

Problems of Teaching Mathematics at Secondary Level in Bangladesh

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[Abstract: *The study explores the problems of teaching mathematics at the schools of secondary level in Bangladesh. In this study two sets of questionnaire were used to collect data from students and teachers to assess the situation of mathematics teaching in the secondary schools of Bangladesh. Interviews were also taken from the teachers and students, mathematics teaching sessions were observed using an observation checklist in order to find out the real present scenario of teaching mathematics at the secondary level. Most of the students of the secondary schools are weak in mathematics due to lack of skilled and trained teachers who are familiar to the modern methods and approaches of teaching and lack of enough materials for teaching in the classroom. Thus mathematics teaching at the secondary level schools in Bangladesh is becoming a big problems day by day. The present study is a study of the problems of teaching mathematics at secondary level in Bangladesh in order to find out some useful means with the help of which mathematics teachers can successfully teach the mathematics in the classroom and students can learn better way. There have some problem of teachers, classroom and textbook of mathematics. The researcher has identified the problems of teaching mathematics and suggested possible remedial measures. The experiences of the researcher say that the problems identified here are more or less similar all over Bangladesh. The researcher would like to conclude here by saying that the concerned authority would take immediate measures to get rid of the problems of teaching mathematics of the secondary level in Bangladesh.]*

Conceptual Frame Work:

Mathematics, Problems, Teaching, Secondary Level

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I. Introduction

Mathematics is the key of all sciences. Today's world largely depends on science, and science in turn depends on mathematics (Lutfuzzaman, 2014). People grant it as a theoretical subject. But the truth is all the branches of mathematics were developed to meet the demand of day to day practical life (Stacey, 2004). Modern math, consisting of arithmetic, algebra and geometry has an important role in the field of education (Ghosh, 2015). Mathematics has a vital role in the classroom not only because of direct application of the syllabus material but because of the reasoning processes the student can develop (Taylor, 2006). Despite such importance now-a-days it is unfortunate that many students have erroneous impressions about Mathematics and dislike Mathematical activities; many seem to fear, even hate Mathematics (Ministry of Education, 2010)). Mathematical problems are problems within a science arising for a large part from this science itself or from other sciences whereas education problems are problems of life arising from changing needs, moods and whims of a changing society (Gezahegn, 2007). Mathematics is a creative discipline. The language of mathematics is international. Secondary level is very important in the education system of Bangladesh. Secondary education is the terminal education of many of the students. A huge number of students leave school before the S.S.C examination and enter into different vocations. Mathematics is one of the important subjects taught at the secondary level in the govt. and non-govt. schools, Madrasha and the SSC (Vocational) approved by the National Curriculum and Text Book Board (NCTB). It is observed that students of secondary level fail to understand mathematics because of lack of experienced and trained mathematics teachers. As a result, students are being deprived from learning a helpful and interesting subject. For building up a developed and prosperous nation, we have to develop our education system and improve the teaching and learning condition at the secondary levels. In this regard, it is needed to conduct a quality research to know the problems of teaching mathematics in Bangladesh at secondary levels. The aim of teaching-learning process is to enable the students to earn livelihoods for them as well as to become useful member of society. The success of this process depends on the degree of interaction and communication between the teachers and learners (Watson, 2005). Teachers act as guide and counselor in the modern school of thought (Kantowski, 2007). It has been observed that students shy away from the study of mathematics even though it is the bed rock of science and technology. This shows the negative attitude and poor performance of students in mathematics. It is hoped

that after conduction of this research, it would be possible to find out the problems of teaching mathematics subject at secondary levels. At the same time, considering the problems, looking into account of the recommendations of the research, it may be easy to take necessary steps so that teaching mathematics subject at secondary levels may be fruitful.

II. Statement of the Problem

Mathematics occupies a very important place in the educational curriculum of Bangladesh. It enjoys the status of a compulsory subject all the way from the primary to the secondary level. So, it is expected that the Bangladesh students will be able to have a very good knowledge of mathematics after having studied it from class one to class ten in 10 years of schooling. But students' performance in mathematics is deplorable. Every year a large number of students fail / earn low number in mathematics at the secondary level. Many of them pass with grace marks in them. Those who go to studies in science face a host of problems because of their lack of knowledge in mathematics. The philosophy of mathematics is at a crossroads right now. There are two major camps building. On one side are the old school mathematicians who see mathematics as a foundation of science. On the other side is a small but growing group of scholars made up of cognitive psychologists, linguists, and neural biologists (and some mathematicians as well) who see mathematics as a function of the brain. Maximum teachers of our country do not have adequate knowledge in mathematics. They go on their syllabus keeping up with their tradition i.e. they want to teach the students following note books and their own experienced earned from their forefather's. It has been observed that sometimes students leave the institutions for anxiety of mathematics. They are not interested in mathematics. Even those who are brilliant students do not want to take math as their compulsory subject. Everybody in the educated society of our country knows that teaching and learning mathematics is a general problem. There are many causes behind this. The study will explore the reasons why teaching mathematics is a problem and how we can solve this problem scientifically so that students and teachers enjoy mathematics equally. So far the researcher knows the research work on the mathematics yet to be done more. Research work on this field is not adequate comparatively that of other fields of education though no one can step a single step without mathematics. Maximum subjects of science group are depended on mathematics. While a comprehensive philosophical definition of mathematics is not really possible, philosophers have been working on it for millennia without success, these new neurobiological/ linguistic/ cognitive theories show promise in helping us understand how we learn and understand math. If we better understood how the brain handles math, we could find approaches to teach math more effectively. That mathematics is often described in metaphorical terms is not the problem. The real problem is that mathematics does not have a good description of what it really is except in metaphorical terms. Barrow describes it this way: Mathematics is also seen by many as an analogy. But, it is implicitly assumed to be the analogy that never breaks down. Our experience of the world has failed to reveal any physical phenomenon that cannot be described mathematically. That is not to say there are not things for which a description is wholly inappropriate or pointless. Rather, there has yet to be found any system in nature so unusual that it cannot be fitted into one of the straitjackets that mathematics provides. This state of affairs leads us to the overwhelming question: Is mathematics just an analogy or is it the real stuff of which the physical realities are but particular reflections? This leads us to our first glimpse of the mysterious foundation of modern science. It uses and trusts the language of mathematics as an infallible guide to the way the world works without a satisfactory understanding of what mathematics actually is and why the world dances to a mathematical tune. It would be hoped that after completion the study, the researcher would be able to chalk out the weaknesses of the mathematics and give time befitting recommendations in the context of our country so as to make the subject more interesting to teachers and students and develop the mechanism of mathematics at the secondary level successfully. This research would have the possibility to help the policy makers and future researchers as a source of materials to make reliable research on mathematics. Besides, the following statistics shows the reason why it is necessary to do research work on this field. So, the researcher considers the matter that teaching mathematics in our country is a problem, especially it is acute at secondary level in Bangladesh. That is why teaching mathematics at secondary level in our country is a problem and researcher should be made on the field so as to facilitate the institutions providing trained teachers to make the future generations productive, genius and competent to mitigate the global needs. Some acute problems in teaching mathematics have been marked. Really the problems are the obstacles to teaching mathematics for the students of SSC level. The major observation was looked into institutions and found that the shortage of efficient mathematics teacher in maximum schools. So, the field of research which has been chosen is significantly important.

III. Objectives of the Study

To find out the problems of mathematics teachers are facing in the classroom in teaching mathematics
To find out the problems of student are facing in the classroom at secondary level

IV. Methodology

The study is both qualitative and quantitative by nature. A qualitative method is used to explore the objectives and some quantitative procedures were followed to support the qualitative data. The required data of the study have been collected from mainly in primary source. Primary data have been collected from 20 secondary schools of Mohonpur and Tanore upazila under the district of Rajshahi through questionnaires and interviews of the respondent's mathematics teachers and students. An observation checklist has prepared from selected schools. The subject of the study includes all the students of class nine-ten and mathematics teachers of secondary level in Bangladesh. Because in Bangladesh there have numbers of schools in all district and problems of teaching mathematics are facing in all over the country. But the sample was selected only from one district Rajshahi of Bangladesh. It was not possible for the researcher to take sample from all over the country due to some limited time and budget. Rajshahi district has been selected as the study area of the research. Two Upazila of Rajshahi district have been studied. Rajshahi district is called education city and there are numbers of Secondary Educational Institutions at Rajshahi district compared to other districts of Bangladesh. Moreover, there is Secondary and Higher Secondary Education Board here. So, it may be hoped that data collection would be suitable and adequate data may be found here for this study. In order to ensure the cost effectiveness and feasibility of the study, only 20 institutions of two upazilas (Mohonpur and Tanore) of Rajshahi district were selected for the sample purposively. The schools were also selected purposively after categorizing the urban and rural area, the north, south, east and west side of the district. All the students were elected in simple random sampling (SRS) through random number table. 20 teachers and 100 students from both of the upazila have been selected to collect data for this study. Ten students (two students from class nine and three students from class ten) and one mathematics teachers were taken from each school randomly. The table below shows the sample size of the study.

Sample Size of the Study

Location of school Upazila	Institute	No. of mathematics teacher	No. of students of class-ix	No. of students of class-x	Total
Mohonpur	10	10	20	30	70
Tanore	10	10	20	30	70
Total	20	20	40	60	140

In the above table, it has been depicted the clear picture of 4 categories of respondents. The total number of respondent from the 4 categories is 140.

Four types of instrument approach were adopted for gathering data, the following were the instruments: i) Questionnaire, ii) Interview Schedule, iii) Classroom Observation Checklist, After collecting data and information from the study area through questionnaire and interview these have been carefully reviewed, classified, tabulated, and analyzed. Collected data have been presented in tables. The data have been analyzed and presented in an orderly and systematic ways of some statistical techniques.

V. Problems of Teaching Mathematics

5.1 Teacher Related

It is found less than half mathematics teachers having mathematics background is available in higher level but majority was given training. Some teachers who are actually from other background have to teach mathematics and maximum math teacher have to teach other subjects like physics, chemistry, social science, religion and physical education class as there is shortage of teachers. More than half teachers agreed with the fact that all teachers are not having sufficient training and therefore quality of education failing to upgrade for all these problems. Shortage of teachers is a great problems to teaching mathematics (Bajah, 2013). Lack of trained, qualified and subject wise teacher is one of the major problems of teaching mathematics at secondary level in Bangladesh (Sadek, 2016).

5.2 Student Related

Most of the students are dependent on home tutors or coaching centers and the prime reason for such dependency is that they do not get a clear understanding of the concepts from the subject teacher. Some teachers referred private coaching or tuition as an education business system, and believe that this dependency badly crash and misguide their mathematics learning. It is also disclosed that in spite of knowing this, the poor economic condition and insufficient salary force maximum teachers to be a home tutor or run a coaching center himself. This is certainly a tough problem of teaching mathematics (Latif, M. S. 2017).

5.3 Attitude towards Mathematics

Mathematics as an important subject, but many of them do not at all like this subject at all. The reasons for disliking the subjects mentioned by the students were dissatisfactory results; lack of interest to the

subject and in some cases complicity with the subject contents. According to teachers there are negative attitude towards mathematics relating fear of mathematics, examination system, and memorization. Students attitude towards mathematics have a great influence on their decision making of choosing streams. However, it is also found that most of the parents encourage their child to learn mathematics (Tapan, 2010).

5.4 Mathematical Anxiety

Most students mentioned that their poor result of mathematics creates lots of anxiety. Teachers' view also indicate this fact as problems of students. anxiety about getting zero if they solved their problems in different way or through other method than those followed by teachers. Teachers mentioned the lack of good mathematics teachers at the primary level is responsible in developing fearful attitude towards mathematics. Another important finding of this study is that a from the questionnaire major number of students in the sample group do not find any relevancy in between the contents they learn in this subject and their day to day life activities. During observation teacher also not found relating practical life with mathematics. This is certainly a strong problems finds out in their research that the lack of connections to the use of mathematics and relevance in daily life or in relation to other sciences fosters low motivation and negative attitudes towards mathematics teaching (Olson, 2008).

5.5 Motivation

The teachers do not start the class giving a proper motivation to the contents rather starts the class by directly writing on the board or asking questions. students mentioned that their teachers give motivation. During observation it neither was prominent that although the teachers seemed to be not cordially greeting the students and most of them announce neither title of the lesson properly nor motivated students in a proper way to the lesson. Teachers stated that giving no motivation is a problems as students find less interest and lack of enough time to to prepare and even in the classroom restricts teachers to give motivation (Haq, 2004).

5.6 Teaching Aid

Teachers used not at all teaching aids in the classroom except geometric tools sometimes in geometry (Maleque, M. A. 2004). Teachers cannot use teaching aids for the shortage of time to lesson plan, make and execute.

5.7 Teaching Methods

Teachers following the lecture or the question-answer method, instead of modern teaching techniques. Peer learning, hands on activities or other modern teaching methods are not followed in the classroom to teach mathematics. Some other factors affecting teaching methods mentioned by the students includes classroom indiscipline, less tendency to do hands on activities in the classroom and less opportunity to practice. Mathematics teachers have been found to be very much dependent on the lecture method and extensively use this method and rarely follows other modern methods of teaching (Jahan, 2010). Teachers announced that lack of sufficient time and overcrowded classrooms are the difficulties of using various teaching methods in the classroom are mainly short time of class schedule and overcrowded classroom.

VI. Results and Analysis

The study mainly dealt with the problems of teaching mathematics faced by the teachers and students at secondary level in Bangladesh. The researcher has already collected data from selected schools in respect of exploring information on the problems of teaching and learning mathematics at secondary level in Bangladesh. Data have been tabulated statistically and those data have proved that the necessity of doing research on this field cannot be denied. The analyzed data have been given below.

Table 1: Result from teachers interviews

Statement	Yes (%)	No (%)
Professional training of the mathematics teacher	6 (30)	14 (70)
Sufficient teaching aids of school	7 (35)	13 (65)
Multimedia classroom of schools	5 (25)	15 (75)
Mathematics practical class of the school	4 (20)	16 (80)
Present textbook is sufficient for teaching mathematics	8 (40)	12 (60)
Teachers follow the lesson plane given in the teacher guide	3 (15)	17 (85)
Teacher use teaching aids at the time of teaching	4 (20)	16 (80)
Teacher take tutorial examination	3 (15)	17 (85)
Teacher complete their mathematics course in time	5 (25)	15 (75)

Teacher satisfy of their job	9 (45)	11 (55)
Mathematics syllabus is appropriate for class nine-ten	5 (25)	15 (75)

From table 1, it is observed that only 30% secondary school mathematics teacher have professional training, 35% school have sufficient teaching aids, 25% mathematics teacher uses multimedia classroom, 20% teacher take practical class, 40% teacher explained the present textbook is sufficient for teaching mathematics, 15% teachers follow the lesson plane given in the teacher guide, 20% teacher use teaching aids at the time of teaching, 15% teacher take tutorial examination, 25% Teacher complete their mathematics course in time, 45% teacher satisfy of their job and 25% teacher said that Mathematics syllabus is appropriate for class nine-ten.

Table: 2 Results on Students' Interviews

Statement	Yes (%)	No (%)
Mathematics teacher give proper understanding the selected topics	30	70
Students threat by the teacher	45	55
Negligence of mathematics teacher in taking class	61	39
Mathematics teacher complete their course in time	35	65
Teacher give punishment of students	57	43
Mathematics teacher teach students after classifying groups	25	75
Mathematics teacher use black board	62	38
Satisfaction of students getting mathematics teacher	43	57
Students abhor by the teacher in the classroom	44	56
Teacher give extra class for the weaker students	24	76

From table 2, it is observed that only 30% students said that Mathematics teacher give proper understanding the selected topics, 45% students said that their teacher threat them in mathematics class, 61% students said that negligence of mathematics teacher in taking class are seen, 35% student said that mathematics teacher complete their course in time, 57% students said that their teacher give punishment of students, 25% students said that mathematics teacher teach students after classifying groups, 62% students said that mathematics teacher use black board, 43% students satisfy of getting mathematics teacher, 44% students abhor by the teacher in the classroom, 24% student said that their mathematics teacher give extra class for the weaker students.

VII. Results of Classroom Observation

The researcher investigates 20 secondary schools and evaluated the statement on the basis of using a five points Likert method rating scale ranging from 1(Strongly Disagree), 2(Disagree), 3(Undecided), 4(Agree) to 5(Strongly Agree). The Mean (M) and Standard deviation (SD) are calculated for each of the statement of the observation as the rank. The nearer Mean would determine the score of observation like, Strongly Disagree, Disagree, Undecided, Agree and strongly agree for 1,2,3,4 and 5 respectively. The Mean and SD of the observation are presented in the tabular form in table.

Table 3: Mean and SD of the classroom observation of the study Area

Sl. No.	Statement	Mean	SD
1.	Classroom has been found organized (O ₁)	3.1500	1.12167
2.	Teacher has entered the classroom with smiling face (O ₂)	2.1700	1.22167
3.	Teacher was found friendly (O ₃)	2.3200	1.31168
4.	Teacher had a lesson plan (O ₄)	2.3100	1.15163
5.	Teacher has followed the stages of the lesson (O ₅)	2.2500	1.10555
6	Teacher has used perfect teaching method in the class (O ₆)	2.2750	1.20064
7	Teacher has made students busy in during activities from the lesson (O ₇)	2.1750	1.23201
8.	Teacher has corrected students' mistakes gently (O ₈)	2.5900	1.26322
9.	Teacher has used black board nicely (O ₉)	3.4500	1.20215
10.	Technique of teacher switching from one section to another has been suitable (O ₁₀)	4.4500	0.21247
11.	Teacher has maintained time properly (O ₁₁)	4.1300	0.79923
12.	Teachers has given homework for his/her students (O ₁₂)	3.1750	1.28164
13	Students have told their difficulties to teacher (O ₁₃)	2.2950	1.65435
14	Students were found interested in listening to the exercise (O ₁₄)	2.2450	1.15761
15	Students have listened and answered questions (O ₁₅)	2.3150	1.42724
16	Students' motivation towards learning was found satisfactory (O ₁₆)	2.3400	1.26331

Note: O = Classroom Observation of the Study Area

The mean of 16 observations of the study areas schools separately are between 2.1300 to 4.4500 and SD is 0.21247 to 1.65435. Maximum numbers of SD is > 1.00 . So, most of the teachers are heterogeneous in the selected schools.

7.1. Classroom has been found organized (O_1)

The mean value of the observation (O_1) is quite closer to the score 'Undecided' in the rating scale and valued 3.1500 which is near to 3. Thus the score indicates that the Classroom of the study areas schools have been found organized (O_1) is 'Undecided'. The SD value 1.12167 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O_1).

7.2. Teacher has entered the classroom with smiling face (O_2)

The mean value of the observation (O_2) is quite closer to the score 'Disagree' in the rating scale and valued 2.1700 which is near to 2. Thus the score indicates that the classrooms of study areas school, teacher has entered the classroom with smiling face (O_2) is 'Disagree'. The SD value 1.22167 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O_2).

7.3. Teacher was found friendly (O_3)

The mean value of the observation (O_3) is quite closer to the score 'Disagree' in the rating scale and valued 2.3200 which is near to 2. Thus the score indicates that the classrooms of study areas school, teacher was found friendly (O_3) is 'Disagree'. The SD value 1.31168 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O_3).

7.4. Teacher had a lesson plan (O_4)

The mean value of the observation (O_4) is quite closer to the score 'Disagree' in the rating scale and valued 2.3100 which is near to 2. Thus the score indicates that the classrooms of study areas school, teacher had a lesson plan (O_4) is 'Disagree'. The SD value 1.15163 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O_4).

7.5. Teacher has followed the stages of the lesson (O_5)

The mean value of the observation (O_5) is quite closer to the score 'Disagree' in the rating scale and valued 2.2500 which is near to 2. Thus the score indicates that the classrooms of study areas school, teacher has followed the stages of the lesson (O_5) is 'Disagree'. The SD value 1.10555 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O_5).

7.6. Teacher has used perfect teaching method in the class (O_6)

The mean value of the observation (O_6) is quite closer to the score 'Disagree' in the rating scale and valued 2.2750 which is near to 2. Thus the score indicates that the classrooms of study areas school, teacher has used perfect teaching method in the class (O_6) is 'Disagree'. The SD value 1.20064 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O_6).

7.7. Teacher has made students busy in during activities from the lesson (O_7)

The mean value of the observation (O_7) is quite closer to the score 'Disagree' in the rating scale and valued 2.1750 which is near to 2. Thus the score indicates that the classrooms of study areas school, teacher has made students busy in during activities from the lesson (O_7) is 'Disagree'. The SD value 1.23201 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O_7).

7.8. Teacher has corrected students' mistakes gently (O_8)

The mean value of the observation (O_8) is quite closer to the score 'Undecided' in the rating scale and valued 2.5900 which is near to 3. Thus the score indicates that the classrooms of study areas school, teacher has corrected students' mistakes gently (O_8) is 'Undecided'. The SD value 1.26322 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O_8).

7.9. Teacher has used black board nicely (O_9)

The mean value of the observation (O_9) is quite closer to the score 'Undecided' in the rating scale and valued 3.4500 which is near to 3. Thus the score indicates that the classrooms of study areas school, Teacher has used black board nicely (O_9) is 'Undecided'. The SD value 1.20215 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O_9).

7.10. Technique of teacher switching from one section to another has been suitable (O_{10})

The mean value of the observation (O_{10}) is quite closer to the score 'Agree' in the rating scale and valued 4.4500 which is near to 4. Thus the score indicates that the classrooms of study areas school, technique of teacher switching from one section to another has been suitable (O_{10}) is 'Agree'. The SD value 0.21247 which is < 1 indicates that the classrooms are homogeneous in respect of observation (O_{10}).

7.11. Teacher has maintained time properly (O_{11})

The mean value of the observation (O_{11}) is quite closer to the score 'Agree' in the rating scale and valued 4.1300 which is near to 4. Thus the score indicates that the classrooms of study areas school, teacher has maintained time properly (O_{11}) 'Agree'. The SD value 0.79923 which is < 1 indicates that the classrooms are homogeneous in respect of observation (O_{11}).

7.12. Teachers has given homework for his/her students (O₁₂)

The mean value of the observation (O₁₂) is quite closer to the score 'Undecided' in the rating scale and valued 3.1750 which is near to 3. Thus the score indicates that the classrooms of study areas school, Teachers has given homework for his/her students (O₁₂) is 'Undecided'. The SD value 1.28164 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O₁₂).

7.13. Students have told their difficulties to teacher (O₁₃)

The mean value of the observation (O₁₃) is quite closer to the score 'Disagree' in the rating scale and valued 2.2950 which is near to 2. Thus the score indicates that the classrooms of study areas school, Students have told their difficulties to teacher (O₁₃) is 'Disagree'. The SD value 1.65435 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O₁₃).

7.14. Students were found interested in listening to the exercise (O₁₄)

The mean value of the observation (O₁₄) is quite closer to the score 'Disagree' in the rating scale and valued 2.2450 which is near to 2. Thus the score indicates that the classrooms of study areas school, Students were found interested in listening to the exercise (O₁₄) is 'Disagree'. The SD value 1.15761 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O₁₄).

7.15. Students have listened and answered questions (O₁₅)

The mean value of the observation (O₁₅) is quite closer to the score 'Disagree' in the rating scale and valued 2.3150 which is near to 2. Thus the score indicates that the classrooms of study areas school, students have listened and answered questions (O₁₅) is 'Disagree'. The SD value 1.42724 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O₁₅).

7.16. Students' motivation towards learning was found satisfactory (O₁₆)

The mean value of the observation (O₁₆) is quite closer to the score 'Disagree' in the rating scale and valued 2.3400 which is near to 2. Thus the score indicates that the classrooms of study areas school, students' motivation towards learning was found satisfactory (O₁₆) is 'Disagree'. The SD value 1.26331 which is > 1 indicates that the classrooms are heterogeneous in respect of observation (O₁₆).

VIII. Findings of the Study

Interviewing of the teachers and students reviewing the classroom observation the researcher has identified many problems of teaching mathematics that should be addressed in order to harvest a good crop of teaching mathematics in Bangladesh. These are the main findings of the study which covered all other minor findings. Lack of well trained, devoted and highly motivated mathematics teachers. Teachers' minimum or no use of teaching materials and teaching aids which hampers proper teaching and learning. They do not prepare or collect any teaching aids. Even schools authorities not buy teaching aids and do not encourage teachers to use them. Teachers do not use multimedia classroom. Teacher of the study area not take mathematics practical class in schools. Teacher of the study area think that the present textbook is not sufficient for teaching mathematics. Teacher of the study area do not follow the lesson plan given in the teacher's guide. Teachers are not take tutorial examination in schools. Teacher of the study area do not complete their mathematics course due time. Teachers are not satisfied of their job. There is no stable syllabus from class six to class nine, it has jumped lagging behind the traditionalistic way from class eight, omission of arithmetic from class nine, trigonometry and parameter is unnecessary for the students of arts and business group. Mathematics teacher not give proper understanding the selected topics. Students threat by the teacher in mathematics class. Negligence of mathematics teacher in taking class are viewable. Mathematics teacher not teach students after classifying groups. Teacher not give extra class for the weaker students. Most of the teachers have not entered the classroom with smiling face. Teacher has not praised students after given correct answer. Teacher has not maintained time properly in the schools and classroom. Teachers have not given homework for his/her students.

IX. Discussion

Here the researcher discusses and compare the study result with published findings and make some recommendations to improve teaching mathematics at secondary level in Bangladesh. This study identified that the curriculum and teachers' guide were generally unavailable at secondary schools, similar to the results reported by (Nina, 2012). The lack of the curriculum and teachers' guide appears to be common in Bangladesh, but they are required for better teaching. (Hatton, 2008) reported on pre-service mathematics teachers who were concerned about the pedagogy of mathematics teaching and they had good command of the curriculum. Large workloads were one of the major problems for teachers since it stopped them from preparing and delivering quality mathematics classes. (Hossain, 2010) study also identified that teachers' workloads were beyond tolerable levels. School authorities need to consider workloads of mathematics teachers and try to find alternatives such as employing para-teachers or teaching assistants. Lesson plans are necessary for effective teaching and better management of large classes (UNESCO, 2006). The curriculum also suggests using lesson plans. Teachers did not use lesson plans, similar to in Sadat's (2011) study. teachers should be encouraged to

prepare lesson plans and proper supervision systems should be in place to ensure compliance. A number of studies, including the present one, have reported that lecture method is most commonly used to teach mathematics. Other interactive teaching methods like group discussion, demonstrations, and learning by doing are not applied for teaching mathematics in practice (Stiggins, 2016). Teachers reported that short time periods, large syllabi, etc. were the main causes for not practicing these methods, similar to (Krishna, 2013) who reported that lack of time, unavailability of materials, and lack of laboratory facilities and ingredients were the core reasons for not using demonstration, experimentation, or learning by doing methods. Another alarming result of our study was that teachers did not use the inquiry approach at all, similar to (Coll, 2010). The inquiry approach is particularly important for mathematics teaching (Joseph, 2006). Researcher also found that teachers did not involve students in creative activities. (Longo, 2014). found that the inquiry approach of teaching made students creative. According to (Wang, 2009). using teacher-centric methods such as lecturing or reading from textbooks were characteristic of low-efficacy teachers. Teachers need to be trained properly so that they can use different interactive methods effectively. Students did not participate in teaching-learning and the teachers were not attentive to those learners who could not achieve a day's competencies. Students were also inattentive to the lesson. (Ahsan, 2009) also found less participation of students in mathematics classes. However, teaching aids facilitate student learning by attracting their attention (Adeyanju, 2013). Using teaching aids can ensure student participation and can also help promote higher achievement of the students (Sanalan, 2009). Although the curriculum suggests that teachers collect teaching aids and then enter mathematics class, teachers did not do so. Teacher should try to collect the proper teaching aids and should also be attentive to all the learners to ensure student participation in the classroom.

X. Conclusion

The researcher started this research with a view to studying the problems of teaching mathematics at secondary level in Bangladesh. Secondary level is very important in the education system of Bangladesh. Many subjects taught at this level. Mathematics was one of the major subjects that were compulsory for all secondary students. To investigate that, the researcher has studied the classroom practices, teachers use of teaching materials and teaching aids, teachers qualification and training, dedication and motivation of teachers and students, all of their attitudes, assessment system and so on. Hard content, lack of teacher training, unavailability of teaching aids make the subject uninteresting. They who were teaching the subject did not have enough knowledge in modern teaching method. The syllabus of mathematics in class nine-ten seems very hard for the students of arts and business group. Most of the teachers do not take practical class on mathematics in their schools. The researcher has identified the problems of teaching mathematics. The experiences of the researcher say that the problems identified here are more or less similar all over Bangladesh.

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