

# Perception of students about primary science classes of GPS of Bangladesh

Dr. A K M Obaydullah \*

Instructor, URC, Ministry of Primary and Mass Education, Bangladesh.

\*Corresponding author E-mail: [obayd77@gmail.com](mailto:obayd77@gmail.com)

## Abstract

According to the record most of the PEC examination, the quality of science was the below among other subjects. Even internal examination results also showed the same picture. Students cannot achieve satisfactory level of the competency of science. This study analysis revealed varies dimensions of the students' perceptions that relate to different aspects of the teacher's pedagogy and the learning environment created by the teachers, like: student center learning, class Environment, use of teaching aids and modern equipments, positive attitude of teacher, feedback, etc. The study was qualitative and quantitative in nature. It was decided to select samples from Dhaka and Gazipur district under the Dhaka division of Bangladesh. Total 40 government primary schools (GPS) selected from the selective area. For this study, data collected from 80 student focus group discussion (FGD) by questionnaire method from 40 different GPS. Also 80 science classes were observed for realizing actual teaching-learning situations and document study. Most of the school hasn't use of multimedia, modern class room, library and science equipment. Utmost of the teachers never used teaching aids. Students always needed help from others. Maximum students don't interaction with the teacher in the classrooms. At the annual and PEC examinations of 2018 the students who failed in different subjects, they also failed in science. The study recommended that student teacher ratio should be reduced by appointing new teacher, quality based supervision should be improved. Science subject training are much needed for all school. Science class time should be increase.

**Keywords:** Bangladesh; GPS; Perception; Students; Science Class.

## 1. Introduction

Primary Education is one of the most important sectors in Bangladesh. After independence in 1971, there were various efforts undertaken to achieve universal primary education. The primary education compulsory act passed in 1990 made primary education free and compulsory for all children up to grade five. Bangladeshi primary curriculum is competency-based, but there are lot of gaps in curriculum, textbooks and its' implementation system (JICA, 2009). With a view to improve the quality of primary education, the government of Bangladesh has undertaken an integrated sub-sector wide program known as PEDP-4 assistance with development partners. The major key objectives of the PEDP-4 are "To improve the quality of primary education in Bangladesh through the introduction of Primary Schools Quality Level (PSQL) standards". With a view to improving the quality of education a competency based curriculum developed by NCTB in 1988 has been implemented in the primary schools afterwards the curriculum was further renewed and modified several times. It was expected in the curriculum that after completing 5-year cycle a student will achieve all the competencies. Science is one of the subjects through which these competencies will be achieved. In case of science different diagram and information have been newly added in scientific terms. For the huge development of information technology the world has been a global village or a universe village. Science has contributed a lot under this progress and has been expressed logical thinking and creativity. From own environment in order to solve creating scientific problems in daily life, subject matters have to present to achieve competency in making eager and assist in logical thinking expression of which method is easy to difficult and known to unknown. So, poor quality of teaching is recognized as one of the key variables contributing to the low level of learning achievement in primary schools (Bangladesh Education Sector Review, 2002). So the researcher was interested to conduct a study on concept of student of primary schools about primary science classes in Bangladesh.

## 2. Statement of the problem

The title of Concept of Students of Government Primary School in Bangladesh about Science Classes the intent of the investigation is to explore the causes why student cannot achieve the relevant competency of science. Despite many achievements during the past era, major improvements are still needed in order for all children to obtain the benefits of quality education. In order to guarantee quality primary education for all children, it is important to change curriculum, re-write textbooks and enhance quality of teaching and learning in the classroom (UNICEF & JICA, 2009). Bangladeshi primary curriculum is competency-based, but there are lot of gaps in curriculum, text-

books and its' implementation system (JICA, 2009). According to the research findings the impacts of competency-based curriculum in science and mathematics in Bangladesh are far below the level of expectation. So, there is a gap among intended, implemented and attained curriculum. In the process of rendering education and implemented curriculum (transferred by teacher) being situated in the middle position plays a vital role for materializing the intended curriculum and enabling the students acquire the attained curriculum (Uddin, 2005). Research work has done by analyzing the present situation of science teaching and learning in the primary schools of Bangladesh. It was concerned that, the deficiency of quality teaching- learning exists in science in primary schools in our country because the percentage of pass rate of science is average development among the subjects of primary education completion examination (PECE) from 2012 to 2018. Besides, trainer and supervisor have observed that, teacher always faced students' beliefs that, science is more difficult than other subjects. On the other hand only 69% students achieved relevant competencies in the class five by the end of the year (NAPE, Bangladesh research report 2014). What are the opinions of students of GPS about science teaching and learning in classroom situation? What is the expectation of students from the teachers about quality education? These needs to be analyzed by an academic research that, found out the Concept of Students of Government Primary School in Bangladesh about Science Classes

### 3. Objective

To explore the Perception of students about science classes in the Government primary schools of Bangladesh.

### 4. Study on students and teachers' perception

Jamieson-Proctor, Romina and Byrne, Carmen (2008) described the primary teacher's beliefs about their use of science text books as a factor influencing their teaching. Over 80% of the teachers indicated that they do not always' prefer to teach science with a textbook and over 55% of the teachers surveyed reported Never' following the textbook's sequence of lessons, with no teachers indicating they Always' follow the textbook sequence. Teacher gender and years of experience do not significantly influence teachers' decisions to use student textbooks in science. Many teachers believed that the student textbook is a valuable teaching and learning aid in the science classroom and some teachers believed the use of text books makes teaching science easier. The teachers hold very positive beliefs about their levels of confidence and competence to teach science. The aim of the study was to determine what the contributing factors are that influence the teachers' decisions to use student textbooks in primary science classrooms.

- Teaching and learning start from a student's current understanding of a subject. Therefore, a teacher's first task is to determine the completeness and accuracy of what students currently know about key topics.
- Teacher's help students create realistic learning experiences that will lead students to elaborate on and restructure current knowledge. Teachers believe that meaningful learning involves discovering, questioning, analyzing, synthesizing, and evaluating information.
- Students frequently engaged in complex, meaningful, problem-based activities whose content and goals are negotiated with the teacher.
- Students have frequent opportunities to debate and discuss substantive issue.
- A primary goal of instruction is for students to learn to think for themselves. Consequently, teachers use a variety of indirect teaching methods, such as modeling the thinking process they want students to use; providing prompts, probes, and suggestions; providing heuristics; and using technology to organize and represent information.
- Students engage in such high-level cognitive processes as explaining ideas, interpreting texts, predicting phenomena, and constructing arguments based on evidence.
- In addition to assessing student learning with written exams, teachers also require students to write research reports, make oral presentations, build models, and engage in problem-solving activities.
- Student progress is assessed continually rather than just at the end of a unit and the end of a semester.
- Subject-matter disciplines and their knowledge bases are seen as continually undergoing revision.

Even though these are the key factors there are others that the teachers might consider. Morris (1985) found that teachers mentioned more than one factor as an influence on their decision not to implement pedagogic innovation. The factors identified were teachers themselves, teacher skills/training and the ability of pupils, the language skills of pupils and /or teachers, the pupil, the school principal and colleagues. Teachers were not satisfied with opportunities provided for their professional development. Too much load was given to teachers other than teaching activities, such as national survey, tree plantation, voter registration etc. Most of the teachers did not choose teaching profession as a first choice.

### 5. Methodology

It has undertaken different formal methods to complete the research work. The study was qualitative and quantitative in nature. It was decided to select samples from Dhaka and Gazipur district under the Dhaka division of Bangladesh. Total 40 government primary schools (GPS) selected from the selective area. For this study, data collected from 80 student focus group discussion (FGD) by questionnaire method from 40 different GPS. Also 80 science classes were observed for realizing actual teaching-learning situations and document study. Data were collected using structured questionnaires, class observations and structured interview schedule. Collected data were computerized and analyzed using MS Excel and statistical formula SPSS (The Statistical Package for the Social Sciences).

### 6. Result and discussion

This study deals with the analysis and interpretation of data collected through three types of tools such as questionnaire, interview schedule and checklist. These instruments were administered to three categories of respondents namely students and classroom observations. According to the sampling design of the study it was planned to collect data from 80 FGD, 80 class observation and document study. Responses to each question were analyzed both in quantitative and qualitative terms as per suitability.

- 1) Home work gave and checking by the teacher

Give homework and check is the important for student and of this study. Opinion of students about gave homework and check is shown in table 1 and 2.

**Table 1:** Gave the Home Work

Give home work	Frequency (N)	Percentage (%)
Sometime do	12	30.0
Always do	28	70.0
Total	40	100

**Table 2:** Check the Home Work

Check the Home work	Frequency (N)	Percentage (%)
Never do	11	27.5
Some time do	23	57.5
Always do	6	15.0
Total	40	100

Table 1 Gave home work and check describes that, 70% students' opinion science teacher always give home work, 30% students' opinion science teacher some time give home work. The data focuses that maximum students' opinion science teacher always give home work. Table 2 Home work check give that 57.5% students' opinion science teacher some time check home work, 15% students' opinion science teacher always check home work, 27.5% students' opinion science teacher never check home work. The data indicates that maximum students' opinion science teacher some time check home work. It is the sign of lack of quality science education.

### 2) Teacher use learning materials

Teacher use learning materials is the important for student and of this study. Opinion of students about use learning materials is given in below table 3.

**Table 3:** Teacher Use Learning Materials

Use learning materials	Frequency (N)	Percentage (%)
Never do	13	32.5
Some time do	27	67.5
Total	40	100

Table 3 Teacher use learning materials describe that 67.5% students' opinion science teacher some time use learning materials, 32.5% students' opinion science teacher never use learning materials. The data indicates that most of the students' opinion science teacher some time use learning materials. It is big gap of quality science education.

### 3) Student and teacher activities in the classroom situation

Student ask question to teacher, Teacher concentrate about asking question and teacher encourage to the student for asking question is the important for student, teacher and of this study. Opinion of students about student ask question to teacher, teacher concentrate to asking question and teacher encourage to the student for asking question is given in below table 4&5 and figure1.

**Table 4:** Student Asking the Question

Student asking the question to teacher	Frequency (N)	Percentage (%)
Never do	7	17.5
Some time do	33	83.5
Total	40	100

**Table 5:** Teacher Concentrate about Asking Question

Teacher concentrate about asking question	Frequency (N)	Percentage (%)
Never do	4	10.0
Some time do	27	67.5
Always do	9	22.5
Total	40	100

Table 4 student ask question to teacher found that, 83.5% students some time ask question to teacher, 17.5% students never ask question to teacher. The data describes that, most of the students some time ask question to teacher. Table 5 Teacher concentrate to asking question focus that, 67.5% science teacher some time concentrate to asking question of student, 22.5% science teacher always concentrate to asking question of student, 10% science teacher never concentrate to asking question of student. The above information indicates that most of science teacher some time concentrate to asking question of student.

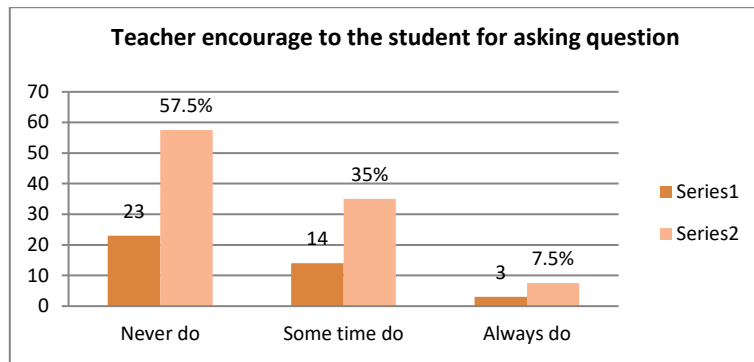


Fig. 1: Teacher Encourage to the Student for Asking Question.

Teacher encourage to ask the question describes that, 57.5% science teacher never encourage to student for ask the question, 35% science teacher some time encourage to student for ask the question, 7.5% science teacher always encourage to student for ask the question. The data indicates that, maximum science teacher never encourage to student for ask the question. It is lack of quality science education.

4) Students need house tutor  
Opinion of students about that, need house tutor figure 2

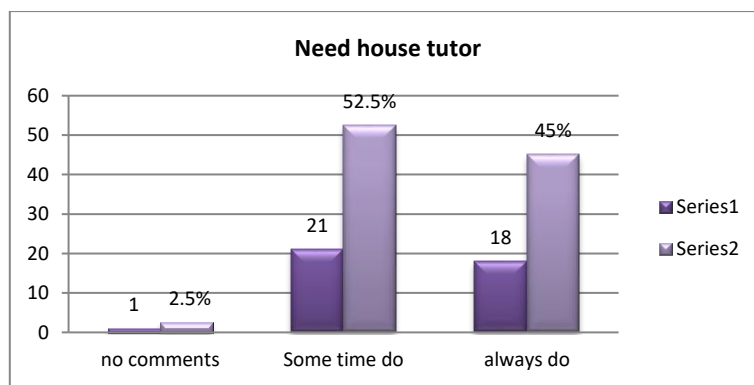


Fig. 2: Need House Tutor.

Figure 2 describes that, 52.5% students some time need house tutor, 45% students always need house tutor, and 2.5% students give no comments. The data indicates that many of the students some time need house tutor.

5) Teaching by group work  
Teach by group work gives data given below: Figure 3.

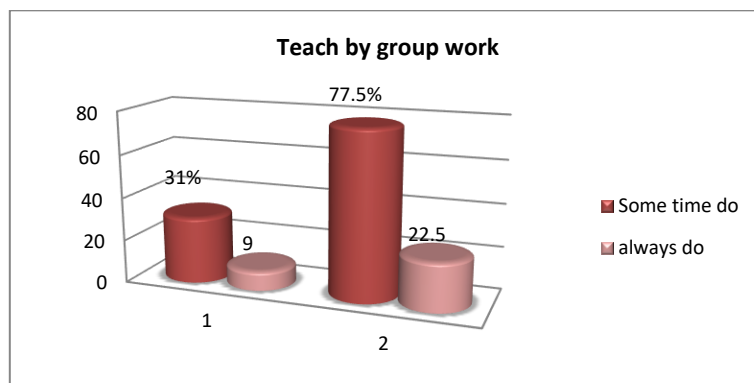


Fig. 3: Teaching by Group Work.

Teach by group work gives that, 77.5% science teacher some time teach by group work, 22.5% science teacher always teach by group work. The data indicates that, maximum science teacher some time teach by group work.

6) Listening to teacher with concentrate

Table 6: Listening to Teacher with Concentrate

Listening to teacher with concentrate	Frequency (N)	Percentage (%)
Some time do	29	72.5
Always do	11	27.5
Total	40	100

Table 6 Listening to teacher with concentration focuses that, 72.5% students some time are listening to teacher with concentrates, 27.5% students always listening to teacher with concentrates. The data indicates that, most students some time listening to teacher with concentrates. It is signal of lack of quality science education.

7) Students evaluation by the teachers at the end of the class, which process use in evaluation?

Teacher evaluate to the student end of class, which process use in evaluation is the important for student and of this study. Opinion of students about that is given in below table 7 and table 8.

**Table 7:** Teacher Evaluates to the Student End of Class

Teacher evaluate to the student end of class	Frequency (N)	Percentage (%)
Some time done	5	12.5
Always done	35	87.5
Total	40	100

**Table 8:** Used Process in Evaluation

Used process in evaluation	Frequency (N)	Percentage (%)
Student write on the board	11	27.5
Verbally	25	62.5
Teacher write on the board	4	10.0
Total	40	100

Table 7 teacher evaluate to the student end of class found that, 87.5% science teacher always evaluate to the student end of class, 12.5% science teacher some time evaluate to the student end of class. The data indicates that, most of science teacher always evaluate to the student end of class. Table 8 describe that which process use in evaluation focus that, 62.5% teacher verbally evaluate the students, 27.5% teacher evaluate by using student write on the board, 10% teacher write on the board for evaluate the student. The data gives that, most of teacher verbally evaluate the students. It is the shortage of quality science education.

8) Finish the class within stipulated time.

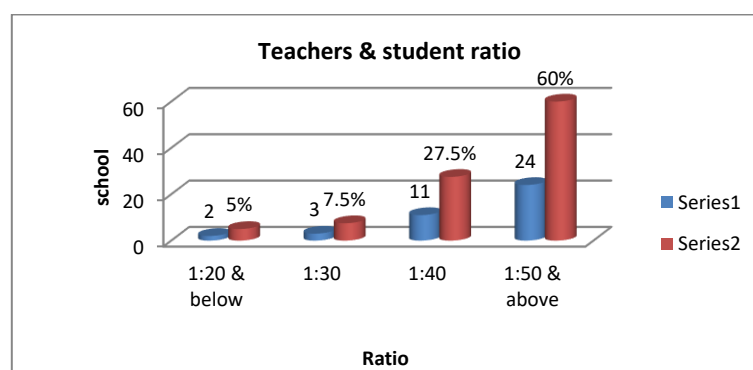
"Teacher finish the class within the duration" this data is the important for this research work. Opinion of students about that is stated in below table 9

**Table 9:** Finish the Class within Duration

Finish the class within duration	Frequency (N)	Percentage (%)
Never do	2	5.0
Some time do	18	45.0
Always do	20	50.0
Total	40	100

Table 9 finish the class within duration find that, 50% teacher always finish the class within duration 45% teacher some time finish the class within duration, 5% teacher never finish the class within duration. The data indicates that, most of teacher always finishes the class within duration. It is very much helpful for quality science education.

9) Teachers & student ratio



**Fig. 4:** Teachers & Student Ratio.

Figure 4 Teachers & student ratio focuses that, 60% teachers & student ratio is 1:50 & above, 27.5% teachers & student ratio is 1:40, 7.5% teachers & student ratio is 1:30, 5% teachers & student ratio is 1:20 & below. The data indicates that, most of school teachers & student ratio is 1:50 & above. It is sign of lack of the quality science education.

10) Board use in the class room

Black board use is the important for science teacher and this research work. Blackboard use data is indicates in below table 10.

**Table 10:** Black Board Use in the Class Room

Black board use in the class room	Frequency (N)	Percentage (%)
No	3	7.5
Few time	11	27.5
Some time	16	40.0

More time	10	25.0
Total	40	100.0

Table 10 describes that, 40% science teacher some time use black board, 27.5% science teacher few time use black board,, 25% science teacher more time use black board, 7.5% science teacher no use black board. The data indicates that, maximum science teacher some time use 25% science teacher more time use black board. It is the big gap of quality science education.

11) Priority of student's opinion in the science classes

Priority of student's opinion is the important for science teacher and this research work. About this data is describes in below table 11.

**Table 11: Priority of Student's Opinion**

Priority of student's opinion	Frequency (N)	Percentage (%)
Few time	5	12.5
Some time	31	77.5
More time	4	10.0
Total	40	100.0

Table 11 Priority of student's opinion seems that, 77.5% science teacher some time priority of student's opinion, 12.5% science teacher few time priority of student's opinion, 10% science teacher more time use priority of student's opinion. The data means that, highest science teacher some time priority of student's opinion. These types of conditions easily occurs the shortage of quality science education.

12) Students included in learning

Students included in learning are the important for science teacher and this inquiry. Students included in learning data is given in below table 12

**Table 12: Students Included in Learning**

Students included in learning	Frequency (N)	Percentage (%)
Few time	3	7.5
Some time	21	52.5
More time	16	40.0
Total	40	100.0

Table 12 Students included in learning focuses that, 52.5% science teacher some time students included in learning, 7.5% science teacher few time students included in learning,40% science teacher more time students included in learning. The data indicates that, most of science teacher some time students included in learning. These measurements automatically focus of lack of quality science education.

13) Encourage to the students

Encourage to the students are the important for science teacher and this search. Encourage to the students data is express in below table 13.

**Table 13: Encourage to the Students in the Science Classes**

Encourage to the students	Frequency (N)	Percentage (%)
No encourage	3	7.5
Few time	10	25.0
Some time	14	35.0
More time	13	32.5
Total	40	100.0

Table 13 Encourage to the students shows that,35% science teacher some time encourage to the students, 25% science teacher few time encourage to the students, 32.5% science teacher more time encourage to the students, 7.5% science teacher no encourage to the students. The data seems the scenery that, most of science teacher some time encourage to the students. At present situation straightly describes s lack of quality science education.

14) Considering the learning need of students

Considering the learning need of students is the important for science teacher and these searching tasks. Considering the learning need of students is describes in below table 15

**Table 15: Considering the Learning Need of Students**

Item	Frequency (N)	Percentage (%)
No consider	1	2.5
Few time	18	45.0
Some time	14	35.0
More time	7	17.5
Total	40	100.0

Table 15 considering the learning need of students seems that,45% science teacher few time considering the learning need of students, 17.5% science teacher more time observe the class work, 35% science teacher some time observe the class work, 2.5% science teacher no considering the learning need. The data describes that, many of science teachers few times considering the learning need of students. That situation consist lack of quality science education.

15) Teacher gave the answer of asking question of students

Teacher gave the answer of asking question of students is the important for science teacher and this investigation. About this information is shown in below table 16.

**Table 16: Teacher Gave the Answer of Asking Question of Students**

Teacher gave the answer of asking question of students	Frequency (N)	Percentage (%)
Few time	11	27.5
Some time	20	50.0
More time	9	22.5
Total	40	100.0

Table 16 Teacher gives the answer about Question of students focuses that,50% science teacher some time gives the answer about Question of student's 27.5% science teacher few time gives the answer about Question of student's, 22.5% science teacher more time gives the answer about Question of student's, 2.5% science teacher no gives the answer about Question of student's. The data express that, most of science teacher few times gives the answer about Question of student's. This situation refers to lack of quality science education.

16) Friendly behavior with the students

Friendly behavior with the students is the important for science teacher and this query. Friendly behavior with the students is describes in below table 17.

**Table 17: Friendly Behavior with the Students**

Friendly behavior with the students	Frequency (N)	Percentage (%)
Few time	4	10.0
Some time	20	50.0
More time	16	40.0
Total	40	100.0

Table 17 Friendly behavior with the students focus that,50% science teacher some time friendly behavior with the students 40% science teacher more time friendly behavior with the students, 10% science teacher few time friendly behavior with the students. The data describes that, most of science teacher some time friendly behavior with the students. These types of situation refer to lack of quality science education.

17) Teacher gives opportunity to thinking to the students

Teacher gives opportunity to thinking to the students is the important for science teacher and this study. Opportunity to thinking is describes in below table 18.

**Table 18: Teacher Gives Opportunity to Thinking to the Students**

Teacher gives opportunity to thinking to the students	Frequency (N)	Percentage (%)
No	1	2.5
Few time	14	35.0
Some time	19	47.5
More time	6	15.0
Total	40	100.0

Table 18 Teacher gives opportunity to thinking to the students prescribes that, 47.5% science teacher some time gives opportunity to thinking to the students, 35% science teacher few time gives opportunity to thinking to the students, 15% science teacher more time gives opportunity to thinking to the students, 2.5% science teacher no gives opportunity to thinking to the students. The data seems that most of science teacher some time gives opportunity to thinking to the students. It is the main reason to lack of quality science education.

18) Safety environment in classroom

Safety environment is the important for science teacher and this investigation. Safety environment is stated in below table 19.

**Table 19: Safety Environment in Classroom**

Safety environment in classroom	Frequency (N)	Percentage (%)
Few time	9	22.5
Some time	20	50.0
More time	11	27.5
Total	40	100.0

Table 19 safety environment prescribes that,50% science teacher some time create safety environment,27.5% science teacher more time create safety environment, 22.5% science teacher few time create safety environment. The data expresses that, most of science teacher some time create safety environment in classroom. It is describes many lack of quality science education.

19) Teacher gives the proper attention to the students

Proper attention to the students is the important for science teacher and this study. Proper attention is stated in below table 20.

**Table 20: Proper Attention to the Students**

Proper attention to the students	Frequency (N)	Percentage (%)
Few time	5	12.5
Some time	20	50.0
More time	15	37.5

Proper attention to the students	Frequency (N)	Percentage (%)
Few time	5	12.5
Some time	20	50.0
More time	15	37.5
Total	40	100.0

Table 20 Proper attentions discuss that,50% science teacher some time gives proper attention to the students,37.5% science teacher more time gives proper attention to the students,12.5% science teacher few time gives proper attention to the students. The data describes that, many science teacher some time gives proper attention to the students. It is describes lack of quality science education.

20) Students and teacher share opinion with each other  
Students and teacher share opinion with each other is the important for science teacher and this study. This information is focus in below table 21

**Table 21: Students and Teacher Share Opinion with Each Other**

students and teacher Share opinion with each other	Frequency (N)	Percentage (%)
Few time	6	15.0
Some time	23	57.5
More time	11	27.5
Total	40	100.0

Table 21 students and teacher Share opinion with each other seems that,57.5% science teacher some timeshare opinion with each others,27.5% science teacher more time share opinion with each others, 15% science teacher few timeshare opinion with each others. The data describes that most of science teacher some time share opinion with each others. This scenery expresses the lack of quality science education.

21) Joyful teaching in the classroom  
Joyful teaching is the important for science teacher and this study. Joyful learning is prescribes in below table 22.

**Table 22: Joyful Teaching in the Classroom**

Joyful teaching in the classroom	Frequency (N)	Percentage (%)
Few time	8	20.0
Some time	24	60.0
More time	8	20.0
Total	40	100.0

Table 22 Joyful teaching in the classroom given that,60%science teacher some time teach Joyfully,20% science teacher more time teach Joyfully, 20% science teacher few time teach Joyfully. The data describes that, most of science teacher some time teach joyfully in the classroom. It is the reason behind lack of quality science education.

22) Students maximum time busy with his class work  
Students most time busy with his class work is the important for science teacher and this research work. Students most of time busy with his class work is given in below table 23

**Table 23: Students Maximum Time Busy with His Class Work**

Students maximum time busy with his class work	Frequency (N)	Percentage (%)
Few time	20	50.0
Some time	17	42.5
More time	3	7.5
Total	40	100.0

Table 4.64Studentsmost of the times busy with his class work show that, 50%students few time busy with his class work, 42.5%students some time busy with his class work, 7.5%students more time busy with his class work. The data means that, most of the students few times busy with his class work. It is the reason of lack of quality science education.

23) Students following the instruction of teachers  
Students following the instruction of teachers are the important for science teacher and this study. Students following the instruction of teachers are describes in below table 24

**Table 24: Students Following the Instruction of Teachers**

Students following the instruction of teachers	Frequency (N)	Percentage (%)
Few time	7	17.5
Some time	23	57.5
More time	9	22.5
No	1	2.5
Total	40	100.0



Table 24 Students following the instruction of teachers prescribes that, 57.5% student some time follows the instruction of teacher, 22.5% student more time follows the instruction of teacher and 17.5% student few time follows the instruction of teacher. The data seems that most of the student some time busy with class work. It is reason behind the lack of quality science education.

24) Achieving the learning outcome

Achieving the learning outcome is the important for science teacher and this study. Achieving the learning outcome is prescribes in below table 25

**Table 25: Achieving the Learning Outcome**

Achieving the learning outcome	Frequency (N)	Percentage (%)
Few time	2	5.0
Some time	33	82.5
More time	7	17.5
Total	40	100.0

Table 25 Achieving the learning outcome prescribes that 82.5% student some time achieving the learning outcome, 12.5% student more time achieving the learning outcome, 5% student few times achieving the learning outcome. The data means that, most of the student some time achieving the learning outcome. It is all the reason behind lack of quality science education.

25) Maximum time uses of class time by the students

Most of the time uses of class times by the students is the important for science teacher and this study. Most time use by the student is seen in below table 27.

**Table 27: Maximum Uses of Class Time by the Students**

Maximum uses of class time by the students	Frequency (N)	Percentage (%)
Few time	17	42.5
Some time	19	47.5
More time	4	10.0
Total	40	100.0

Table 27 most of the time uses of class time by the students shows that, 47.5% student some time uses of class time by the students, 42.5% student few time uses of class time by the students, 10% more time use uses of class time by the students in the class room. The data indicates that, sometime uses of class time by the students in the classroom. It is big reason for lack of quality science education.

26) Stakeholders give some important suggestions for improve quality teaching-learning

- According to the majority of head teachers, science teachers' should use lesson plan and proper teaching aids effectively which can improve the quality in science education. Some head teachers suggested that, science teachers should identify the weakness of the slow learners' and then guide separately.
- Science teachers suggested that, use of puzzles, group work, jokes, rhymes songs, stories, example of the renowned persons; games etc. can attract the student's attention in the class. Subject based trained teacher should be teach subject wise for ensure quality teaching and learning.
- According to science teachers, some steps should be taken to develop weak students such as:
  - To teach by good learners,
  - To arrange special class separately ,
  - To practice same thing in several time. etc.
- Science teachers also said that, examples of respective categories should be set in existing chapters in science books. Some teachers suggested that, creative question should introduce in the science books at primary level.
- Some science teachers express that must be needed to reduce student teacher ratio for ensure the quality. They also said that, should be develop the environment of school for quality science education.
- For attractive science teaching – learning at primary level, lesson related attractive teaching aids should be supply from URCs or PTIs.

## 7. Major findings

This study presents a summary of major findings along with some recommendations and conclusion. Teachers are the professionals who directly facilitate students' learning. Basically, the inner idea of teaching is to support the students to learn. According to Joyce and Weil, teachers teach students to develop concepts, to teach themselves skills, to use metaphorical thinking, to solve problems, and to inquire as the scientist does. Teaching quality of a teacher also can be said significant if she has the ability to inspire students, facilitate mastery of a field, mentor young intellect, help students find their voice and finally help students articulate and follow their values. A suggestion for further research for overall improvement of quality teaching -learning in science at primary level in Bangladesh is also given.

According to the content, science teacher always execute exchange of thoughts with the students and sometime created safety environment at the class. It is the positive thinking for quality science education. Utmost science teacher (57.5%) doesn't check home work at the class. As result students not get revised information and they feel discourage to make the home work. Maximum science teacher don't encourage to student for ask the question. So student cannot properly describe the content and do not create the creativity. Maximal students need house tutor for helping understand about the content. Teacher doesn't play his duty cordially. Teacher cannot choose proper learning material according to lesson. Most of the science teachers are satisfied as a teacher. They think science class duration is not sufficient for quality science teaching. Class duration should be increase according to content. Majority school has teachers & student ratio is high. Most of the science teacher little time use lesson plan and teachers guide. They expend few time about the learning needs of the student. Consequently, students are not clear about the content. Therefore, it is obstruction for ensure quality science education. Majority science teacher has some time introduce with real life experience of student. So, student cannot show creativity about content of science. Most science

teachers cannot end the class during the period. Every teacher should be take class with the pre-plan and lesson plan. In the class observation found that, majority student (52%) few time busy with class work and 47.5% class duration used by the student. As a result, weak and over meritorious student make a noise in the class. But in the participatory method, maximum time should be use by the student. Most of the student (82.5%) achieves the little learning outcome. So, day by day the number of weak student increases of the science subject. That's why, student discourage to study in science subject. In that reason, quality science teaching and learning cannot reach to expected label.

## 8. Recommendations

- 1) Student teacher ratio should be reduced by appointing new teacher. Because one of the important measurement of quality education is that, student teacher ratio.
- 2) Subject based specialist teacher should be appointed. One person cannot be expert in different subjects. It is very difficult to teach different subjects even after subject based training.
- 3) Quality based supervision should be improved by head teacher. A proper supervision can help to implement and maintain quality in teaching-learning.
- 4) Chapter wise attractive and quality teaching aids can be supplied centrally.
- 5) To encourage the students can be categorized and introduced prizes and certificates according to their performance.
- 6) The facilities of modern technologies should be available. Digital content can be prepared and supplied centrally.
- 7) Science class time is short, so science class time should be 50 minutes.

## 9. Conclusions

Based on the findings of the study, it can be concluded that, quality of science teaching learning are being affected by several issues. The most affected issues are student-teacher high ratio, inadequate subject based training of teachers, huge work load, lack of subject based teaching, lack of the proper selection of teaching aids and the use of these teaching aids effectively. The study also concludes that inadequate supervision, dissatisfaction of job as primary teacher, weakness of the basic training. Because of the weakness of the training, teacher cannot define characteristics of quality teaching. Lack of proper teaching practice of the classroom like using of lesson plan, encouraging students to ask question, summarizing lesson and evaluating the classroom teaching, group working, caring for slow learners, checking students' homework can be mentioning. The picture of actual science teaching learning has been made in the light of the reports provided by Supervisors, head teachers, science teachers, students and class observations. This study has also found that imbalanced statement of among the science teachers, their classroom activities, students' opinion and practical observation.

## Acknowledgement

The author are grateful to thank the Head Teachers, Science Teachers and students' of science classes of selected Government primary schools in Dhaka and Gazipur District for useful discussions and contributions.

The author would like to thank Dr. Md. Kamrul Alam Khan, Professor, Department of Physics and Director, IQAC, Ex-Dean, Faculty of Science, Ex-Chairman, Department of Physics, Jagannath University, Dhaka, Bangladesh for helping me sincerely to learn educational research methodology. Author specially thank to Md. Abdur Rahim, Tushar Kanti Biswas, Md. Ayub Mia and Md. Kamrul Qader Chowdhury for helping me. Author would like to acknowledge the support of all my colleagues NAPE, DPE, MOPME and NCTB.

## References

- [1] A K M Obaydullah, "Elementary Science Curriculum of Bangladesh and Global polices", Lambert Academic Publishing, 17 Meldrum Street, Beau Bassin 71504, Mauritius, ISBN: 978-3-659-88516-7, 2018.
- [2] A K M Obaydullah, "Primary Science Curriculum Terminal Competencies in Bangladesh: National and Global polices", IJRRIE-ISSN(O)-2395-4396, Vol-4, Issue-3, 2018, pp-376-388.
- [3] A K M Obaydullah and Nusrat Jahan "Science Classes at the Primary Schools of Bangladesh: Classroom Practice and Challenges" International Journal of Research and Innovation in Social Science (IJRISS) vol.3 issue 3, pp.226-230 March 2019 URL: <https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-3-issue-3/226-230.pdf>.
- [4] A K M Obaydullah, and Md Abdur Rahim. "Use of ICT for Primary science Teaching and Learning at the Primary Schools in Bangladesh" International Journal of Advance Research and Innovative Ideas in Education Volume 5 Issue 1 2019 Page 642-651.
- [5] Abd-El-Khalick, F. (2001). Embedding Nature of Science Instruction in Preservice Elementary Science Courses: Abandoning Scientism, But... Journal of Science Teacher Education, 12 (3), 215-233. <https://doi.org/10.1023/A:1016720417219>.
- [6] Abdul Awal Khan Md, Omia Sultana and Mazharul Haque Md, Problems to implement science process skills in promoting scientific literacy at primary Science classrooms, Primary education journal, Volume-9, Number-1, June 2016.
- [7] Adams, D. (1993). Defining educational quality. Improving Educational Quality Publication #1: Biennial Report. Arlington, VA: Institute for International Research. USAID. Retrieved from [http://pdf.usaid.gov/pdf\\_docs/PNACA245.pdf](http://pdf.usaid.gov/pdf_docs/PNACA245.pdf).
- [8] Ahmed, Manzoor and et al: Quality with Equity: The Primary Education Agenda, Dhaka: Campaign for Popular Education. (2005).
- [9] Ahmed, Manzoor: Teacher Status and Student Learning, Dhaka: a keynote paper on the Worlds' Teachers Day (2007)
- [10] Ahsan, M.T., Sharma, Deppeler, J. (2012). Exploring pre-service teachers' perceived teaching-efficacy attitudes and concerns about inclusive education in Bangladesh. International Journal of Whole Schooling, 8(2), 1-20.
- [11] Akinbobola, A. O., & Afolabi, F. (2010). Analysis of Science Process Skills in West African Senior Secondary. American-Eurasian Journal of Scientific Research, 5 (4), 234-240.
- [12] Alam, A.K. M. Badrul and Jahan, Khurshidha Akhtar. (2007). Quality Education in Selected Primary Schools of Bangladesh: Perceptions of Classroom Teachers. Bangladesh Education Journal, 6(1), (43-51) Retrieved from. <http://www.bafed.net>.
- [13] BANBEIS: Bangladesh Educational Statistics-2006, Dhaka: BANBEIS. (2007) Sameed Sheesh and Jahirul Mullick
- [14] Barlett, W and Hotroyd, C (1997) 'Primary science teachers understanding of concepts of science: impact on confidence and teaching, International Journal of Science Education Vol. 19, No.1 pp 93-105. <https://doi.org/10.1080/0950069970190107>.
- [15] Creswell, J. W. (2008). Educational research: Planning, conducting, and evaluating quantitative and qualitative research (3rd ed.). New Jersey: Pearson Education, Inc.

- [16] Czerniak, C., & Chiarelott, L. (1990). Teacher education for effective science instruction—A social cognitive perspective. *Journal of Teacher Education*, 41 (1), 49-58. <https://doi.org/10.1177/002248719004100107>.
- [17] Dr. Sujjan Kumer Sarkeret. al., Present Status of Using Lesson Plan for Ensuring Quality Education in Primary School of Bangladesh, NAPE, Bangladesh 2017.
- [18] Gerlovich, J. A. (1981). How Essential is Science at the Elementary Level? *Science and Children*, 19 (3), 22-24.
- [19] Glenn O. Blough and Julius Schwartz. *Elementary School Science and How to Teach It*. 8th ed. Fort Worth, Tex.: Holt, Rinehart, and Winston, 1990. 664 pp.
- [20] Goldberg, F., Price, E., Robinson, S., Boyd-Harlow, D., & McKean, M. (2012). Developing the learning physical science curriculum: Adapting a small enrollment, laboratory and discussion based physical science course for large enrollments. *Physical Review Special Topics-Physics Education Research*, 8 (1), 010121. <https://doi.org/10.1103/PhysRevSTPER.8.010121>.
- [21] Haden, W (1998) 'The last ten years; the net ten years', in Sherrington, It (Ed) ASE Guide to Primary Science Education, Cheltenham, Stanley Thomes! Ad, pp 23-33.
- [22] Haden, W and Jelly, S (1997) *Developing Science in the Primary Classroom* (2's Ed), Essex, Addison Wesley Longman Ltd.
- [23] Haq, Nazmul: *Quality Education Needs Quality Teacher*, Dhaka: Campaign for Popular Education. (2006).
- [24] Hasan, Mirza Md., and Md. Abul Ehsan. "Present Situation of Teaching Elementary Science in the Primary School of Dhaka City: An Investigation." *American Journal of Educational Research* 1.12 (2013): 576-582. <https://doi.org/10.12691/education-1-12-1>.
- [25] Hossain, M., Alam, K., Ibrahim, M. M., Ullah, S., Roy, R., Das, H., & Amin, R. (2013). *Curriculum: Primary Teacher Education DPED*. My-mensingh: National Academy for Primary Education (NAPE).
- [26] Islam, M. R. (2011). Status of Scientific Literacy Achieved by Grade-viii Students in Rural School in Bogra District. Unpublished Thesis, University of Dhaka, Dhaka, Bangladesh.
- [27] Jahirul Islam Mullick and Sameeo Sheesh, Teachers' quality and teacher education at primary education subsector in Bangladesh, vol. V, no. 1, 2008, pp. 77-84, BRAC University Journal, Bangladesh.
- [28] Mechling, K. R. (1982). *Preparing and Certifying Science Teachers: An NSTA Report*. *Science and Children*, 20 (2), 9-14.
- [29] MOPME (1990). *The compulsory primary education act 1990*. Dhaka: MOPME, Government of Bangladesh.
- [30] Mulholland, J., & Wallace, J. (1996). Breaking the cycle: Preparing elementary teachers to teach science. *Journal of Elementary Science Education*, 8 (1), 17-38. <https://doi.org/10.1007/BF03173739>.
- [31] National Curriculum and Textbook Board [NCTB]. (2012). *Curriculum, Secondary Level (Grades 6-8) [in Bengali]*. Dhaka: Ministry of Education.
- [32] Organization for Economic Co-operation and Development [OECD] (2006). *Assessing scientific, reading and mathematical literacy: A framework for PISA*. Paris, France: OECD.
- [33] Osborne, J., & Dillon, J. (2008). *Science education in Europe: Critical reflections* (Vol. 13). London: The Nuffield Foundation.
- [34] Otero, V. K. & Gray K. E. (2008). Attitudinal gains across multiple universities using the Physics and Everyday Thinking curriculum. *Physical Review Special Topics-Physics Education Research*, 4 (2), p. 020104. <https://doi.org/10.1103/PhysRevSTPER.4.020104>.
- [35] Padilla, M. J. (1990). *The science process skills*. University of Georgia, Retrieved from <https://www.narst.org/publications/research/skill.cfm>.
- [36] Palmer, D. H. (2002). Factors contributing to attitude exchange amongst preservice elementary teachers. *Science Education*, 86 (1), 122-138. <https://doi.org/10.1002/sce.10007>.
- [37] Sreedevi, P. S., & Sudhir, M. A. (2011). Innovative strategies for science teaching. *International Journal of Educational Science and Research* 1(1), 1-10.
- [38] Dr. A K M Obaydullah. "Teachers' Perception about Quality Science Teaching in the Primary School at Urban Area of Bangladesh" *International Journal of Advance Research And Innovative Ideas In Education* Volume 5 Issue 5 2019 Page 924-944.
- [39] Dr. A K M Obaydullah, and Muhammad Rafiqul Islam Talukder. "The Role of UEO, URC and PTI for the Supervision in the Primary School of Bangladesh" *International Journal of Advance Research and Innovative Ideas in Education* Volume 6 Issue 1 2020 Page 139-153.