3% of the Languages teachers.

Additionally, 29.7% of the Mathematics, Integrated Science and ICT teachers had teaching hours over the Ghana Education Service's maximum norms of 16.3 hours per week. This finding supported that of Dewotor (1992) who conducted a similar study in Teacher Training Colleges in the Volta Region that Mathematics and Science tutors taught the highest number of hours per week. Again, 2 (4.5%) of the Languages teachers, 2 (5.6%) of the Social Studies and RME and 1 (4.2%) of the BDT teachers had to teach far above the stipulated maximum hours of 16.3 per week. This finding supported that of Kutor (1999) in Hohoe in the Volta Region, where he concluded in his study that the proportion of Languages, Mathematics and Science teachers with teaching load above the Ghana Education Service minimum norm was higher than that of teachers in the Social Studies, Vocational and Technical subject-groups.

The analysis clearly shows that majority of the teachers generally had teaching load far less than the maximum norm of 16.3 hours per week with teachers teaching subjects except Mathematics, Integrated Science, and ICT teachers as the main victims, followed by Languages teachers, BDT teachers, and then Social Studies and RME teachers. The finding confirms the view of Carron (1982) that subject taught influences teaching load. It was seen that teachers teaching subject-groups like Mathematics, Integrated Science, and ICT, and Languages (English, Fante and French) – which had been allotted more time on the school time-table, tend to have teaching load higher than the norms, and also than teachers teaching subject-group(s) with fewer periods on the time-table. The study further tested the association between subject(s) taught and teaching load of the teachers using the Chi-square test.

The Chi-square value test showed that the association between subject(s) taught and teaching load was no significant,  $\chi^2 (6, N = 142) = 82.75, p < 0.05$ . It is therefore, concluded that there is a significant relationship among subject(s) taught and the teaching load of the teachers. This disproved the finding of Dewotor that there was no statistical evidence of differences among teachers' workload in four-subject categories.

Research Question Three: What differences exist between utilization rates of teachers teaching in the public and private junior high schools of the AEE District?

An attempt was made to find out if the private or public school status affected the teachers' teaching load. The Independent-Samples t-test was used to test for significant difference in their work load, and the results are contained in Table 11.

Table 11: Teaching Load in Private and Public Schools

School	N	Mean	S.D	t	df	p (2-tailed)
Public	119	10.71	4.869	-1.198	140	0.233
Private	23	13.80	6.201			
Total	142					

Table 11 reveals that the mean teaching hours of public school teachers was 10.71 hours per week, while the 23 private school teachers had 10.80 hours per week. Also, the private school teachers had a greater teaching load (Mean = 13.80, S.D = 6.201) than those in public schools (Mean = 10.71, S.D = 4.869). The t-test showed that there was no statistically significant difference in teaching load (in hours per week) between public and private school teachers, ( $M1 = 10.71$ ,  $S.D1 = 4.869$ ,  $M2 = 13.80$ ,  $S.D2 = 6.201$ ),  $t(140) = -1.198$ ,  $p = 0.233$  (two-tailed). The foregoing clearly indicates that in terms of teaching load, teachers in the private JHSs in the Ajumako-Enyan-Essiam District had utilization rate that was higher than their counterparts in public schools.

**Research Question Four:** How significant are differences in the teaching workload of male teachers and that of female teachers in junior high schools in the AEE District?

The objective of the study was to compare the teaching load of male and female teachers in the Junior High Schools in the District. This was done using the t-test at 5% significance level. Table 12 contains the results of the test.

Table 12: Teaching Load of Male and Female Teachers

Gender	N	Mean	S.D	t	df	p (2-tailed)
Male	103	12.54	5.700	0.544	140	0.587
Female	39	11.30	5.508			
Total	142					

Figures from Table 12 show that the mean values indicate that the male teachers had a greater teaching load (Mean = 12.54,

$S.D = 5.700$ ) than their female counterparts with mean of 11.30 and a standard deviation of 5.508. T-test results indicate that there was no statistically significant difference in the workload of both male and female teachers in the JHSs in the District since  $M1 = 12.54$ ,  $S.D1 = 5.700$ ,  $M2 = 11.30$ ,  $S.D2 = 5.508$ ,  $t(140) = 1.168$ ,  $p = 0.587$  (two-tailed). This means that they both had comparatively equal average teaching workload. The conclusion could be that there was no discrimination on the basis of sex when sharing teaching load in the various schools in the District. This revelation found a consistency with Dewotor's (1992) and Baffour-Awuah's (2004) findings that there was no evidence supporting any significant difference in workload on gender basis. Similarly, it agreed with the finding by Dzineku (1992) who found out that the average workload of the male teachers was higher than that of the females with average workload of the males as 28.9 hours per week, while that of females was 23.6 hours per week. However, according to him there is no significant difference between the workload of male teachers and their female counterparts.

**Research Question Five:** How significant is the difference in the teaching workload of teachers who are of the rank of principal superintendent or higher (senior-rank) and teachers of the ranks below principal superintendent (junior-rank)?

Again, the study sought to determine if there existed any statistical difference among the teaching load of Junior teachers (i.e., teachers of ranks less than Principal Superintendent) and Senior teachers (i.e., teachers with Principal Superintendent, Assistant Director II and Assistant Director I ranks). Similarly, the t-test was performed, and the results are presented in Table 13.

Table 13: Teaching Workload of Senior and Junior-rank Teachers

Rank	N	Mean	S.D	t	df	p (2-tailed)
Senior	11	9.00	3.810	-1.981	140	0.023
Junior	131	14.63	6.737			
Total	142					

It can be observed from Table 13 that the average workload of the junior-rank teachers was 14.63 with a standard deviation of 6.737, while the senior-rank teachers had 9.00 and a standard deviation of 3.810. The t-test showed a significant difference between the teaching workload of the senior and junior-rank teachers in the District since ( $M1 = 9.00$ ,  $S.D1 = 3.810$ ,  $M2 = 14.63$ ,  $S.D2 = 6.737$ ),  $t(140) = -2.730$ ,  $p = 0.023$ , and  $d = 0.857$ . In

confirmation of the significant test result, the effect size (d) was “large” according to Cohen (1988).

The study further investigates to know whether age, sex, academic qualifications, and ranks in GES were the factors considered, using the Pearson’s correlation coefficient, but the results showed otherwise since the p-values were greater than 0.025 (two-tailed). This means that these variables were independent of being junior or senior-rank teachers. It was however, discovered that teaching duration of teachers was correlated to ‘rank’ of the teachers since  $r = 0.522$  and  $p = 0.005$ . This means that a teacher with longer duration of service had lower workload than those with a shorter teaching experience. This however, disagrees with a conclusion drawn by Dewotor (1992) that the teaching experience does not necessarily affect workload of teachers.

**Other Analyses:** School Heads’ Time Estimates for Administrative Duties

The head respondents were requested to indicate the estimated hours they spent on the following administrative duties, and Table 14 contains their responses.

Table 14: Mean Time Spent on Administrative Activities

Activities (in hours per week)	Mean
Attending to official correspondence	2.7
Attending official meetings	2.7
Visits to the DEO	2.5
Organising in-service training	2.7
Preparing time-table	2.7
Keeping financial records	3.7
Managing school supplies	2.7
Attending to needs of teachers	2.5
Attending to needs of pupils	3.0
Attending to parents who visit the school	2.5

Table 14 indicates that the school heads rated “keeping financial records” as the administrative duty they most frequently performed. They estimated that they spent 3.5 hours per week on this administrative duty followed by “attending to needs of pupils” with average weekly hours of 3.0. They spent an estimated hours of 2.7 each on the average, per week on “attending to official correspondence,” “attending official

meetings,” “organizing in-service training,” “preparing time-table,” and “managing school supplies.”

Additionally, they estimated spending 2.5 hours per week each on “visits to the District Education Office,” “attending to needs of teachers,” and “attending to parents who visits the school.” It can be concluded that the heads spent less hours on attending to needs of teachers. These findings are inconsistent with that of Kutor (1999) who found that heads in Hohoe District rated “attendance to the needs of teachers” as the administrative duty they most frequently performed, and the least frequently performed one was the preparation of teaching time-table.

## 7. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### 7.1 Major Findings

The following findings emerged from the study:

- Majority (88.8%) of the teachers had teaching load below the minimum GES’ norm of 14.3 hours per week. Meanwhile, they were over-utilized in terms of teaching-related and co-curricula activities. Also, it was clear that all (24) heads were as well classroom teachers with an average teaching load of 6.8 hours per week.
- The study shows that the workload of teachers is not limited just to the hours of teaching only. Obviously, there are other teaching-related activities that they undertake. They spent hours on the preparation of lesson plans, TLM preparations, setting, marking assignments and recording assignment scores and these hours varied according to subject(s) taught. Similarly, the school heads used 2.8 hours a week on vetting lesson plans of their teachers besides their own teaching loads. Administratively, the school heads spent chunk of their times mainly on keeping financial records and attending to needs of pupils. Lesser time was however, used on attending to needs of teachers.
- The study revealed that the teachers used average man-hour of 7.0, 5.9, 5.7 and 6.0 per week on field trips, sports, cultural, clubs and society activities respectively. Other activities they engaged in were gardening, quizzes and debates.
- There was a statistically significant association between subject(s) taught and teaching load of the teachers as the Mathematics, Integrated Science and ICT teachers had the heaviest teaching workload, followed by Languages (including English, Fante and French) teachers, then



Social Studies and RME teachers and finally by BDT teachers.

- v. The study established that there was no significant difference among the teaching loads of both public and private Junior High School teachers. However, it was found out that the 23 private school teachers had a heavier teaching load (24.80 hours per week) as compared to their counterparts from the public schools with 21.71 hour per week.
- vi. The study revealed that both male and female teachers in the Junior High Schools in the District had comparatively equal teaching load. This means that both the male and female teachers had relatively equal workload.
- vii. The findings from the study showed that there was a statistically significant difference between the teaching load of senior and junior-rank teachers in the District with junior teachers having the heaviest load. The effect size of 0.857 was "large." The study found that the duration of service was the basis for this "partiality."

## 8. CONCLUSIONS

The following conclusions were drawn from the study:

- i. The study establishes that the teaching load of majority of the teachers and school heads is below the GES minimum norm of 14.3 hours per week. The conclusion emerging from this finding is that majority of the JHS teachers and school heads in the AjumakoEnyan-Essiam District are under-utilized in terms of teaching load.
- ii. The studies support the assertion that, there are differences in teaching loads in various subject areas in the junior high school of AjumakoEnyan-Essiam District. The support for the assertion emanates from the observation that there are much more teachers with teaching load above the minimum norm in various subjects that are allotted more time on the time-table than there are in others allotted fewer periods. The second support comes from the observation that Mathematics, Integrated Science and ICT have more teaching load and total workloads than teachers of Languages, Social Studies, RME and BDT teachers.
- iii. There was no significant difference in the teaching load of both public and private Junior High School teachers in the District. However, those in the private schools had a higher total workload than those in the public schools. It can be concluded that teachers in the District were over-loaded in terms of total workload.

- iv. The study confirms that male and female teachers had equal average teaching load. This position agrees with the directives of the Ghana Education Service. It can be concluded that workload was independent of teachers' gender.
- v. The study concluded that junior-rank teachers of the Junior High Schools in the District had greater and heavier teaching load than their senior-rank counterparts since the effect size was "medium."

## 9. RECOMMENDATIONS

Based on the findings and conclusions, the following recommendations and suggestions are made for possible implementation by GES:

- i. More Mathematics, Integrated Science, English and ICT teachers should be recruited for the District to reduce the workload of teachers.
- ii. Private junior high schools in the District should as matter of urgency recruit well-qualified teachers to share the current heavy workload of the teachers.
- iii. Since the periods allotted the subjects varied, plausibly subject combinations that will promote optimum utilization of teachers can be worked out. Posting of teachers to the Junior High Schools in the District can be based on the subject combinations arrived at. With the concern of the school heads, these subjects combination can constitute the framework of the teaching time-table for the schools.
- iv. Continuous assessment (especially, setting, marking assignments and recording scores) is seen as one of the time-consuming teaching-related activities of the teachers. It is therefore, recommended that the Ministry of Education, GES, and other relevant stakeholders should procure and provide simple time-saving devices like the electronic calculators and computer to reduce the time they spend on this important exercise.
- v. School heads must ensure that teaching load are distributed equally among both senior and junior-rank teachers taking cognizance of the health conditions of teachers, but not mere length of service.

## 10. SUGGESTIONS FOR FURTHER STUDIES

Due to resource constraints, the study could not cover all aspects of teacher utilization. Therefore, the following topics were suggested for further investigation:

- i. The influence of pupils' enrolment on teachers' workload.
- ii. Comparative studies of teaching loads of teachers in rural and urban schools.

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