

Teachers Teaching Styles and Students Study Habits on Academic Achievement in Mathematics among Junior High Schools in Upper East Region of Ghana

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Abstract

The study investigated the teacher teaching styles and student study habits on academic achievement in mathematics among Junior High School (JHS) students Kasena Nankana district of the Upper East Region of Ghana. Questionnaire was used to get the views of respondents. In all 250 respondents comprising Junior High schools from three students were involved in the study. To carry out the research, survey design was adopted. The target population comprises of all Junior High School (JHS) students in the Kassena- Nankana District of the Upper East Region of Ghana and the accessible population was five JHS students in Kassena Nankana District. Three research instruments were self-constructed and were used to collect statistical rigors such as mean, modes, frequency count, percentage spread and standard deviation. Analysis of variance (ANOVA) was used. It was found out that all the variables (teachers teaching styles and student Study Habit on academic achievement on mathematics) are good and even better predictors of academic achievement and performance in Junior Secondary School in Ghana. That study habit alone is a good predictor of academic achievement in Junior

High Secondary school in Ghana. It was recommended that Individual student should be made to understand his or her “self” first in life. Textbooks should be made available to every student.

Keywords: study habit, teaching style and techniques, academic achievement.

BACKGROUND OF STUDY

Teaching involves much more than the importation of knowledge to the children in a teacher’s classroom. To encourage study habit and academic achievement, children need to know beyond book know-how. Study habit is as old as man himself. In primary and secondary schools, study habit aids memorization. The art of study has to be encouraged by parents, teachers, and the environment at large, at the right time and place. Self-concept in all forms of student life aids or influences academic performance of a student in mathematics. A student who has a positive attitude is likely going to perform better than the one who is otherwise. If study habit and teacher teaching styles are important to the proper development and attainment of the individual, no effort will be too much to expand in looking at the impact this variable can have on the academic performance and achievement in mathematics among students in Junior High schools in Ghana. We should not lose sight of the fact that adequate academic performance and achievement of the students is the dream of every parent who expends money on the children’s education. This work attempts to study the study habit, locus of control and academic achievement of Junior High School students in Ghana. In other words, how study habit and teacher teaching styles and locus of control are influencing academic achievements in mathematics among Junior High Schools students in Ghana. It is one of the attempts at improving study habit and locus of control among junior school student, to aid academic performance and achievement of student

STATEMENT OF THE PROBLEM

Academic achievement is a function of many variables including teacher’s teaching styles, student’s study habits, teacher’s qualifications and experience. The Hallmark of any teaching is centred on professional methodology especially in the area of presenting, skills and techniques. Student’s study habits, also determine a lot in the area of academic achievement in Mathematics. Some students find it difficult to engage in serious study that can produce credible academic achievement and result-oriented study. No matter how serious a student is in the study, if teaching style is poor will still affect learning procedure. In-other-words, both study habits and teaching style are expected to harmoniously completing one another to produce effective teaching and learning Mathematics. Therefore, this study sought to investigate and proffer solution to Teachers teaching styles and students study habits on the academic achievement in Mathematics.

RESEARCH QUESTIONS

The following questions were used to guide the study.

- 1) Which teaching style is most effective in teaching Mathematics?
- 2) What are the effects of student's study habits on academic achievement?
- 3) To what extent would teachers' teaching style affect students' academic performance?

SIGNIFICANCE OF THE STUDY

The study will no doubt benefit many stakeholders:

- (I) Ministry of education will benefit from this study in making sure that professionally trained teachers are recruited and appointed to teach in both Junior and Senior High schools nationwide.
- (II) Inspectorate division will use the import of this study to increase their rate of inspection of teachers with a view of increasing teaching methodology.
- (III) School administrators will use the result of this study in making sure that experienced and professional teachers are designated to teach certificate classes.
- (IV) Educational Researchers will use this study especially empirical literature to extend frontier of knowledge in teaching and learning of Mathematics.
- (V) Ghana Education Service (GES) will use the components of this study to improve on service delivery and effective use of Instructional materials.

OBJECTIVES OF THE STUDY

- a) To determine the common teaching styles of teaching mathematics in junior high schools.
- b) To determine the students studies habits and its impact on academic achievement.
- c) To determine the teaching styles and studies habits on the academic performance in mathematics among junior high school students.

JUSTIFICATION OF THE STUDY

This fact is increasing at uncontrollable rate; the literature is replete but not contradictory that there have been cases of academic under achievement in Mathematics among Junior High School students in Ghana. Evidences abound so much in the outcomes of external examinations such as Basic Education Certificate Examination organized by West African Examination Council (WEAC). It has become yearly norm to witness mass failure of students nationwide in Mathematics. Most of the information that we normally receive from educational offices is that, students' performance in Mathematics is abysmally poor as compared to other courses such as Social Studies, English Language, and among others. Future progress of this country is at risk if drastic remedy is not found to reverse this problem. This problem, if persists, can also mean that we would not be able to produce competent hands in Science, Technology, Engineering and Mathematics who will take over

leadership mantle of the country. No amount is considered much to expand in proffering solution to this problem, hence the need to carry out this study.

DELIMITATION

The research was carried out among Junior High School students in Upper East region of Ghana. Both Private and Public Junior High School students were used.

LITERATURE REVIEW

Teachers' teaching styles, students' study habits and academic achievements in mathematics among Junior High Schools, instructions are organized around thematic units or projects. Themes are the organizers of the mathematical curriculum, and concepts, skills and strategies are taught around a central theme that is intended to give meaning and direction to the learning process (Freeman & Sokoloff, 1995; Perfetti & Goldman, 1975). The rationale for teaching mathematics thematically addresses situated-learning and constructivist concerns that the teaching of mathematics occurs within a context that is more meaningful to students than traditional mathematical instruction. The teaching of mathematics thematically is considered as belonging to the realm of situated learning because the content is embedded in themes that in turn serve as learning contexts (Henderson & Landesman, 1995). Situated learning is primarily concerned with the need to contextualize instruction since, by definition, all learning is situated. Learning is seen not as a matter of ingesting pre-existent knowledge but as a way of developing knowledge in meaningful and practice-bounded contexts (Putnam & Borko, 2000; Streibel, 1995). In turn, this situated perspective is associated with constructivist ideas of teaching and learning mathematics due to their shared interest for building mathematical knowledge within those contexts (Anderson Reder & Simon, 1996; Murphy, 1997). The thematic approach is also directly associated with constructivist ideas since it provides an environment where knowledge can be individually and socially constructed (Freeman & Sokoloff, 1995; Good & Brophy, 1994; Seely, 1995).

CONCEPTS OF TEACHING

Teaching is a complex process which requires proper teaching methodologies, in order to inculcate knowledge in the minds of the students and to transfer knowledge to next generation. Secondary education is a turning state therefore; effective teaching methodology is to be adopted according to the needs of the students so that proper guidance can be given.

According to Vijayalakshmi, K.S.(2004,P.1) teaching is both an art and a science. Able teachers always find ways and means to improve their teaching techniques. With the change in time the teachers are asked to employ newer methods for teaching their pupils more effectively so that they must be able to cope with the demand of the age. The latest techniques of teaching are a need of hour. The progress of country depends upon the quality of its teachers. Ranga (2005) has commented on teacher education as "the irony of fate, however, is that teaching is the most unattractive profession and teacher no longer occupies an honorable position in the society.

Frank and Wagrall (1987, p.11) have emphasized the need for making teacher education dynamic. They suggested that, “in order to keep pace with- technology changes in society the teacher education programs of all levels in country must be planned in such a way that the teachers produced by these programs, are broadly educated, scientific minded, uncompromising on quality innovative, but sympathetic towards students. Aggarwal (1990, p.26) has concluded that “teacher education is that knowledge, skills and abilities which is relevant to the life of teachers as teacher.” It is also important to provide in-service training to teacher for adopting proper teaching methods. Teacher education is not teaching the teacher how to teach. It is the initiative, to keep it alive, to minimize the evils of the “hit and miss” process: and to save time, energy, money and trouble of the teacher and the taught. Teacher education is needed for developing a purpose and for formation of a positive attitude for the profession.

PURPOSE OF TEACHING

The central purpose of teaching and learning is to help students develop and extend concepts in Mathematics they can use, to understand the world they live in, to solve problems and to communicate what they now know. Humans are by nature makers of meaning. The challenge of effective “teaching” is to help students achieve genuine and sophisticated understanding, which helps them function effectively and independently in an increasingly complex world. Our access to knowledge is increasing at a truly exceptional rate and on a daily basis, requiring learners to process and evaluate knowledge, not just acquire it.

VARIOUS STYLES IN TEACHING

There are several teaching methods which are used to teach. However, majority of the teachers use lecture method to teach Mathematics whereas the subject demands practicality. Teachers argue that mathematics curriculum is broad and working environment is not conducive. Following are important teaching methods commonly used by the teachers:

- Direct instruction
- Cooperative learning .
- Group discussions.
- Questioning.

CONCEPT OF SELF - CONCEPTS

Academic self-concept has a research history spanning decades and is often mentioned as an important factor in educational attainment. Although there appears to be some agreement on the definition of academic self-concept, issues remain unsettled. This provides researchers with some insight into academic self-concept; specifically, the measurement approaches employed and how this attribute relates to important educational attainment outcomes.

The Causal Relationship between Academic Self-Concept and Achievement: Importantly, academic self-concept is formed and developed through interactions with a student’s significant others (i.e., parents, teachers, or peers) and therefore is

dynamic as a student progresses through schooling. Academic self-concept, be it global or in relation to a specific academic domain, develops as a student gets feedback on academic work (Guay et al., 2003). In the self-enhancement model, prior self-concept is a strong determinant of academic achievement. The reciprocal effects model argues that prior self-concept predicts subsequent self-concept and subsequent academic achievement (Marsh & Craven, 2006). Furthermore, prior academic achievement predicts subsequent self-concept, hence reciprocal effects. Figure 6-1 shows the hypothesized self-concept-to-achievement causal relationships in all three models over three time periods.

PURPOSE OF SELP CONCEPT IN ACADEMIC ACHIEVEMENT

Self-concepts inferred by significant others) but that with increasing life experience, children learn their relative strengths and weaknesses so that specific self-concept domains become more differentiated and more highly correlated with external indicators. It should be noted, however, that this positive effect is normal in young children. As Harter (1999) pointed out, “Self-descriptions typically represent an overestimation of personal abilities. It is important to appreciate, however, that these apparent distortions are normative in that they reflect the cognitive limitations rather than conscious efforts to deceive the listener” In line with this perspective, Marsh et al. (1998) showed that reliability, stability, and factor structure of self-concept scales improve with age (children 5–8 years of age). In addition, consistent with the proposal that children’s self-perceptions become more realistic with age, self-ratings were more correlated with teacher ratings as children grow older. Wigfield and Karpathian (1991) argued that young children’s understanding of competence changes with age, such that with increasing age, self-concepts of ability were likely to be less positive. In addition, they posited that as children grow in age, their academic self-concept would be more systematically related to external academic outcomes. From this developmental perspective, Wigfield and Karpathian argued that “once ability perceptions are more firmly established the relation likely becomes reciprocal: Students with high perceptions of ability would approach new tasks with confidence, and success on those tasks is likely to bolster their confidence in their ability” (p. 255).

. We have identified six studies aimed at testing the development of the causal ordering between academic achievement and academic self-concept among elementary school children.

CONCEPT OF STUDY HABITS

Both the student and the lecturer each have responsibilities which they must perform in order for students to achieve academic excellence. The teacher’s responsibility is to teach the material to the student, through lectures and by making himself available to help the student outside of class. The student’s sole responsibility is to study the materials taught in class. A student cannot learn from even the best teacher if he does not study. One of the primary responsibilities of the teacher is to ensure that class time is used as optimally as possible. For example, for the sake of the class as a whole, a

teacher might not answer every question asked in class. Successful study requires practicing the following:

- attending all lectures and taking good notes
- reading and studying the text
- reading and studying the lecture notes and handouts
- working through and successfully completing all homework assignments

Many students commit errors by doing only one or two of these and neglecting the others. For examples, some students study from the lecture notes but not from the textbooks.

STUDY HABIT AND ACADEMIC ACHIEVEMENT IN MATHEMATICS

The study habits are too numerous to the benefits of students in general. A good study habit helps a student to be academically oriented. But student with good study habit, and are with negative self conception of their ability seldom succeed in school. There are so many ways of making a studying more enjoyable. It is just by getting on with important work. Once a student starts inculcating a good study habit, the student will automatically begin to associate it with the reward it brings. Another impact study habit on student is that it gives cue, to what to do at a certain point in time.

METHODOLOGY

RESEARCH DESIGN

Research design adopted was survey design. Survey design according to Kerlinger and Lee (2000) is a process whereby a unit of information or events or an item of population is studied in detailed so as to generalize the outcomes on the entire population. This feature is best related to this study and hence, it is adopted

POPULATION AND SAMPLE

The population was all JHS students in Ghana. The target population for this study comprised all J H S 3 in Upper East Region of Ghana. Five Junior high Schools in Navrongo were randomly selected in Navrongo. Fifty students were also randomly selected from each school.

RESEARCH INSTRUMENTS

A qualitative data collection and analysis method was considered. The researcher employed the use of questionnaires and interviews based on structured or semi-structures questions on ;

1. Mathematics Achievement Test (MAT)
2. Study Habit Inventory (S H I)
3. Teacher teaching styles (TTS)

RELIABILITY OF THE INSTRUMENTS

All the instruments were pilot-tested using test-retest method of reliability. Reliability coefficient (r) of 0.62 0.68. 0.72 were obtained an indication that they were reliable to be used for this study

VALIDITY OF THE INSTRUMENT

Three instruments after construction were shown to a supervisor. Some items were rewarded, or partly modified or completely rejected to make the documents content-valid

DATA COLLECTION PROCEDURE

The questionnaires were administered to the respondents directly by the researcher. This was done after permission had been sought from management. The respondents were given the necessary directions as to how they are supposed to answer the questions or complete them.

The questionnaires for the teachers teaching styles student study habit on academic achievement in Mathematics among Junior High Schools were distributed after identifying and explaining the purpose of the study to them. In all, four days were used for the interviews and observation for the study. The primary sources were based on information obtained from the Teachers and the Students through interviews and questionnaires. However, the secondary source of information was obtained from the documents.

STATISTICAL ANALYSIS PROCEDURE

Data collected were subjected to statistical rigours such as measure of central tendency and measure of vulnerability such as frequency count; percentage spread mean, mode, median and standard deviation. The mean statistical methods used to analyse the data and answer research questions are analysis of variance (ANOVA) and t-test.

DATA ANALYSIS AND INTERPRETATION

MULTIPLE LINEAR REGRESSION MODEL

$$Y_i = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + \dots$$

$Y_i \equiv$ dependent variable ; B_0 and $B_1 \equiv$ parametres ; $X_i \equiv$ independent variable

GENDER OF THE RESPONDENTS

Table

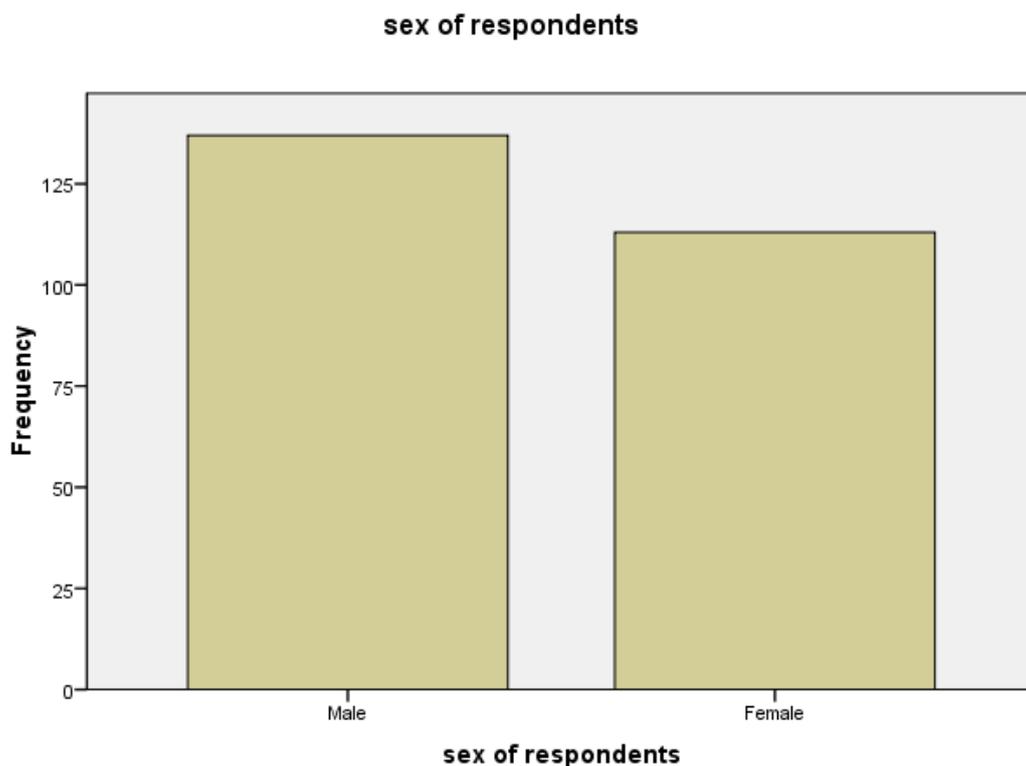
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	126	50.4	50.4	50.4
Female	124	49.6	49.6	100.0
Total	250	100.0	100.0	

Source: Field Survey May, 2014

The data above shows that the 250 respondents were involved in the study, 126 (50.4%) were males and 124(49.6%) are females.

Majority of the teachers use lecture method to teach Mathematics whereas, these subjects demand practical work. There are many excuses of not adopting modern methods of teaching, the most important is that majority of the teachers have argument that curriculum is broad and working environment is not conducive. Many teachers use direct teaching method as it is considered the simplest, and one can cover large amounts of material in a short period of time. However, this is not the most effective teaching method to teach all students, especially younger ones, who often need a more engaging, hands-on strategy in order to learn effectively.

As indicated in the figure that, the Male have the highest frequency than the Female .this mean that, most of the respondent are Male. Notwithstanding to this fact, the difference in the number of male respondents to the female respondents does not make the general responses bias.



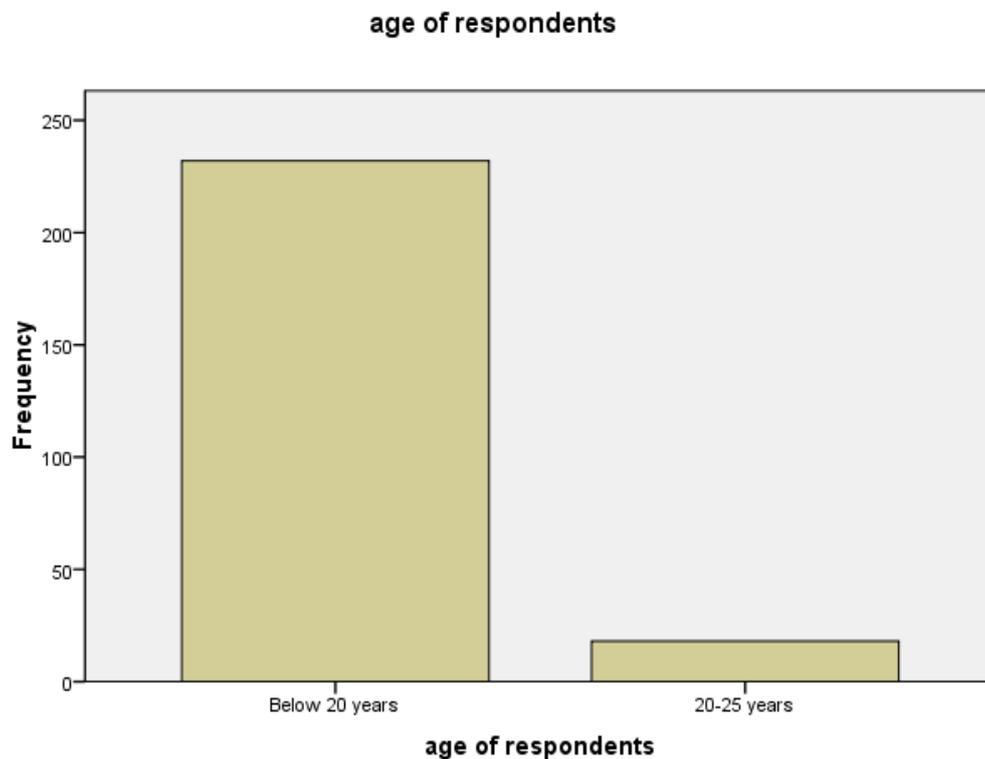
Source: field survey May, 2014.

Table: Age of the interviewer
age of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 20 years	232	92.8	92.8	92.8
	20-25 years	18	7.2	7.2	100.0
	Total	250	100.0	100.0	

Source: field survey May, 2014

The data above shows that 232 (92.8%) age respondents are below 20years and 18 (7.2%) were between 20 - 25years and the total population was 250. As compare to the frequency it indicate the most of the respondent are below 20years



Source: field survey May, 2014

This diagram above gives us a clear picture about their age respondent. From the data it indicate that, those who are below 20years are more than those who are between 20 and 25 years

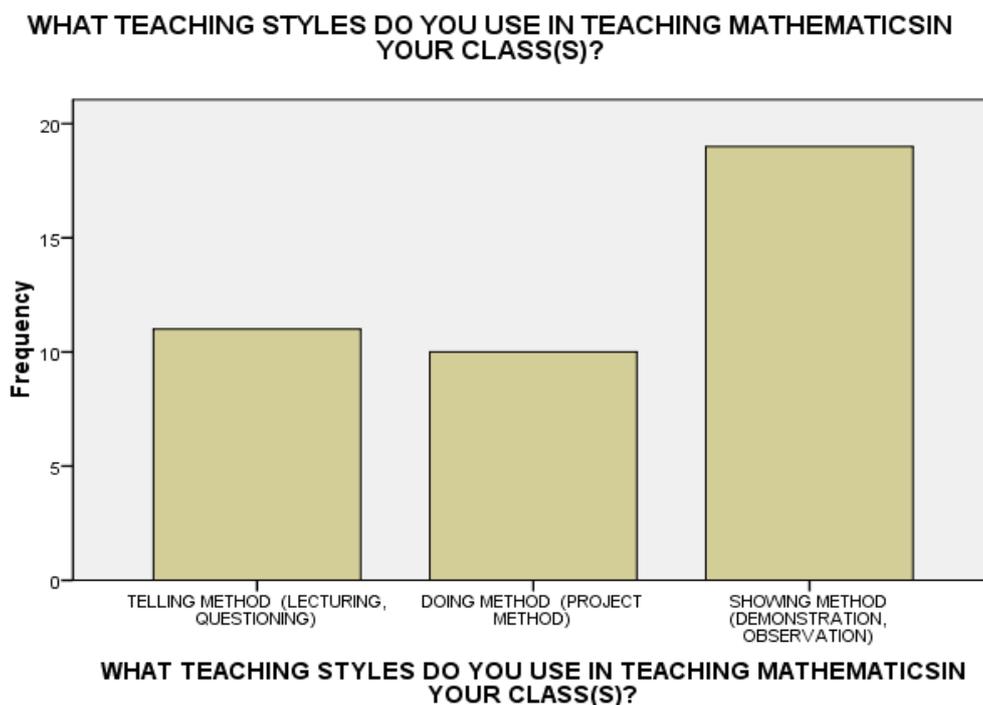
From Table it shows that, the total number of teachers in that five schools are forty (40) among the five schools 11(27.5%) teachers are using telling method in teaching, 10 (25.0%) teachers are using doing Method (Project method) and 19 (47.5%) teachers were using showing Method (demonstration, observation). From the research, it is very obvious that most of the teachers are using Showing Method (demonstration, observation) than the other method

Table

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid TELLING METHOD (LECTURING, QUESTIONING)	11	27.5	27.5	27.5
DOING METHOD (PROJECT METHOD)	10	25.0	25.0	52.5
SHOWING METHOD (DEMONSTRATION, OBSERVATION)	19	47.5	47.5	100.0
Total	40	100.0	100.0	

Source: field survey May, 2014

In chapter two researchers indicates that Teaching is a complex process which requires proper teaching styles, in order to inculcate knowledge in the minds of the students and to transfer knowledge to next generation. The purpose of teaching styles in Mathematics is to help students develop and extend concepts in Mathematics they can use, to understand the world they live in, to solve problems and to communicate what they now know. Humans are by nature makers of meaning. The challenge of effective “teaching” is to help students achieve genuine and sophisticated understandings that help them function effectively and independently in an increasingly complex world. Our access to knowledge is increasing at a truly exceptional rate and on a daily basis, requiring learners to process and evaluate knowledge, not just acquire it. Accord to most of the mathematics teachers they said, when they are using Showing Method (demonstration, observation) in teaching, it help the students to understand it better and faster than the other method.

**Figure 4.2.3**

Source: field survey May, 2014

The above chart depicted the style of teaching adopted by the teachers in the survey. This means that most of the teachers are using showing method more than the telling method and doing method because the showing method has the highest frequency.

Table 4.1.4: Habit do you use in study Mathematics.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid TIME TABLE	104	41.6	41.6	41.6
LEARN ANY HOW	146	58.4	58.4	100.0
Total	250	100.0	100.0	

Source: field survey May, 2014

From the table above, 250 students responded to the questionnaires. 104 (41.6%) of the students are using time table to study, 146 (58.4%) students study anyhow, this indicates that the time the students use to study can affect this study habit. According to the information the researcher got from most of the students is that, they do not have the necessary materials which affect their academic achievement. In chapter two, it was stated that the act of studying is very crucial to the overall attainment of

educational goals in any society. To encourage study habit and academic achievement in Mathematics, children needs to know beyond book know-how, student in the junior secondary schools, need to be to study accord to their time table and also they must look at their teachers as role model, because of their ability to impact knowledge on them. They must have all the necessary learn materials and this positive influence can be the driving force that keeps certain children in school each student and the lecturer each have responsibilities which they must perform in order for students to achieve academic excellence. The teacher's responsibility is to teach the material to the student, through lectures and by making himself available to help the student outside of class. The student's sole responsibility is to study the materials taught in class.

Figure 4.2.4 shows the academics performance of student in Mathematics

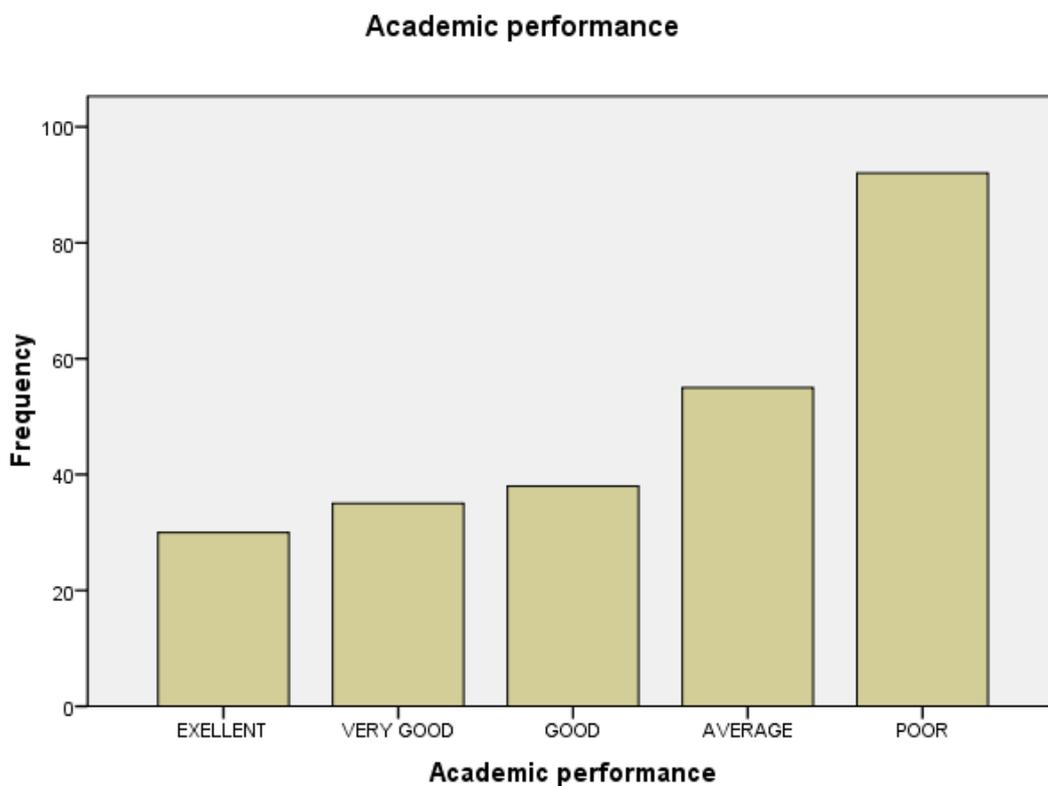


Figure 4.2.4

Source: Field Survey, 2014

From the chart about it clearly indicate that, the student academics performance in Mathematics is poor because those who perform poor have highest frequency follow by those who got average.it also indicate that few people who are able to get excellent as comparing to other academic performances.

The impact of teaching methods on students' understanding of mathematics can also be seen in Bayazit and Gray's study. Bayazit and Gray (2004) found that teaching

practices that differ in a qualitative way will produce qualitatively different learning outcomes. They concluded that using real life situations to convey inverse functions might help students develop conceptual understanding of the topic. A better way to ensure that students are constructing meaningful understanding of inverse functions is to use a variety of appropriate representational systems, examining the concept through conceptually focused and cognitively challenging tasks, and ensuring active involvement of the students in the classroom.

Table HOW MANY YEARS HAVE YOU BEEN TEACHING?

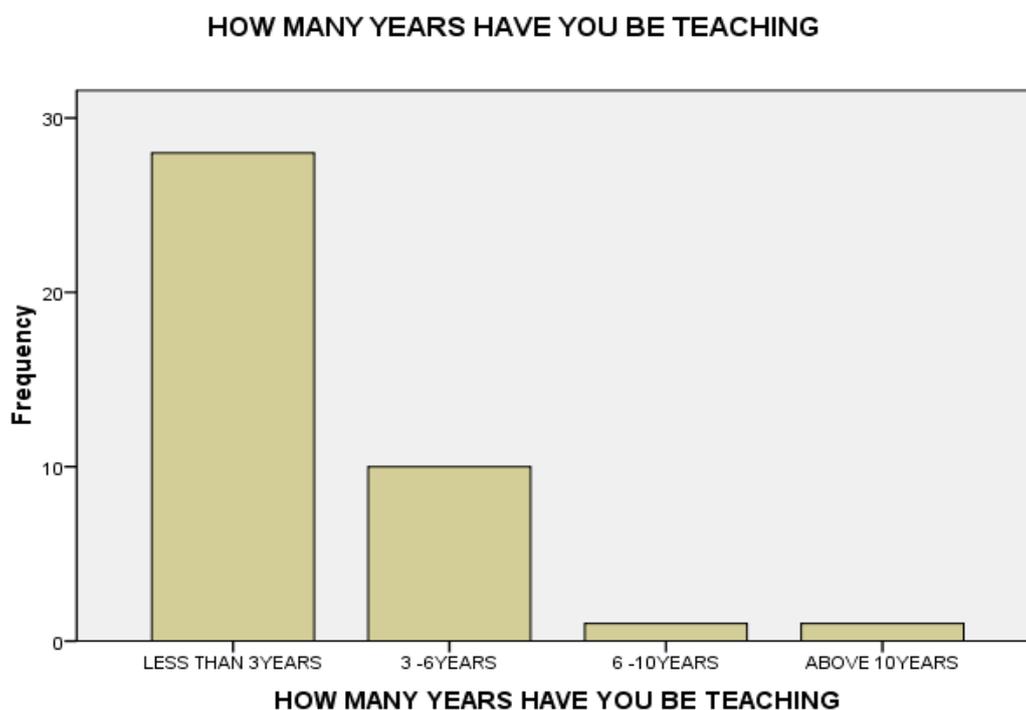
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid LESS THAN 3YEARS	28	70.0	70.0	70.0
3 -6YEARS	10	25.0	25.0	95.0
6 - 10YEARS	1	2.5	2.5	97.5
ABOVE 10 YEARS	1	2.5	2.5	100.0
Total	40	100.0	100.0	

Source: Field survey may 2014

From the data above, the total numbers of teachers were 40. Twenty eight (70%) of the teachers have teaching experience less than 3years, 10 (25%) of them have teaching experiences between three to six years, one person (2.5%) is between 6 – 10 years and also one person (2.5%) is above 10 years with a teaching experience in mathematics.

Teaching is a complex process which requires proper teaching methodologies, in order to inculcate knowledge in the minds of the students and to transfer knowledge to next generation. Secondary education is a turning state. Therefore, effective teaching methodology is to be adopted according to the needs of the students so that proper guidance can be given. According to Vijayalakshmi, K.S.(2004) teaching is both an art and a science. Pragmatic teachers always find ways and means to improve their teaching techniques. This indicates that if the teacher do not have the necessary materials like text books it will affect the student's academic performance.

As stated earlier, mathematics demand practical work. There are many excuses of not adopting modern methods of teaching. Majority of the teachers argue that mathematics curriculum is broad and working environment is not conducive.



Source: field survey May, 2014

The figure indicates that, the number of years in teaching service has a great impact on the students’ academic performance. Most of the teachers fall below 3 years which implies that they do have enough experience in teaching service.

As shown in Table 4.1.5 the result of the analysis showed that teaching style is most effective in teaching mathematics.

ANOVA TABLE CALCULATION AND INTERPETATION

Source	Sum of squares	Df	Mean square	F	P- value
Between group	SSB	1	MSB		
Within group	SSW	N-2	MSE	MSB/MSW	
Total	SSB+SSW	N-1			

Source: Field survey 2014

Source indicates that the source of variation or the error. The total is the sum of all the sources.

SS= Sum of squares between groups (factor) and the sum of square within groups (error)

MS= Mean square are found by dividing the sum of squares by the degree of freedom

F= Calculate by dividing the factor MS by the error.

MS: You can compare this ratio against a critical F found in a table or you can use the P-value to determine whether a factor is significant.

P(sig)= use to determine whether a factor is significant: typically compare against the alpha of 0.05. If the P-value lower than 0.005 then the factor is significant.

Table 4.1.6: ANOVA

What teaching styles do you use in teaching Mathematics in your class?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.308	24	.721	1.623	.167
Within Groups	6.667	15	.444		
Total	23.975	39			

Source: Field survey may 2014

The output above list the source of variation in the first column. Their degrees of freedom in the third column, the total sum of squares in the third column and the mean squares in the fourth column. The analysis of variance table also includes the F-statistic and P-value. These determine whether the predictor or factor are significant related to the response source. Source- indicates the source of variation, either from the factor, the interpretation or the error. The total is sum of the entire source. Df-degree of freedom from each source there is a total of 200 observations and the degree of freedom total is 39.

SS- Sum of squares between groups (factor) and the sum of squares within groups (error) MS- Mean squares are found by dividing the sum of squares by the degree of freedom F- Calculate by dividing the factor MS by the error. MS: You can compare this ratio against a critical F found in the table or you can use the P-value to determine whether a factor is significant. From the table you realize that the P-value (sig) is less than 0.05. This means that the test is significant. Hence we can conclude that there are some effects of students attitude towards mathematics on their academic achievement. From the ANOVA table the F Table is 1.623 and the P value is greater than 0.05. This indicate that teaching style has a significant influence on student among Junior High Schools. This lead to a failure to reject the Ho. This confirm that achievement of students in mathematics is significant to the performance of students .academic achievement in mathematics Styles has significant effect on students' academic achievement in mathematics. The null hypotheses were also fail to reject, indicating that students' academic achievement is influence by teachers teaching styles.

4.2. What are the effects of student’s study habits on academic achiev

ANOVA
Habit do you use in study
Mathematics

Table 4.1.7

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	19.179	70	0.274	1.005	0.479
Within Groups	48.821	179	0.273		
Total	68.000	249			

Source: Field survey may 2014

The analysis of variance table also includes the F-statistic and P-value. These determine whether the predictor or factor are significant related to the response source. Source- indicates the source of variation, either from the factor, the interpretation or the error. The total is sum of the entire source.

df- degree of freedom from each source there is a total of 200 observations and the degree of freedom total is 249.

SS- Sum of squares between groups (factor) and the sum of squares within groups (error)

MS- Mean squares are found by dividing the sum of squares by the degree of freedom

F- Calculate by dividing the factor MS by the error.

MS: You can compare this ratio against a critical F found in the table or you can use the P-value to determine whether a factor is significant. From the table you realize that the P-value (sig) is less than 0.05. This means that the test is significant. Hence we can conclude that there are some effects of students’ attitude towards mathematics on their academic achievement.

From the ANOVA table, the f-table is 1.005 and the ‘p-value’ is > 0.05 . This indicates that student study habit has a significant influence on students’ academic achievement in mathematics among junior high schools. We fail to reject the H_0 . This confirms that, the achievement of students study habit is significant to the performance in mathematics. Student study habit influence their academic performance in mathematics

According to Burke and Sass (2008) they said that positive and highly significant of student study habit can help the student to perform well in both reading and mathematics. They added that as much as individual characteristics impacts on students’ achievements, they however added that, study habit also plays a vital role in

students' achievements and participation. The study also supports the conclusion made by Burke and Sass (2008) also established that good study habit affects exits within every level of schooling and towards the achievement in mathematics. To confirm their conclusion, the analysis indicates that the hypothesis that the individual study habit has significant effect on students' academic achievement in mathematics.

Table 4.1.8 : ANOVA

DOES YOUR SCHOOL PROVIDE YOU WITH SYLLABUS AND TEACHING MATERIALS/

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.423	3	.141	.568	.640
Within Groups	8.952	36	.249		
Total	9.375	39			

Source: Field survey. May 2014.

The analysis of variance table also includes the F-statistic and P-value. These determine whether the predictor or factor are significant related to the response source. Source- indicates the source of variation, either from the factor, the interpretation or the error.

MS: You can compare this ratio against a critical F found in the table or you can use the P-value to determine whether a factor is significant. From the table you realize that the P-value (sig) is less than 0.05. This means that the test is significant. Hence we can conclude that there are some effects of students attitude towards mathematics on their academic achievement.

From the ANOVA table, the f-table is 568 and the 'p-value' is $>$ 0.05. This indicates that the teacher teaching materials has a significant influence on students' academic achievement in mathematics among junior high schools. This leads to fail to reject the H_0 . This confirms that, the teaching materials are significant to the performance in mathematics.

SUMMARY OF FINDINGS

It was found out that poor performance in mathematics in the district is due to lack of interest in the subject, they don not develop self-motivation towards subject and some teachers do not also encourage students to study the subject, their study habit is also another factor. Some students do not study but wait till when examination is drawing near. It was also found out that teachers' attitudes towards the subject and their collective effect teachers do make teaching practical by using concrete material in their teaching process. This in effect makes students' academic performance problem boredom; hence develop no interest in the subject.

IMPLICATIONS OF FINDING

This study as examined the teachers teaching styles and students study habit on academics achievement in mathematics among JHS, and to be précised Junior

secondary school Class 3 in both private and public in all other area in the country. This shows that all the variables that are examined are good predictors of the teachers teaching styles and students study habit on academic achievement in mathematics among junior high schools in Ghana.

CONCLUSION

Findings obtained from this study are justifiably concluded as follows;

1. That all the variables (teachers teaching styles and student Study Habit on academics achievement on mathematics are good and even better predictors of academic achievement and performance in Junior Secondary School in Ghana.
2. That teaching styles are good predictor of academic achievement in Junior Secondary schools in Ghana.
3. That study habit alone is a good predictor of academic achievement in Junior Secondary school in Ghana.
4. That male and female are equally influenced by good study habit, but have difference in their academic achievement in mathematics.

RECOMMENDATION

Based on the finding, the following recommendations are made:-

1. Individual student should be made to understand his or her “self” first in life.
2. Every student should make their books their best friend, because this idea will help them in having a good academic achievement in life.
3. Student should be made to know that one’s behavior can affect one’s academic achievement especially Mathematics in diverse ways either good, poor or bad.
4. Teachers show have time for their students in other to improve the academics performances of students especially in mathematics.
5. Government and all other well-meaning people in our society should help public school with equipment, modern infrastructures and more teachers, to meet up with the United Nations Educational Standard, so that they can meet up with their private school counterpart.
6. The teachers and the society at large should be very careful about how they handle academically issues, and not be preferential on sex or gender differences or favoring one sex against the other.

SUGGESTIONS FOR FURTHER STUDIES

Result from this study have prompted the researcher to make the following suggestions for further research; Intended researchers should cover more schools and special schools in the state, in order to improve upon the authenticity of the study. Again, further investigators should test for the level of teachers teaching styles and students study habit of the student and how it affect their academic performance in school.

In order to generalize the findings and to get more reliable data, more school from different part of the country should be involved. And more so, interested researchers could research into the teachers teaching styles and academic achievement of student on mathematics of different home background, i.e student from broken home, single parent, student from rural and urban settlement.

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