

# Science Classes at the Primary Schools of Bangladesh: Classroom Practice and Challenges

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**Abstract:** - This study presents of classroom practice about primary science at the primary schools of Bangladesh. Various video graphs, personal observations and research findings along with some reports depicts that the Primary Science classroom situation in the primary schools of Bangladesh is below standard. The participants of this study were 40 primary School teachers from 40 schools purposively sampled based on qualities like teachers activities and classroom facilities. Teachers still now follow the traditional system of classroom practices about primary science because of lack of potential knowledge and classroom management skills, lack of motivation towards teaching and lack of professional satisfaction. In that reason have some bad effect on the learning of the student. So, some recommendations have been proposed to confirm quality primary science classroom practice at the primary schools of Bangladesh. However, now a days the situation is changed with the many steps of the government which should be a matter of comfort for the future generations

**Keywords:** Science Classroom Practice, Primary Classrooms, Bangladeshi Classrooms.

## I. INTRODUCTION

Classroom Practices and Strategies, Responsive Classroom is an approach to teaching based on the belief that integrating academic and social-emotional skills creates an environment where students can do their best learning. Responsive Classroom is an evidence-based approach to education that focuses on the strong relationship between academic success and social-emotional learning (SEL). Classroom practice refers to all the activities, of both the teacher and the students inside the classrooms. Teachers' behavior towards the students, teacher-student interaction, teaching-learning methods and techniques employed by the teachers, all these are included in the classroom practice. Classroom practice is necessary for the students' well balanced development of knowledge and skills, which is very crucial for the primary students. Thus, in the primary schools, the classroom practices should be student-centric, consistent and well organized. Science is needs to sound knowledge; attitudes and skills from the early childhood for create a perfect society. The area of this study has been selected as the Science classroom practice of the primary schools of Bangladesh. The Ministry of Primary and Mass Education along with some directorates manages and administrates the whole primary education sector. Quality primary education in Bangladesh is now a priority. To ensure quality primary

education, quality Science classroom practice is essential. However, the Science classroom practice in most of the primary schools of Bangladesh is not satisfactory, which leads to the focus of this study. This study includes a critical analysis of the Science classroom practices of the primary schools of Bangladesh, including the general scenario, factors impacting this practice, what is being done to change it and what else can be done for it.

## II. PRESENT SITUATION

The present situations in most of the primary schools of Bangladesh are not satisfactory. Visual data revealed that the science classroom teaching-learning practices in most primary schools, especially in the rural ones, are not satisfactory. Observation reports also depicted that primary science classrooms are mainly teacher directed and lecture based. The use of demonstration, discussion and other interactive methods is minimal, though the situation varies depending on the quality of the school. The reason behind this is that, though the Education for All objectives for Bangladesh was both increasing enrolment and promoting quality of education, the focus was mostly achieving enrolment targets rather than quality enhancement. As a result, it has been found that the number of students per school has risen and the quality has actually declined.

*Research questions:*

1. What is the real situation of Classroom Practice about Primary Science at the Primary Schools of Bangladesh?
2. How to ensure the quality learning of Science classes in the Primary Schools?

*Methodology:*

The research work was qualitative and quantitative in nature. Different types of data collection tools were used in the study- Document Analysis, Questionnaire, Literature review, personal experience gained from school visit, observation during science classes. Purposive sampling technique was used to select the school. The participants of this study were 40 primary School teachers from 40 government primary school (GPS) at Dhaka and Gazipur district of Bangladesh purposively sampled based on qualities like teachers activities and classroom facilities. They should be encouraged to understand real scenario of science classes, to explain what

is occurring, predict how things will behave and analyze causes.

### III. RESULTS AND DISCUSSIONS

Researchers have observed that some issues behind this quality of science classroom practice. Firstly, the teacher-student ratio is substantial. The average ratio is 1:40 and in some/cases it is as high as 1:50 & above. 84.9% teachers in a study claimed that it is not possible to ensure quality education with this ratio.

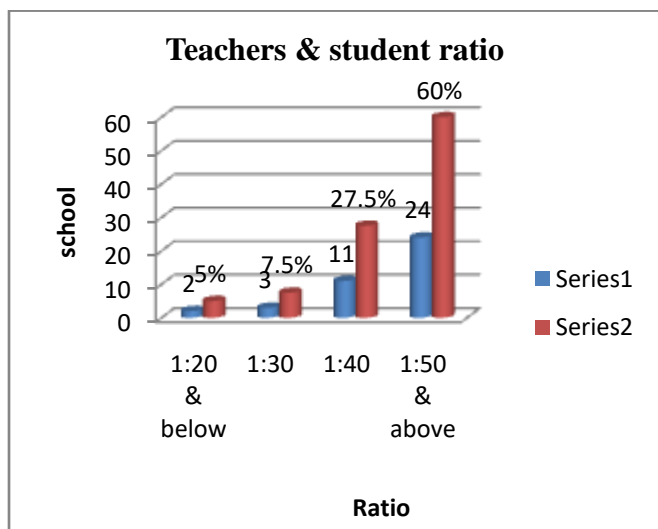


Figure 1: Teachers & student ratio

Secondly, most of the primary schools are far from having adequate physical facilities with no modern facilities and limited teaching materials which have a negative effect on the teachers' classroom performance.

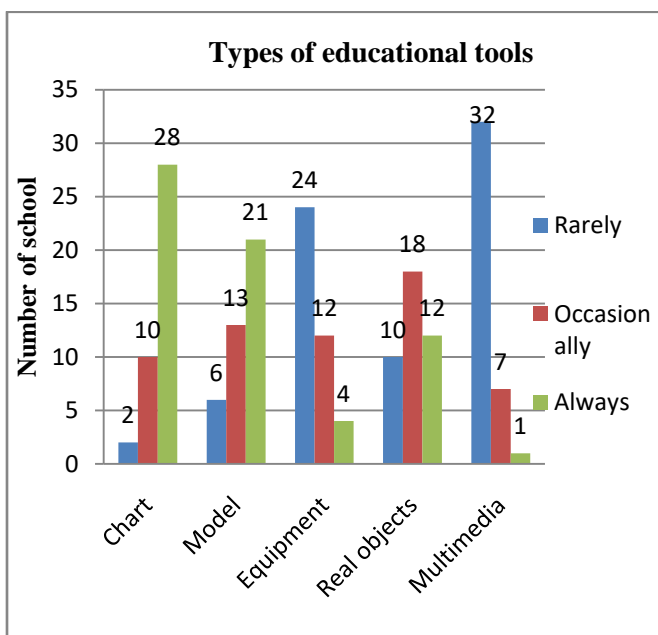


Figure-2: Types of educational tools use in the classroom.

Table1: Facilities in school

Facilities	Yes	No
laboratory	0	40
Electricity supply	33	7
Sufficient Room space	3	37
Operator/Technician	0	40

Table 2: Availability of modern classroom in the school

Item	Frequency (N)	Modern classroom
Yes	8	20%
No	32	80%
<b>Total</b>	<b>40</b>	<b>100.0</b>

Thirdly, it has also been noticed that most of the rural primary and urban Government primary teachers are under-qualified for science.

Table 3: Qualification of science teachers

Qualifications	Frequency (N)	Percentage (%)
Academic		
SSC	1	2.5
HSC	4	10
Graduation	17	42.5
Masters	18	45
<b>Total</b>	<b>40</b>	<b>100</b>
Professional		
C in Ed	22	55.0
DipEd.	8	20.0
BEd/MEd	2	5.0
No professional training	8	20.0
<b>Total</b>	<b>40</b>	<b>100</b>

Again, qualified teachers about science are not satisfied with their salaries and other facilities given. All these result in traditional science classroom practices with no or less teacher-student interaction.

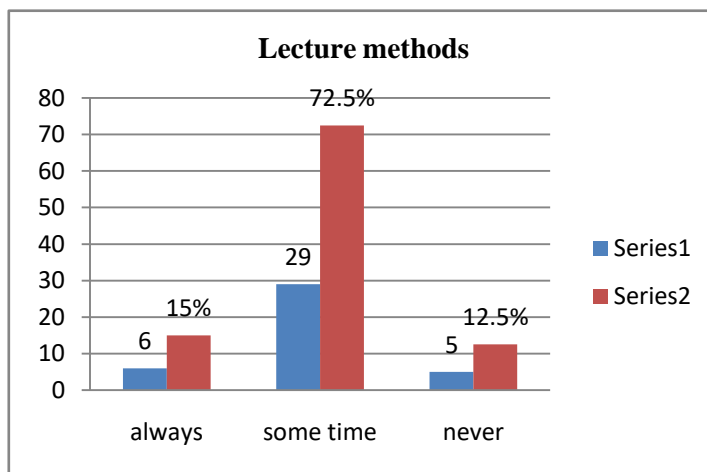


Figure 3: Lecture methods

However, noting the positive sides of the lecture method, it has been suggested that quality science classroom practice might be used in Bangladesh as it is cost effective, less time consuming and suitable for large class sizes.

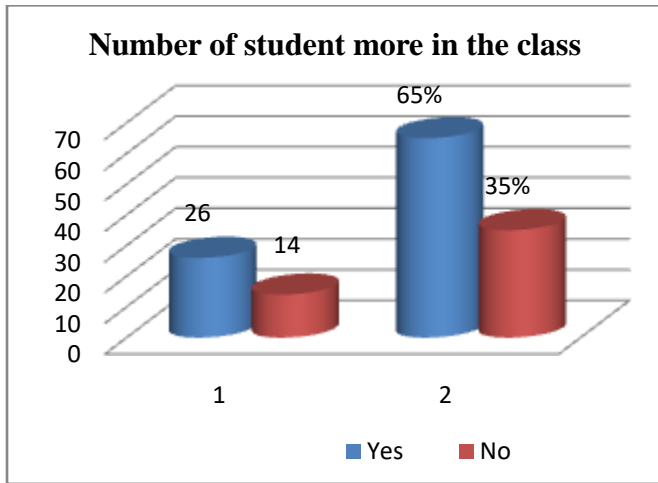


Figure 4: Number of student more in the class

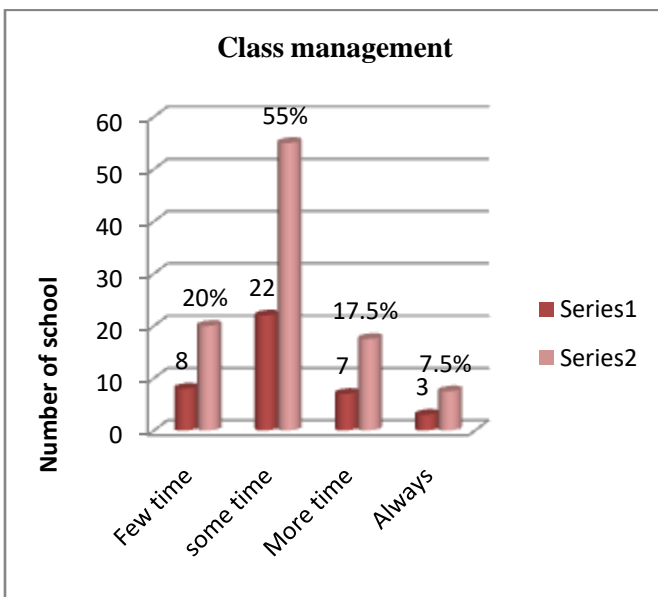


Figure 5: Class management by science teachers

Maximum time teacher cannot continue the management of the classes. Small class size and good seating arrangement are suitable for good class management.

Table 4: Subject knowledge of science teacher

Item	Frequency (N)	Percentage (%)
Few	8	20.0
Some time	22	55.0
More time	7	17.5
Always	3	7.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

Table 5: Joyful teaching in the science classroom

Item	Frequency (N)	Percentage (%)
Few	8	20.0
Some time	24	60.0
More time	8	20.0
<b>Total</b>	<b>40</b>	<b>100.0</b>

#### IV. MODIFICATION IN SCENARIO

In spite of that, the situation is now changing. Government is working hard to makes the primary science classrooms interactive as well as interesting. The Ministry of Primary and Mass Education is taking various steps to train the teachers. The curriculum and the textbooks of primary level have now been improved with the contemporary demand. The teachers' satisfactions about the content of primary science are increased (table 6).

Table 6: Satisfaction of science teachers' about content

Item	Frequency (N)	Percentage (%)
Not Satisfied	2	5
Some Satisfied	21	52.5
Enough Satisfied	17	42.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

Science Textbooks are now more interesting and easy to understand. To match up with the textbooks of primary science, Bangladeshi classrooms are now receiving high-tech makeovers and thus breaking the traditional rule of monotonous classroom practices. Some primary schools are being given free Laptop and multimedia for digital presentation so that the children can learn in a more constructive way. All these initiatives are appreciable. But whether that will really improve the quality and classroom pace, it is a question.

#### V. RECOMMENDATIONS

It can be said from the above discussion that to be ensure the quality science education, the issues that hamper science classroom practice should be addressed. So firstly, in order to reduce the teacher-student ratio, more schools might be established and more science teachers may be appointed. If more schools cannot be established, then existing schools may have more classes such as, two different shifts or more than one section for every made. In this way, the number of students will not increase in one classroom and ins it will be easy to manage the classes. However, more science teachers appointed for the primary sector is must, as there are already a lot of vacant posts in many schools and no science teachers. In order to attract more young educated people to the teaching profession and to motivate about teaching profession, some initiatives can be used. Increasing the salary structure and giving some additional benefits for various issues. Reinforcements to the teacher, such as monthly best teacher performance award, may also add to teachers' enthusiasm in science classroom practices. Regarding the physical facilities

of the schools, science friendly infrastructural development is needed in order to give the students a better learning environment. Well organized science classrooms with an adequate number of sitting arrangements, a proper ventilation system and at least one white board are essential for the young students so that they can concentrate on their studies. All schools should have some basic teaching materials like whiteboards, pen, textbooks supplied by ' NCTB (National Curriculum and Textbook Board), globes and maps. Besides, the schools should also have hygienic toilet facilities for the students. If not addressed, these issues can be detrimental to the overall science classroom experience. In terms of primary school teaching, there is a belief in the Bengali communities that it is very easy and anyone can do that, but the reality is the opposite. Teaching in primary schools needs a well developed understanding of children's learning process and great classroom management skills. Teachers' training is the another important factor to ensuring quality science classroom practice.

The school condition of using multimedia in the classroom is not well arranged. As at this moment the school has only one laptop, so there is no specific setting arrangement of that. As the school never experiencing the use of current technology so there are not necessary logistic arrangements, for instance, electric point or multiple software installation, antivirus and so on for the laptop and multimedia in the classroom as well. Teachers often confused in which class and who will use the multimedia. Usually the laptop and multimedia kept in the head teacher's room. In the observation it's found that, one school decided to use one room as a multimedia classroom for students of all classes.

Though pre-service training is required before starting the teaching job, most of the teachers' do not actually receive the training. On the other hand, the majority of the trained teachers do not actually know about different teaching-learning strategies that can be implemented in the primary classrooms. So, the teachers need proper pre-service and in-service trainings. They should be trained not only about teaching strategies and classroom management skills, but also about creating proper learning environment for the students. For that reason, existing teachers' training manuals should be modified or new manuals should be developed by the education specialists.

Besides, a teacher's dedication is another important factor that impacts classroom teaching. Some teachers, who are highly qualified and have proper knowledge about all the teaching-learning strategies, are sometimes not dedicated enough towards their jobs. Regular monitoring might be useful to enhance their classroom performance. A head teacher's supervision is necessary to keep record of the teachers' classroom activities. It is also essential to create the sense of responsibility in the teachers.

Moreover, there should be scope for mentoring. Experienced teachers can be the mentors of newly appointed teachers.

Even the experienced teachers sometimes need support in developing interactive classroom teaching-learning activities. Every week there might be a time allocated for teachers' meeting where they can share their classroom experiences and develop teaching-learning skills. This interactive session among the teachers will help every teacher in preparing their lessons.

Basically, the classroom practice depends on the curriculum. Classroom teaching needs to be according to the objectives and learning outcomes. In Bangladesh, for grade I and II, there are only three subjects (Bengali, English and Mathematics) and the main objective of these two grades is to develop listening, speaking, reading and writing skills of the children as well as to give them some basic mathematical knowledge. On the other hand, for grade III to V, there are six subjects (Bengali, English, Mathematics, Science, Social Studies and Religion) and the main objectives for these grades are developing communicative skills, logical thinking and solving mathematical problems, gaining knowledge of scientific rules, methods and finding solutions in a scientific way, developing supportive mentality towards others, being socialized and gaining universal outlook, believing in Allah/God, and having morals and ethical values.

To achieve these objectives and learning outcomes, classroom teaching does not necessarily need a lot of teaching aids or high-tech facilities. In fact, it is very easy to make a primary classroom interactive and interesting. For example, in grade I and II, simple pair activities such as introducing each other to the whole class or group activities like continuing reading a story from where someone stopped, may help develop students' listening, reading and speaking skills. Mathematical skills can be developed by giving the children to count everyday objects that can be found within the classroom. Writing skills can be developed by giving them small paragraphs about themselves to write about their families or something they like most. This will not only develop their writing skills, but also will increase their creative thinking ability. Again, for grades III to V, some simple scientific experiments, for instance, trying to mix oil and water, how to find out if the egg is raw or boiled, what floats in water and what sinks, with explanation will increase children's interest in science. Communicative skills can be developed by activities such as writing a letter to a friend sitting next to you or describing your last holiday to the class. Including the students in making a budget for a class party or a trip may help students with mathematics. Group activities like cleaning the school playground or the classroom once a month might also be useful for the students' future social actions.

There is no absolute set method of classroom practice. The above mentioned activities are only some examples of how teachers can use different teaching-learning strategies in primary classrooms. There are a lot more different methods that can be incorporated. Teachers can come up with their own innovative ideas and incorporate those as well. The reason of giving the examples is to show that there are a



number of ways to change the classroom practices without even using expensive teaching materials or modern technologies. Simple games and interactive methods can change the whole classroom situation. Incorporating these creative ideas will break the monotony of traditional classroom practices as well as ensure active participation of the students in classroom, which will actually lead to achieving the objectives and learning outcomes of the curriculum. On the other hand, these ideas are easy to employ and cost effective, it will be very effective for a country like Bangladesh to use these ideas appropriately.

## VI. CONCLUSION

In short, the present classroom practices in the primary schools of Bangladesh are below the mark, because of huge teacher-student ratio, inadequate teaching-learning materials, under-qualified teachers, lack of teachers' dedication and motivation, no mentoring facilities and lack of monitoring as well as supervision by the head teacher. To change the situation, the Government of Bangladesh has introduced different initiatives including teachers' training, education policy reforms, new curriculum development and providing modern technologies such as computers and projectors to the schools. All these changes have been welcomed by the schools as well as the teachers and the students. In addition to these changes, this essay has suggested some cost effective and easily applicable innovative ideas to incorporate in primary classrooms. While these suggestions may illuminate paths towards better classroom practices, there are some problems such as low salary range of the teachers, poor infrastructure and inadequate supplementary materials, which should be addressed as well. To draw a conclusion, it can be said that, Bangladesh needs a balance of all these existing ideas and suggestions. A proper combination of the use of interactive teaching-learning methods, increase of physical facilities and the use of technology can bring about the required progress in the classroom, practice in the primary schools of Bangladesh.

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