

Teachers' Perception about Quality Science Teaching in the Primary School at Urban Area of Bangladesh

Dr. A K M Obaydullah

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

Abstract

The quality teaching plays an important role in achieving overall quality education. Primary teachers think about how to teach science in urban school contexts. According to the record most of the Primary Education Completion Examination (PEC) of Bangladesh, the passing rate of science was the below among other subjects. Even internal examination results also showed the same picture. This research provided information about teachers' perception about Science teaching in the Primary School at Urban area of Bangladesh. Forty primary schools purposive chosen for this study at the Urban Area of Bangladesh. Forty primary science teachers of these schools were the research participants. Both qualitative and quantitative methods were used for analysis of data. Questionnaires, interviews, and observations were implemented to reveal the primary school teachers' educational backgrounds, training, science teaching context, and need for self-driven professional development. Content and discourse analysis indicated that the non-science educational background and the science teaching context implied a need for self-driven professional development. The non-science educational background teachers were generally unfamiliar with the current national science curriculum, and that they would not be comfortable when the researcher observed their science teaching practice. They need to promote teachers' understandings of nature of science and technological and pedagogical content knowledge. According to teachers' opinion, teachers have positive attitude about Science Teaching but they have lack of proper knowledge regarding this. e.g. use of proper teaching method, effective use of teaching aids, teachers' working load, student-teacher ratio, proper class size etc. have been prevailing in the primary schools. The findings of the study revealed that student-teacher ratio was high and also there were lack of subject based teaching and effective use of teaching aids. Maximal school has no available of multimedia, modern class room, library and science equipment. Most of the students don't interaction with the teacher in the class rooms. Near about fifty percent of science teachers did not have science subject training. The study recommended that student teacher ratio should be reduced by appointing new science teacher, quality based supervision should be improved. Science subject training are much needed for all school. Science class duration should be increase. Extra work load should be reducing.

Keywords: *Teachers' Perception, Science Teaching, Primary School, Urban Area.*

I. Introduction:

This study explored teachers' perception, and views about quality science teaching in the primary school of Bangladesh. The ministry of primary and mass education (MOPME) controls more than 64% of total primary schools that enrolls 77% of total children despite many achievements during the past era, major improvements is 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, textbooks and its' implementation system (JICA, 2009). With a view to improve the quality of primary education, the government of Bangladesh had undertaken an integrated sub-sector wide program known as PEDP-3 since 20011-2018 in assistance with development partners. The major key objectives of the PEDP-3 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. Science learning will be very interesting for the children and science mentality will be grown up among them so that they would be interested in learning science and they would be able to keep important role in the activities of building the nation which will be the best policy of loving the country (Curriculum2012, NCTB). The traditional and dominant way of teaching in most schools tends to focus on memorizing facts. There is little emphasis on developing analytical, practical or vocational skills (UNICEF, 2009). Also teachers rely too heavily on the textbooks to present the content on teacher-centered way without sufficient explanation using life-like examples and materials or problem solving strategies and diagnosis error patterns (Uddin, 2005). 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 quality of science teaching and learning in the primary schools of Bangladesh.

II. Statement of the Problem

The title of the research is 'Teachers' Perception about Science Teaching in the Primary School at Urban area of Bangladesh'. 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, textbooks 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 2009 to 2016. 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). These needs to be analyzed by an academic research that, found out the actual situation of quality science teaching and learning in the primary schools of Bangladesh.

2.9: Students Achievement in Science

ASPR (2013) stated that learning achievement of children is the ultimate outcome of interest in the primary education sector. National data sources on learning assessment the grade 5 Primary Education Completion Examination (test item fully competency based from 2017).

(ASPR 2011) mentioned that the Grade 5 scholarship examination was replaced by a nationwide terminal examination for the first time in 2009. It is the largest public examination in Bangladesh. The main objective of the terminal examination is to certify that a child has successfully completed the primary education cycle.

There are Valuable insights to understand the level of performance in two respects as by school and by Upazila.

The subject-wise stats show that students did not well in science. In the PEC examination from 2012 to 2016 the pass rate in science was the no satisfactory among the subjects as shows in the table below.

Table 1: Lowest and highest pass rate of PECE result in Science.

Year	Lowest pass rate in subjects (%)	Science subjects pass rate(%)	Highest pass rate in subjects(%)
2012	96.24(English)	96.95	97.21(Religion)
2013	98.12 (English)	98.62	98.96(Religion)
2014	99.08(English)	99.82	99.95(Religion)

2015	99.18 (English)	99.72	99.91(Religion)
2016	99.32 (English)	99.65	99.88(Religion)

III. Methods and Materials:

There are plenty of reasons for researching teachers' perception toward science teaching. During this research work, it has undertaken different formal methods to complete this work. The research work was qualitative and quantitative in nature. Forty Science Teachers were selected from the selective areas. It has to be developed a questionnaire considering the appropriate stakeholders for phase to phase interview method. A total number of forty classes from forty government primary schools (GPS) were observed to explore the situation of teaching learning in the classes. Questionnaire, Literature review, personal experience gained from school visit, class observation. Purposive sampling technique was used to select the school. To collect opinion of respondents, purposively forty science teachers were selected from forty government primary school (GPS) at urban area in the Dhaka and Gazipur districts of Bangladesh. Collected data analyze by SPSS and MS Excel software and prepare report.

IV. Result:

These instruments were administered to three categories of respondents namely Head Teachers (HT), Science Teachers (ST), Students, and also for Classroom Observations. According to the sampling design of the study it was planned to collect data from 180 respondents of different categories. Responses to each question were analyzed both in quantitative and qualitative terms as per suitability.

Table 2: Qualification of science teachers

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

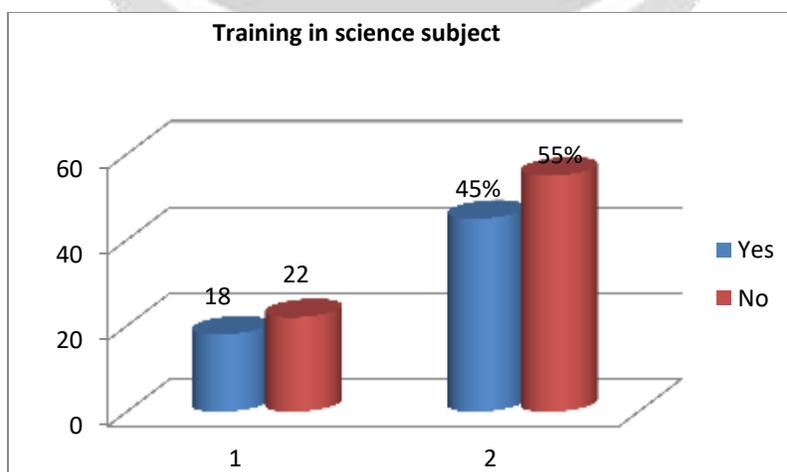


Figure 1: Training in science subject of science teachers

Figure1 focuses that, 55% of science teachers do not have science training, 45% of science teachers have training in science. The data indicates that, maximum science teachers do not have science training. As a result science subject training needs to be increased like another subject. Most of the science teachers have C in Ed training but no science training, it is seemed that the lack of quality education.

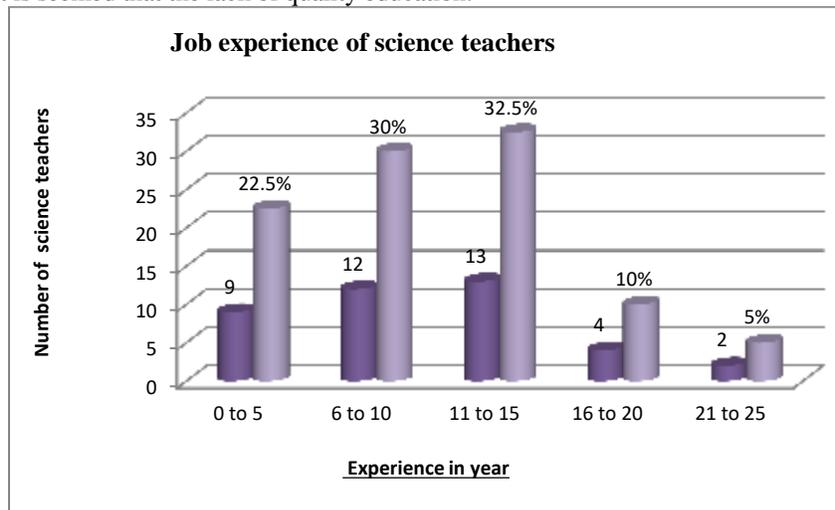


Figure2: Job experience of science teachers

Figure 2 Job experiences of science teachers describes that, 32.5% of the science teachers have 11-15 years of work experience, 30% are 6-10 years, 22.5% are 0-5 years, 10% are 16-20years and 5% science teachers are 21-25 years Job experience. The data focuses that maximum science teachers have 11-15years Job experience and they take science class in the school, so they know how to enhance quality teaching. Another think Figure 2 showed that, most of the science teacher is Graduate and they have 11-15years job experience are sufficient for science of primary school level.

2. What is Subject in graduation, post-graduation level of Science teacher? Situation is subject base training of Science teacher.

Science teachers are the very important part of this study. Their subject in graduation, post graduation and subject base training as a primary science teachers are given on below table 3.

Table 3: Subject in graduation and post graduation level

Item	Frequency (N)	Percentage (%)
Subject in graduation level		
Physics, Chemistry, Mathematics, Biology	10	25.0
Accounting, Management, Finance	8	20.0
Bangla, English	14	35.0
others	8	20.0
Total	40	100
Subject in post graduation level		
Physics, Chemistry, Math, Biology	5	12.5
Accounting, Management, Finance	7	17.5
Bangla, English	7	17.5
Others	21	52.5
Total	40	100

Table 3 subject in graduation level mention that, 35% Bangla, English, 25% physics, chemistry, mathematics, 20% accounting, management, finance and 20% others subject. The data indicates that most of science teachers are commerce background. Subject in post-graduation level shows that 52.5% others subject, 17.5% Bangla, English, 17.5% Accounting, Management, Finance 12.5% Physics, Chemistry, Mathematics, Biology. The data indicates that maximum science teachers are different subject background.

3. Situation of number of other classes and science classes per day per teacher and the number of student in per class.

Number of other class per day and number of student in per science class are the important for science teachers and of this study. About this type opinion of data are given in below table 4.

Table4 Number of other classes and number of science classes per day

Number of other classes per day	Frequency (N)	Percentage (%)
4-5	11	27.5
6- above	29	72.5
Total	40	100
Number of science classes per day		
1-2	39	97.5
3-above	1	2.5
Total	40	100

Table 4 Number of other classes per day observe that, 72.5% 6 & above and 27.5% science teacher’s 4-5 other classes per day. The data indicates that maximum science teachers take 6&above classes per day. Number of science classes per day shows that, 97.5% 1-2 and 2.5% 3 & above take science classes per day. The data indicates that most of the science teachers take 1-2 science classes per day.

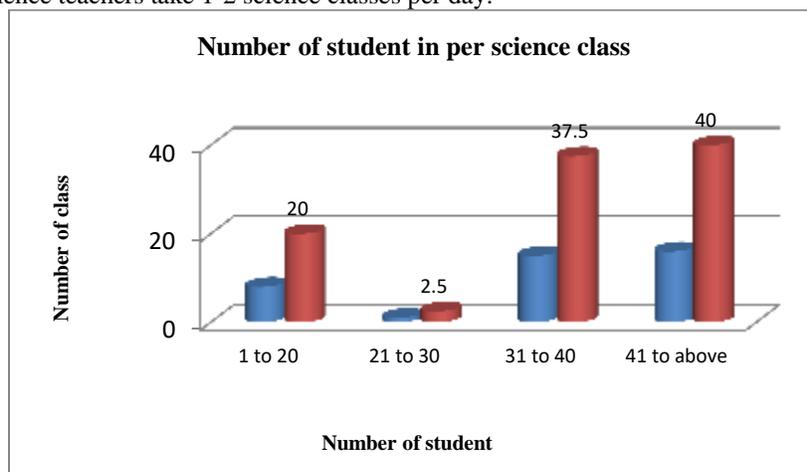


Figure 3: Number of student in per science class

Figure3 Number of students in per science classes describes that 40% science teachers opinion 41&above, 37.5% teachers opinion (31 to 40), 20% teachers opinion(1 to 20) and 2.5% teachers opinion(21 to 30) students in per science classes. The data indicates that, 41&above student in maximum science classes. The data also indicates that many of science teachers take more classes per day and more students in class; teacher cannot take proper preparation and delivered to every student, so it is the scenery of lack of quality education.

4. Method selection of presentation of class, number of classes more per day per teacher and taking different subjects by the same teacher:

Method selection, number of classes per day per teacher and number of student in per science classes are the important for science teachers and of this study. About this collected information are given on below figure 4

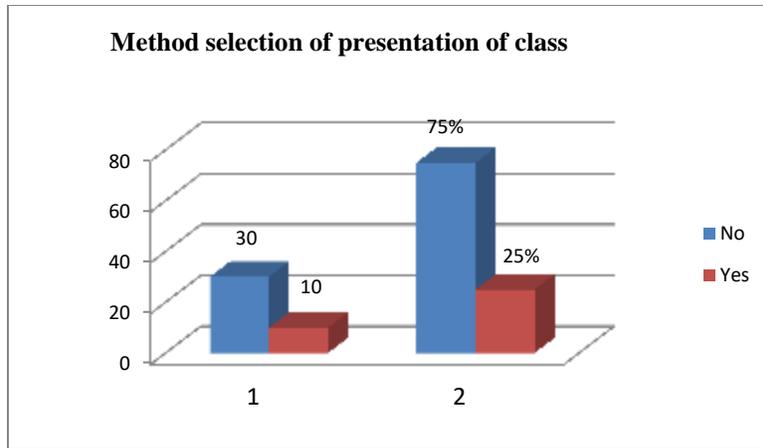


Figure 4 : Method selection of presentation of class

Figure 4 Method selection of presentation of class focus that 75% science teachers are no use science subjective method and 25% use science subjective method. The data indicates that maximum science teachers no use science subjective method. Most of the science teachers cannot select science subjective method.

Table 5 Numbers of classes more per day per teacher and taking different subjects by the same teacher

Item	Frequency (N)	Percentage (%)
Number of classes taking more		
No	10	25.0
Yes	30	75.0
Total	40	100
Taking different subject by the same teacher		
No	18	45.0
Yes	22	55.0
Total	40	100

Table 5 Number of class more per day per teacher prescribes that, 75% science teacher’s opinion number of class more and 25% science teacher’s opinion number of class not more. Take different subject by the same teacher shows that, 55% science teacher take different subject and 45% science teacher no take different subject by the same teacher. The data indicates that maximum science teachers take different subject. Table4.5 focus that many of the science teachers cannot take different subject, teacher feel shuffle. So, it is the main reason of lack of quality education.

5. Teacher don't know using technique of the learning materials in class time, they can't collect the learning material, number of student more in the class

Learning materials use, learning material collection and number of student per class are the important for science teachers and of this study. About these types of data are given on below table6 and Figure5.

Table 6 Teacher don't know using technique of the learning materials, they can't collect the learning material

Item	Frequency (N)	Percentage (%)
Teacher don't know using technique of the learning material		
No	34	85.0
Yes	6	15.0
Total	40	100
They can't collect the learning material		
No	27	67.5
Yes	13	32.5
Total	40	100

Table 6 focuses, about don't know using technique of the learning materials, 85% science teachers don't know using technique of the learning materials and 15% science teachers can using technique of the learning materials. Can't collect the learning material shows that 67.5% science teachers can't collect the learning material and 32.5% can collect the learning material. Maximum science teachers cannot select science subjective materials use and cannot collect proper science subjective materials.

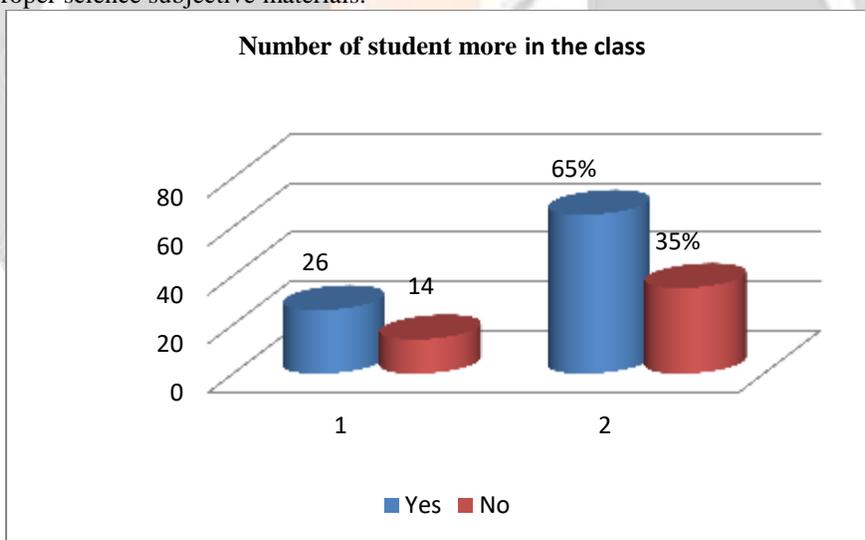


Figure 5: Number of student more in the class

Number of student more in the class describe that 65% science teachers' opinion number of student more in the class and 35% science teacher's opinion number of student not more. So it is causes of the lack of quality education.

6. Necessity of science training for teachers and availability of whiteboard, internet, multimedia, computer in the schools

Teachers training, use of whiteboard, internet, multimedia, and computer are the important for science teachers and of this study. Opinion of science teachers about these types of materials are shown in Figure6 and Table 7.

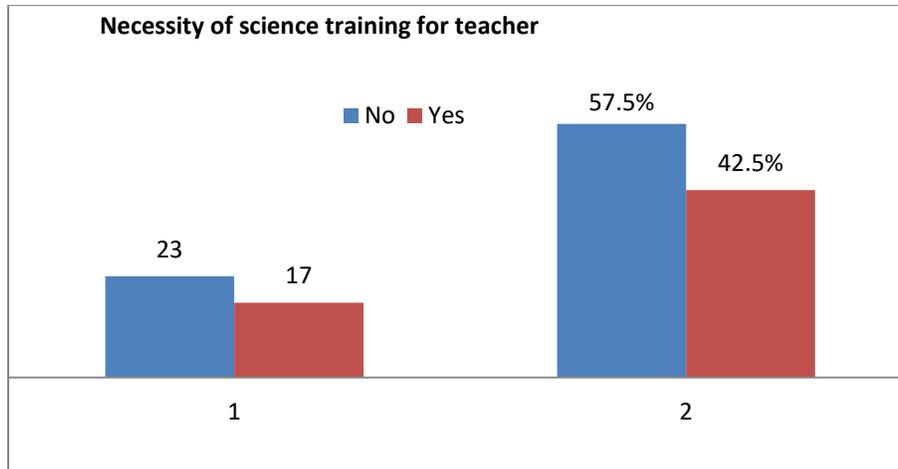


Figure 6: Necessity of science training for teacher

Figure 6 Necessity of science training describes that, 57.5% science teachers has no science training and 42.5% science teachers are trained on science subject. So it is the shortage of quality science education.

Table 7 Availability of whiteboard, internet, multimedia, computer in the school

Item	Frequency (N)	Percentage (%)
No	16	40.0
Yes	24	60.0
Total	40	100

Table 7 prescribes that, 60% science teachers opinion are whiteboard, internet, multimedia, computer not available in the school and 40% science teachers opinion are whiteboard, internet, multimedia, computer available in the school. Also table7and figure6 describes that, most of the science teachers are not having science training and maximum school has not available of whiteboard, internet, multimedia, computer facilities. So it is the gap of quality science education.

7. Expected class per day per teacher

Number of class of per day per teacher is the important for science teachers and of this study. Opinion of science teachers about expected class per day per teacher is given in below table8.

Table 8 Expected class per day per teacher

Item	Frequency (N)	Percentage (%)
1-2	3	7.5
3-5	36	90.0
6-above	1	2.5
Total	40	100

Table 8 expected classes per day per teacher prescribes that,90%science teacher’s opinion 3-5 class per day, 7.5% science teacher’s opinion 1-2 class per day, 2.5% science teacher’s opinion 1-2 class per day per teacher appropriate for quality education. This information expresses that, 3-5 class per day per teacher appropriate for quality education. So it was help for quality science education.

8. Duration of Science classes and satisfaction of science teacher

Duration of Science classes and satisfaction of science teacher are the important for science teachers and of this study. Opinion of science teachers about satisfaction as science teacher, Duration of Science classes are given in below table 9.

Table 9 Duration of Science classes is enough and satisfaction of science teacher

Item	Frequency (N)	Percentage (%)
Satisfaction as science teacher		
Less satisfied	14	35.0
Satisfied	23	57.5
More satisfied	3	7.5
Total	40	100
Duration of science class is enough		
Yes	17	42.5
No	23	57.5
Total	40	100

Table 9 satisfaction as science teacher prescribes that, 57.5% science teacher is satisfied, 35% less satisfied, 7.5% are more satisfied. Opinions of science teacher about duration of science class are, 57.5% science teacher says duration of science class is not enough and 42.5% science teacher says class time is enough. Maximum science teachers satisfied as a science teacher and they think science class duration is enough for quality science education.

9. Teaching technique for the science classes; like, lecture method, group work, question and answer, appreciation for right answer

This type of opinion is played an important role of this study. Opinion of science teachers about Teaching technique for the science classes; like, lecture method, group work, question and answer, appreciation for right answer is describes in table 10 and figure7.

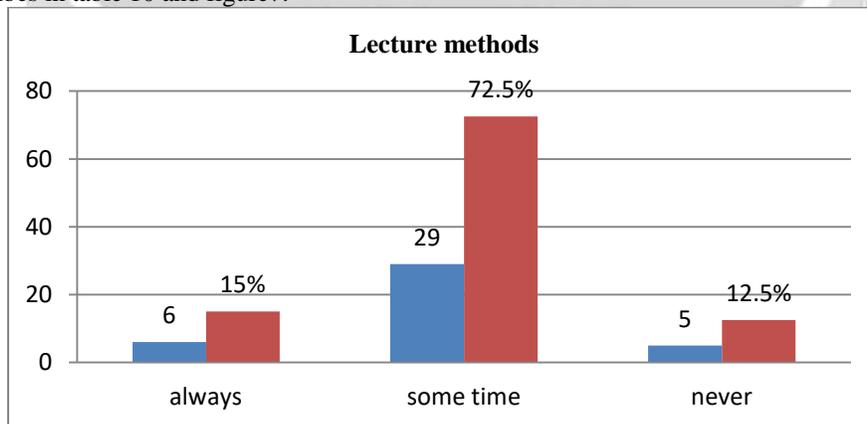


Figure7: Lecture methods

Figure7focused Lecture method describe that 72.5% science teacher some time play lecture method, 15%science teacher always play lecture method 12.5% science teacher never play lecture method. The data describe that maximum science teachers some time play lecture method. Many of the science teachers some time play lecture method, which is the lack of quality science education.

Table 10 Technique of group work, question and answer

Item	Frequency (N)	Percentage (%)
Group work		
Always	31	77.5
Some time	9	22.5
Total	40	100
Question and answer		
Always	32	80.0
Some time	8	20.0
Total	40	100

Table 10 group work prescribes that, 77.5% science teacher always playgroup work, 22.5% science teacher some time playgroup work. The data indicates that most of science teachers always playgroup work. Question and answer technique describe that, 80% science teacher always practice question and answer technique, 20% science teacher some time apply question and answer technique. The data indicates that maximum science teachers always play question and answer.

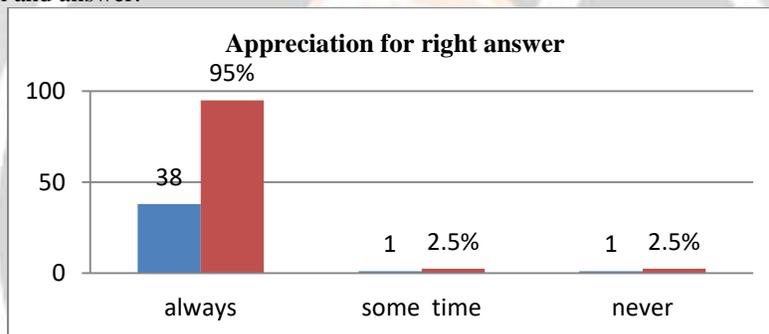


Figure 8: Appreciation for right answer

Figure8 describes appreciation for right answer prescribes that, 95% science teacher always appreciate to student, 2.5% science teacher some time appreciate to student, 2.5% science teacher never appreciate. This information describe that, maximum science teachers always appreciate for the students activities.

11. Teachers evaluate the student activities, equally justice among the all students and help to the weak students

This type opinion is the important role for science teachers and of this study. Opinion of science teacher’s evaluating the student activities, equally justice among the all students and help to weak students is shown in table 11 and figure9

Table11 Teacher’s evaluating the student activities and equally justice among the all students

Item	Frequency (N)	Percentage (%)
Evaluation		
Always	38	95.0
Some time	2	5.0
Total	40	100
Equally justice		
Always	36	90.0
Some time	4	10.0

Item	Frequency (N)	Percentage (%)
Evaluation		
Always	38	95.0
Total	40	100

Table.11 Evaluation describes that, 95% science teacher always evaluate the student activities, 5% science teacher some time evaluate the student activities. The data indicates that maximum science teachers always evaluate the student activities. They always evaluate by traditional system. Equal justice describes that 90% science teacher always equally justify among the student, 10% science teacher some time equal justify among the student. The data indicates that most of the science teachers always equally justice among the student.

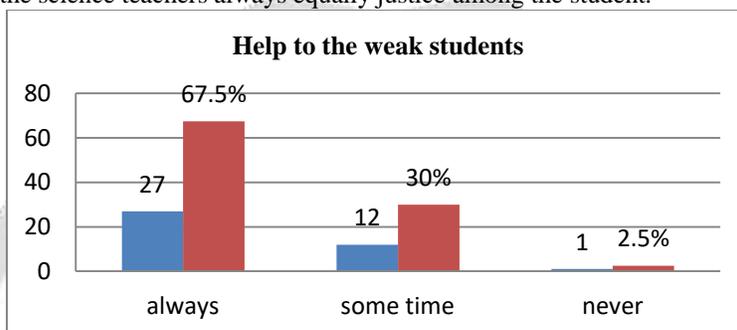


Figure 9: Help to the weak students

Figure 9 sometime help to weak student, 2.5% science teacher never help to weak student. The data indicates that, maximum science teachers always helpful to the weak students. So it is helpful for quality science education.

12. Whiteboard availability in the classroom

Whiteboard is the important for science class. Opinion of science teacher, head teacher, URCI, UEO, AUEO about whiteboard availability is given in below table12.

Table 12 Opinion about the availability of whiteboard in the class room

Item	Science Teacher (%)	Head Teacher (%)
Yes	65	82.5
No	35	17.5

From the table 12 results found that 65% science teacher’s opinion is whiteboard available in the school, 35% science teachers opinion is whiteboard not available in the school.

82.5.0% Head Teacher opinion is whiteboard available in the school, 17.5% Head Teacher opinion is whiteboard not available in the school.

The data indicates that maximum respondent gives opinion whiteboard available in the school, so it would be helpful for quality science education.

13. Multimedia availability and use in the classroom

Multimedia availability and use is the important for science teachers, head teacher, URCI, UEO and AUEO and of this study. Opinion of science teacher’s about that materials is describes in below table13.

Table 13 Multimedia availability and use in the classroom

Item	Science Teacher (%)	Head Teacher (%)
Yes	35	40
No	65	60

From the table13 results was found that, 35%science teachers opinion multimedia use in class time, 65%science teacher said multimedia not use in class time. The information is describes that, science teacher's opinion multimedia not use in class time. It means that teacher not use multimedia in class time.

60.0% Head teacher said that multimedia not use in class time, 40.0% head teacher said that multimedia use in class time.

The data describe that, most of the respondent gives opinion multimedia not use in class time which is the lack of quality science education.

14. Availability of internet in the school

Internet availability in the school is the important of this study. Stakeholder's opinion is given below table14.

Table 14 Availability of internet in the school

Item	Science Teacher (%)	Head Teacher (%)
Yes	35	30
No	65	70

From the table 4.14 results found that,65%science teacher's opinion is internet not available in the school, 35%opinion is internet available in the school. The data indicates that, maximum science teacher gives opinion is internet not available in the school.

70% Head teacher's opinion is internet not available in the school, 30% head teachers opinion is internet available in the school.

The data indicates that, most of the respondent gives opinion internet not available in the school which is the lack of quality science education.

15. Availability of learning material room in the school

Availability of learning material room in the school is the important for science teachers, head teacher and of this study. Stakeholder's opinion is given below table15.

Table15. Availability of learning material room in the school

Item	Science Teacher (%)	Head Teacher (%)
Yes	30	27.5
No	70	72.5

From the table15 results was found that,70%science teachers opinion is learning material room not available in the school, 30%science teacher opinion is learning material room available in the school. The data indicates that maximum science teacher gives opinion is learning material room not available in the school.

72.5% head teachers opinion is learning material room not available in the school, 27.5% head teachers opinion is learning material room available in the school.

From the above stated data refers that, most of the respondent said learning tools reservation room not available in the school, which express the lack of quality science education.

16 Availability of modern classroom in the school

Modern classroom is the important for science teaching-learning and of this study. 80% head teachers opinion is modern classroom not available in the school, 20% head teachers opinion is modern classroom available in the school. From the above stated data refers that, most of the school has no modern classroom. So it is the shortage of quality science education.

17 Opinion of science teachers about use of chart, model, apparatus, real object

Table16 science teachers' opinion about the use of chart focuses that, 62.5% science teacher some time use chart in class time, 37.5%science teacher always use chart in class time. The data indicates that maximum science teacher some time use chart in class time. About the use of model prescribes that, 60% science teacher some time use model in class time, 25%science teacher few times use model in class time, 15%science teacher always use model in class time. The data describes that, most of the science teacher some time use model in class time.

Table 16 Opinion of science teachers about use of chart, model, apparatus, real object

Item	Chart (%)	Model (%)	Apparatus (%)	Real object (%)
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Always	37.5	15	7.5	32.5
Some times	62.5	60	75	65
Few times	-	25	17.5	2.5

About the use of apparatus prescribes that, 75% science teacher some time use apparatus in class time, 17.5% science teacher few times use apparatus in class time, 7.5% science teacher always use apparatus in class time. The data focuses that, maximum science teacher some time use apparatus in class time. About the use of real objects focuses that 65% science teacher some time use real objects in class time, 32.5% science teacher always use real objects in class time, 2.5% science teacher few times use real objects in class time. The information describe that, many of the science teacher some time use real objects in class time, which is the shortage of quality science education.

18 Satisfaction of science teachers' about content

Satisfaction about the content of science book is the important of this study. Opinion of science teachers' satisfaction about content is given in below table 17

Table 17 Satisfaction of science teachers' about content

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

Table 17 express that 52.5% science teacher some satisfied about content of science book, 42.5% science teacher enough satisfied about content of science book, 2.5% science teacher not satisfied about content of science book. The data indicates that maximum science teacher some satisfied about content of science book which is the shortage of quality science education.

19 Use of the teacher's guide by the science teacher

Teachers guide use is the important for science teachers and of this study. Opinion of science teachers about teachers guide use is given in below table 18.

Table 18 Use of teachers guide

Item	Frequency (N)	Percentage (%)
Yes	37	92.5
No	3	7.5
Total	40	100.0

Table 18 Use of teachers guide describes that, 92.5% science teacher use teacher's guide, 7.5% science teacher no use teacher's guide. The data indicates that maximum science teacher use teacher's guide. It is the helpful for quality science education.

20 Physical punishments to the students for helping the science class room environment

Physical punishment is the important for science teachers and of this study. Opinion of science teachers about physical punishment is given in below table 19 and figure 10.

Table 19 Physical punishment to the students for helping the science class room environment

Item	Give physical punishment to student	
	Frequency (N)	Percentage (%)
Yes	1	2.5
No	39	97.5

Item	Give physical punishment to student	
	Frequency (N)	Percentage (%)
Yes	1	2.5
Total	40	100

Table19 give physical punishment describes that, 97.5% science teacher no gives physical punishment, 2.5% science teacher give physical punishment. The data indicates that maximum science no give physical punishment.

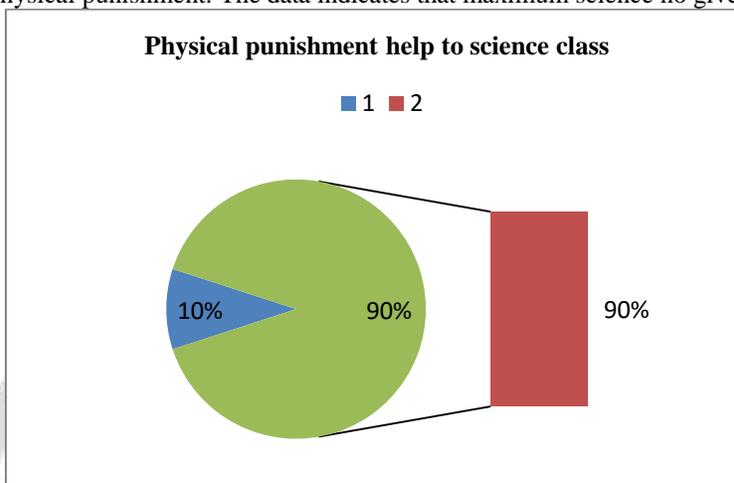


Figure10: physical punishment help to science class

Figure10 Physical punishment help to science class shows that 90% science teacher opinion physical punishment no help to science class, 10% science teacher opinion physical punishment help to science class. The data describes that maximum science teacher opinion physical punishment no help to science class. It is the help for quality science education.

21 Greetings exchange at class time

Greetings exchange at class time is the important for this study. Opinion of students about greetings exchange at class time is given in below table 20.

Table 20 Greetings exchange at class time

Item	Frequency(N)	Percentage (%)
Some time do	12	30
Always do	28	70
Total	40	100

Table 20 describes that, greetings exchange at class time focuses that 70% students' opinion science teacher always do greetings exchange in class time, 30% students' opinion science teacher some time do greetings exchange in class time. The data give about the idea that maximum students' opinion science teacher always do greetings exchange in class time. It is helpful for quality science education.

22 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 21.

Table 21 Home work gave and checking by the teacher

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

Item	Frequency (N)	Percentage (%)
Give home work		
Some time do	12	30.0
Home work check		
Never do	11	27.5
Some time do	23	57.5
Always do	6	15.0
Total	40	100

Table 21 Gave homework and check describes that, 70% students' opinion science teacher always give homework, 30% students' opinion science teacher some time give home work. The data focuses that maximum students' opinion science teacher always give home work. Homework check give that 57.5% students' opinion science teacher some time check homework, 15% students' opinion science teacher always check homework, 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.

23 Teacher use learning materials and teach cordially

Teacher use learning materials and teach cordially is the important for student and of this study. Opinion of students about use learning materials and teacher teach cordially is given in below table 22.

Table 22 Teacher use learning materials and teach cordially

Item	Frequency (N)	Percentage (%)
Use learning materials		
Never do	13	32.5
Sometime do	27	67.5
Total	40	100
Teacher teach cordially		
Sometime do	38	95.0
Always do	2	5.0
Total	40	100

Table 22 Teacher use learning materials and teacher teach cordially 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. Teacher teach cordially focus that 95% students' opinion science teacher some time teach cordially, 5% students' opinion science teacher always teach cordially. The data indicates that maximum students' opinion science teacher some time teach cordially. It is big gap of quality science education.

24 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 23

Table 23 Student asking the question to teacher and teacher concentration

Item	Frequency (N)	Percentage (%)
Student asking the question to teacher		
Never do	7	17.5

Item	Frequency (N)	Percentage (%)
Student asking the question to teacher		
Never do	7	17.5
Some time do	33	83.5
Total	40	100
Teacher concentrate about asking question		
Never do	4	10.0
Sometime do	27	67.5
Always do	9	22.5
Total	40	100

Table 23 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. 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.

Table 24 Number of teachers' post and serving teacher

Item	Frequency (N)	Percentage (%)
Number of teachers' post		
5-7	25	62.5
8-10	6	15.0
11-15	8	20.0
16 & above	1	2.5
Total	40	100
Number of serving teacher		
0-4	5	12.5
5-7	21	52.5
8-10	7	17.5
11-15	5	12.5
16 & above	2	5.0
Total	40	100

Table 24 number of teachers' post focus that, number of teachers post describes that, 62.5% school number of teachers post is 5-7, 20% school number of teachers post is 11-15, 15% school number of teachers post is 8-10, 2.5% school number of teachers post is 16 & above. The data indicates that, most of school number of teachers post is 5-7. Number of serving teacher focus that, 52.5% School number of serving teacher 5-7, 17.5% School number of serving teacher 8-10, 12.5% school number of serving teacher 0-4, 12.5% school number of serving teacher 11-15, 5% school number of serving teacher 16 & above. The data indicates that, most of school number of serving teacher 5-7.

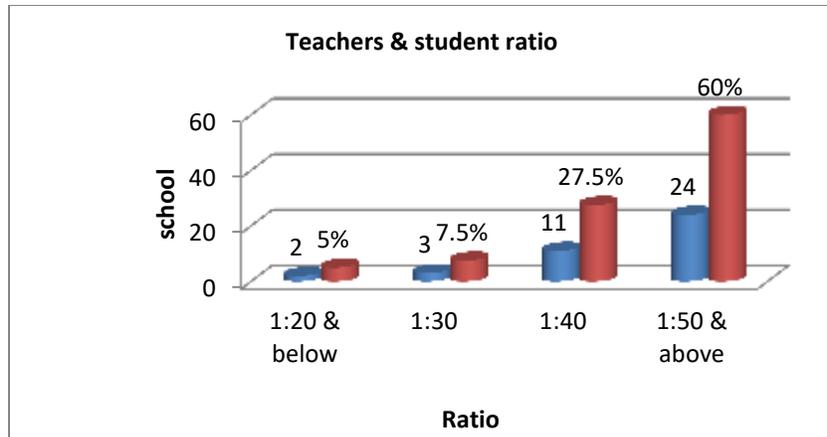


Figure 11 Teachers & student ratio

Figure 11 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.

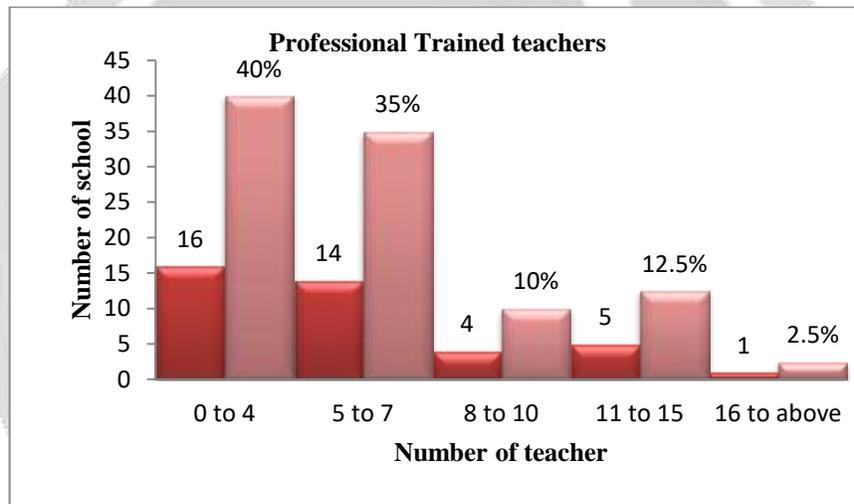


Figure12 Professional Trained teachers

Figure12express that, 40% school have number of trained teachers 0-4, 35% school have number of trained teachers 5-7,10% school have number of trained teachers 8-10,12.5%school have number of trained teachers 11-15, 2.5%school have number of trained teachers16 & above. The data indicates that, most of school number of professional trained teachers in school 0-4.

Available facilities about science book in the library, learning material and available room in the school.

Available science book in library, learning material room available is the important for this research works. Opinion of head teacher about available of these materials is given in below table25 and figure13.

Table 25 Available science book in the library

Item	Frequency (N)	Percentage (%)
No	37	92.5
Yes	3	7.5
Total	40	100

Table 25 describes that, 92.5%school has not available science book in library, 7.5%school has available science book in library. The data focuses the situation like that, most of the school has not available science book in library.

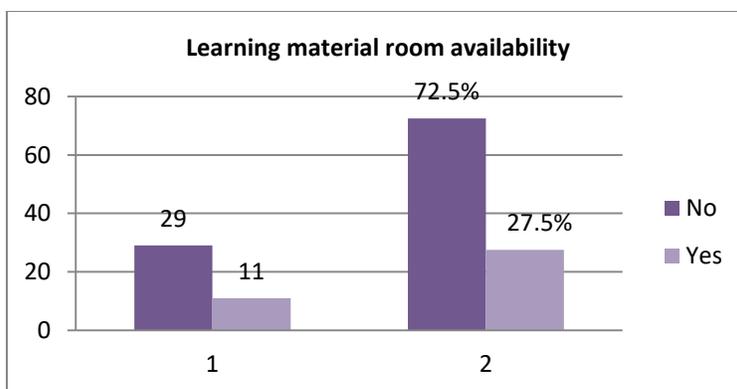


Figure13 learning material room availability

Figure13 focus that, 72.5% school has taught material room not available, 27.5% school has available learning material room. The data indicates that, most of school has not available learning material room. This type of situation means, there are huge gape for quality science education.

Stakeholders give some important suggestions for improve quality teaching-learning

- According to the majority of head teachers (70.59%), 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.
- 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.

Findings

Most of the science teacher is female. Female teacher took science class with patience and mother care in the schools. Maximum science teachers are within 31-40 years old. So there are young and energetic. Majority science teachers are graduates and post graduate. Another think is that, highest number of the science teachers has 11-15 years job experience. So, their experience and academic knowledge is sufficient for primary science class. Largest group of science teacher has professional training like C in Ed, Dip Ed and subject base training, but 55% science teachers have no training in science subject. So that, they have lot of pedagogical and other subjective knowledge, but they don't know science subjective technique, methods and about materials, apparatus use etc. That's why quality not ensures of science teaching learning in the primary school. Utmost of the science teacher not fully satisfied about content of primary science book. They think content and picture should be improve and give more clear guideline which on easy to understand to student and teachers. Maximal science teacher not always use science learning materials in the class time when it's necessary. As a result, student cannot clear understand about content and show creativity. It is one of the obstructions of quality science teaching and learning. Most of the school has no modern equipped classroom and internet access. It is the important fact for quality science education. Majority respondent gives opinion that, multimedia don't use at class time. They also said that, electricity not always available in the school. That's why teachers cannot give latest and more information about content within the class time. On the other hand maximum school use whiteboard instead of chalkboard. It is easy and comfortable for science teachers.

Most of the science teachers always evaluate by traditional system with the usual tools. Tools are always centrally supply within the district or sub district level. As a result teacher cannot choose proper learning material according to lesson. In that reason, quality science teaching and learning cannot reach to expected label. Maximal science teacher most time use lecture method. They cannot properly select science subjective method. When it necessary, they cannot sufficiently use practical, experiment, project or other scientific method. As a result, student cannot clearly understand about the content and express creativity. That means, this science teaching-learning is so far way from quality education. 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. Maximum science

teachers cannot select science subjective materials according to the content and technique of use of the materials. About teaching aids selection and use techniques training should be provide to them. Greater portion of science teacher takes different subject besides of science subject. Training should be providing to them about selection of learning aids and Technique of use according to the content. Maximal of science teacher takes different subject besides of science subject. So they cannot collect or select proper science subjective materials, teacher feel shuffle. Maximum science teachers conducted many class per day and they faced more number of students in the classroom. In that reason, teacher cannot take proper preparation about the content and delivered sufficient information to the student. Also they are failed take care to the weak students. That's why they are not able to ensure quality science education. Maximal science teacher think that physical punishment not help to science class. So, it is the positive sign for quality science education

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. Target of Bangladesh government is forty students per teacher. In contrast of the one teacher the average student teacher ratio in the developed countries is 13.7, in southern Asia (37.8), in western Asia (17.8) and the global average is 24.6,(Friedrich Huebler, 2008).
2. Subject based specialist teacher should be appointed. Otherwise at least subject based training should be available for all science teacher. 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, URCI, UEO and AUEO. A proper supervision can help to implement and maintain quality in teaching-learning. For this quality training is needed for supervisors.
4. Science teacher's opinion and beliefs about quality teaching learning were very good but their practices in the classroom teaching were different which should be minimizing by motivation.
5. The authority should be reviewed the teacher's upwards salary. Upliftment carrier path should be creating for them. Hardship allowances should be allocated for teacher motivate to hard work and implementation of quality science teaching and learning.
6. Chapter wise attractive and quality teaching aids can be supplied centrally. Because attractive and appropriate teaching aids can improve and prepare by experienced and expert resource persons, which is the difficult for primary teachers.
7. To encourage science teachers can be categorized and introduced prizes and certificates according to their performance.
8. The facilities of modern technologies should be available. Digital content can be prepared and supplied centrally.
9. Science class time is short, so science class time should be 50 minutes.
10. Teacher should be taking class with the lesson plan.

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.

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