

Role of Head Master of Secondary Schools on Effective Science Teaching: A Study in Darrang And Udalguri District

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Abstract:

Head masters of schools are considered essential part in education system to impact teachers' teaching commitment to improve classroom instruction for attaining quality education. This demanded the need of this study to investigate role of head master of secondary schools on effective science teaching at Darrang and Udalguri district. The study was guided by descriptive survey method. This study explores supervision quality of head masters and science teachers' perceptions of effective science teaching for the improvement of classroom instruction. The study was carried out from a population of secondary schools in Darrang and Udalguri district of Assam. A purposive sample of 40 head masters and 120 science teachers selected from 70 secondary schools from two districts of the state was used for the study. A research instrument tagged self- prepared questionnaire was used to elicit information from the teachers and head masters. The findings further showed that the classroom instruction is improved by the continuous supervision and monitoring of Head master of secondary schools. The effective of science teaching also impact by the supervision of Head master.)

Keywords: Effective science teaching, classroom instruction, Head master, Science teacher.

1. Introduction:

In the field of teacher education many scholars hold the premise that the quality of classroom instruction mainly depends on the teacher effectiveness. An effective teacher analyses the outcomes of the learning and invariably appraises his/her own teaching, makes changes when necessary and tests them in other classroom contexts. As Mahasan (1995) has said: "Teaching is certainly one of the oldest professions. Now a days the teacher builds up instruction especially with young ones and trains, molds and guides them for healthy growth and stable adult life. In school situations everything is meaningless unless associated with the teachers, he is the main dynamic force in the school ". An effective teacher always aware about the purpose of teaching and learning and education as a whole. To achieve those purposes that are there in mind, they needs to design and select the texts and appropriate methods. The effective teacher or teaching instruction should always draw the attention of students, they should use simple language, they should always be approachable, they should be sensitive towards learners' problems and the classroom instruction must be interactive. Again the environment of the school where they work also impacts the teacher effectiveness. The guidance of school heads, school management, library facility, language lab, science laboratory and other teaching learning material, facility of ICT (Information and Communication Technology), cooperative and friendly staff and the support of parents/ guardian greatly determine the effectiveness of any teaching. Teachers are one of the steering in any school and effective teaching is one of the pilot for school improvement. Effective teaching based on criteria for effectiveness. These criteria refer to the objectives of teaching in particular and of education in general. Visions about the criteria are the result of a political and social debate, although objectives of education have changed time to time, but language, reading and mathematics remain as the core studies. Creemers (1999: 51) To promote better student outcomes, teacher effectiveness should focus on student outcomes and the teacher behaviours and classroom

instruction processes. In a broader sense teachers adopt criteria that seek to encompass the duties that are seen to be part of the wider role that is rarely restricted to instruction only in the 21st century. In other countries along with India, a teacher's role has extended beyond the instructional or pedagogical role in the classroom. They may be facilitating their colleagues' teaching, engaging in broader leadership roles in the school, enhancing the quality of their teaching through their own reflection or engaging in professional development programmes. Teacher effectiveness is impacted by differences in their work, lives and identities that build their sense of professional identity in different professional life phases. In turn, teachers' sense of professional identity impacts their relative commitment and their capacities to manage these differences to support their teaching effectiveness.

For the scholastic activity, industrial activity, in society, for the student, and for strategic purposes, science has prime importance. The aims and goals of all these various kinds of science are well defined and doubtless, and are employed to achieve success. There is the difference between developing rocket technology and publishing high impact scientific papers, again this is different from discovering a new drug or solving the drinking water problem in our villages and towns. But, there is a common thing which links all these activities, and is very important for a critically large and competent scientific workforce. To become a scientist or scientifically inclined person of the next generation one needs to convey a modern and reasonable science education across a wide cross-section of youth. This is doomed to failure by attempting to separate science education from the rest of science. Scientific improvement is the identity of a cumulative & dynamic society. The scientific spirit is probably the best solution to ignorance, superstition and humbug. It inspires a judicious, systematic and numerical approach to life, rapidly entitles and enhances those who accept it in their lives.

At Secondary Level there are three purposes of Science Education :

- ✓ First, students can prepare themselves to study science at higher levels of education.
- ✓ Second, students can prepare themselves to enter the workforce, to run after occupations, and take up careers.
- ✓ Third, students can prepare themselves to become more scientifically literate citizens.

Effective science education can be accomplished through the efforts of well qualified, competent and effective science teachers. Depending on the necessities of the era, the aims and objectives of science education have changed very fast. The necessities are directly influenced on the educational system. Every country progresses its system of education to meet the challenges of changing times. India being a developing country, the teachers have the great responsibility of making the students more competent to stand with their counterparts in the developed countries and to make India economically independent. A science teacher should be capable, effective and spiritual to make real education possible, to increase the level of achievement. The teaching learning process should be based on situational factors, availability of resources, infrastructural facilities, curriculum, teaching learning process and examination pattern is that the different components of a Teaching-Learning system. As a member of the education system, a school head carries various duties and responsibilities which they must fulfil keeping in mind the goals and objectives of the teaching learning process and most importantly for the achievement of student learning. Each one has to play both generalized as well as specific roles in their respective domains of work while working in the education department. An administrator must look after the administrative matters whereas a school head needs to take utmost care of the institute where he or she works in.

There is increasing evidence that within each school, school head can contribute himself to improved classroom instruction by shaping the conditions and climate in which teaching and learning process is done (Pont.B. *et al.*, 2008). From a wide range of countries and school contexts, a large body of research on school effectiveness and improvement has consistently highlighted the pivotal role of school heads in making

schools more effective. In each single school, school head can come up with more to bring improvement in student's learning by molding the conditions and climate in which teaching and learning be processed. Beyond the school surroundings, Head master can connect and adapt schools to changing external environments. And at the school-systems school head can provides a bridge between external improvement and internal school improvement processes.

2. Material And Method

2.2. Significance of The Problem

The following points will justify the problem:

- 1) The study will bring out certain hidden qualities of head masters for improvement of science teaching in secondary sections.
- 2) The study will focus in assessing the head masters in supervising the effective science teaching which is most important for improving teaching-learning process.

2.1. Objective

1. To study the perception of Head masters on effective science teaching in improving classroom instructions
2. To study the perception of science teachers about the role of head teacher on effective science teaching.

2.3. Hypothesis

1. There is a significant role of Head masters on effective science teaching in improving classroom instructions
2. There is a significant relationship between Role of Head masters and its supervision on effective science teaching

2.4. Method

The suitable method selected for this study was descriptive survey method.

2.5. Sample

The population consisted of 70 nos of secondary schools from both Darrang and Udalguri district. The simple random sampling was used to gather the sample of 40 head masters and 120 science teachers from the selected secondary schools.

2.6 Tools

The research instrument was the self- prepared Questionnaire. This was made up of two parts. One sought for giving opinion on self –perception of the respondent i.e. science teacher. And other one sought for opinion of Head Teachers on effective science teaching. The respondents were expected to indicate their opinion by making a tick (√) on either of the scale of Never, Seldom, Quite often and Very often.

3. Result And Discussion

After data collection, analysis will be done by applying proper statistical methods and will interpret all the collected data.

Statement 1. Motivate students for learning

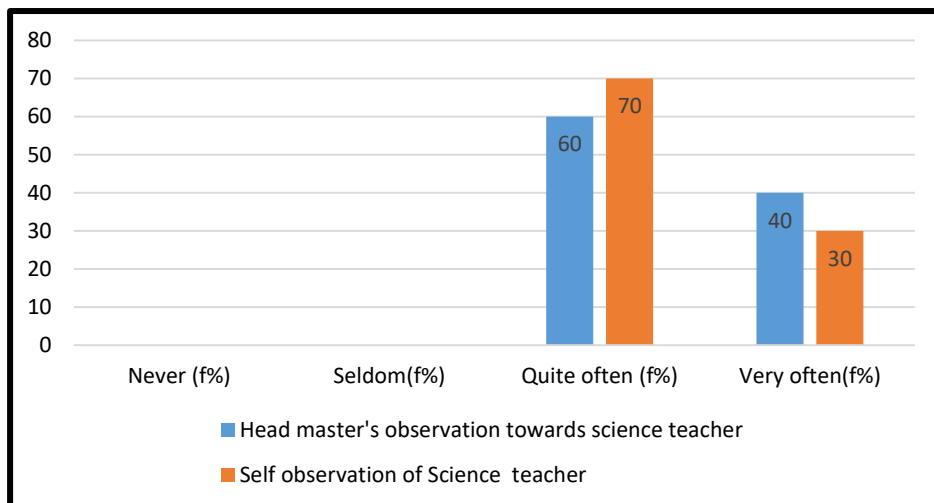


Figure 1

The figure 1 revealed that 60% of Head master gave their views that science teacher motivated students for learning time to time and 40 % views against the regular motivation. Again 70% Science teacher gave their opinion that they motivate students time to time and 30 % teacher regularly motivate students for learning. It shows that the head master’s observation is similar with the observation of science teacher against the statement.

Statement 2. Use proper teaching aids to make science teaching more effective

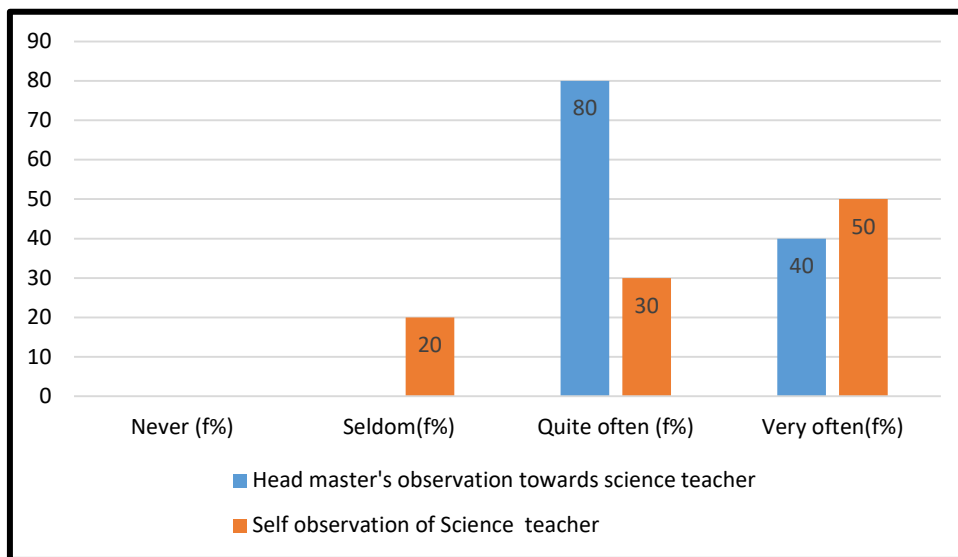


Figure 2

Figure 2 revealed that 80% of Head master gave their views that science teacher use teaching aid during teaching learning process time to time ,whereas according to own perception of science teacher only 30% use teaching learning material time to time. On the other hand teaching-learning material are used by the Science teacher regularly, according to 40 % Head teacher and 50% Science teacher. The other 20% science teacher used proper teaching aid sometimes.

Statement 3. Make remedial teaching whenever necessary

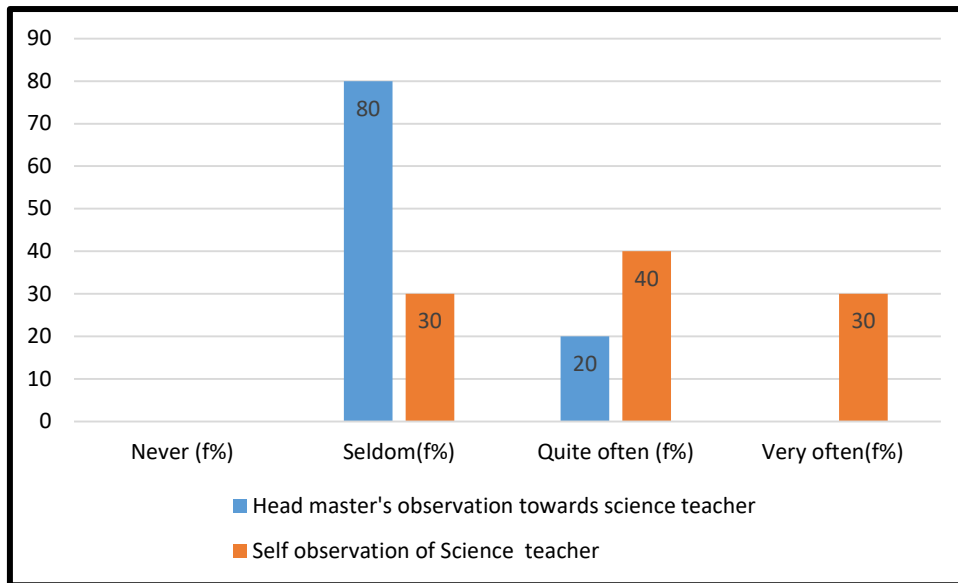


Figure 3

Figure 3 revealed that 80% of head master and 30 % of science teacher observed that remedial teaching was given to the students sometimes. Again according to 20% Head teacher and 40 % science teacher gave their views regarding time to time remedial teaching and 30 % science teacher regularly make remedial teaching whenever necessary.

Statement 4. Value interaction of students during teaching-learning sessions.

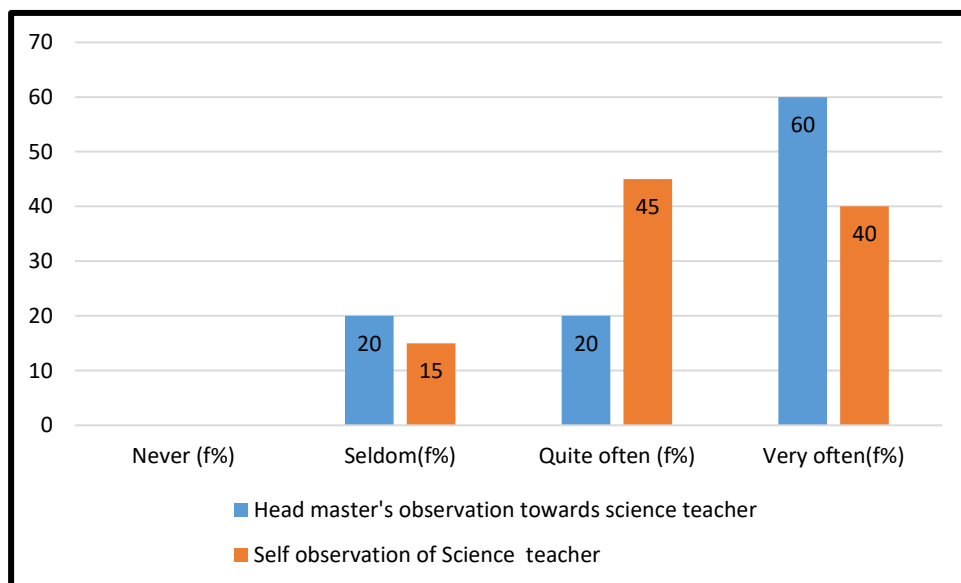


Figure 4

Figure 4 revealed that value interaction of students during teaching-learning sessions done regularly by the observation of 60 % Head master and 40% science teacher. 45 % and 15 % Science teacher done time to time and sometime respectively. Again according to 20 % head master, value interaction done by science teacher time to time.

Statement 5. Stimulates the intellectual curiosity of students during classes

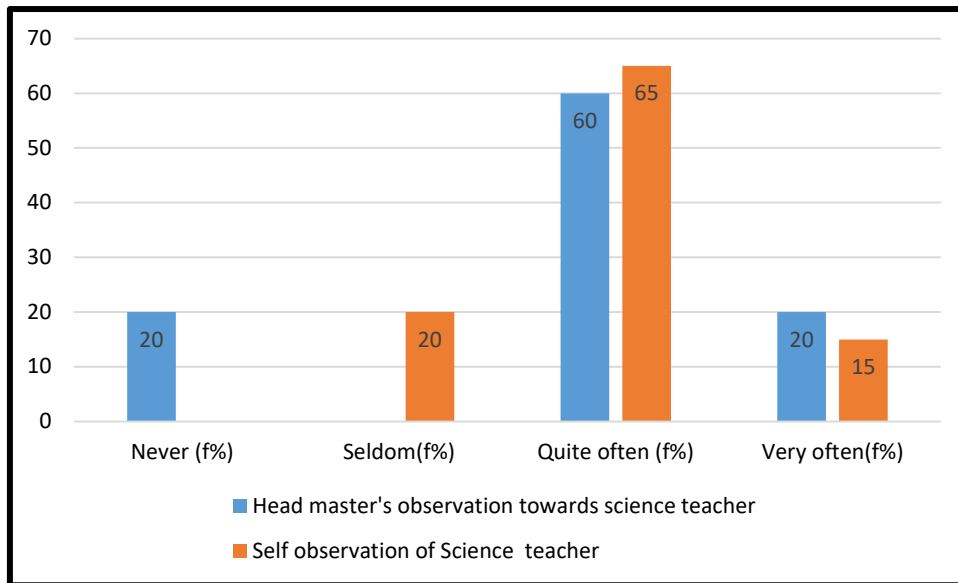


Figure 5

Figure 5 revealed that regarding the statement 5, 20 % of head master gave their opinion that teacher never stimulate the intellectual curiosity of students during classes and 20% science teacher gave their opinion that they sometimes. On the other hand according to 60 % head master and 65 % science teacher, they stimulate students quite often and according to 20% head teacher and 15 % science teacher they regularly stimulated the intellectual curiosity of students.

Statement 6. Conduct tests periodically to evaluate teaching

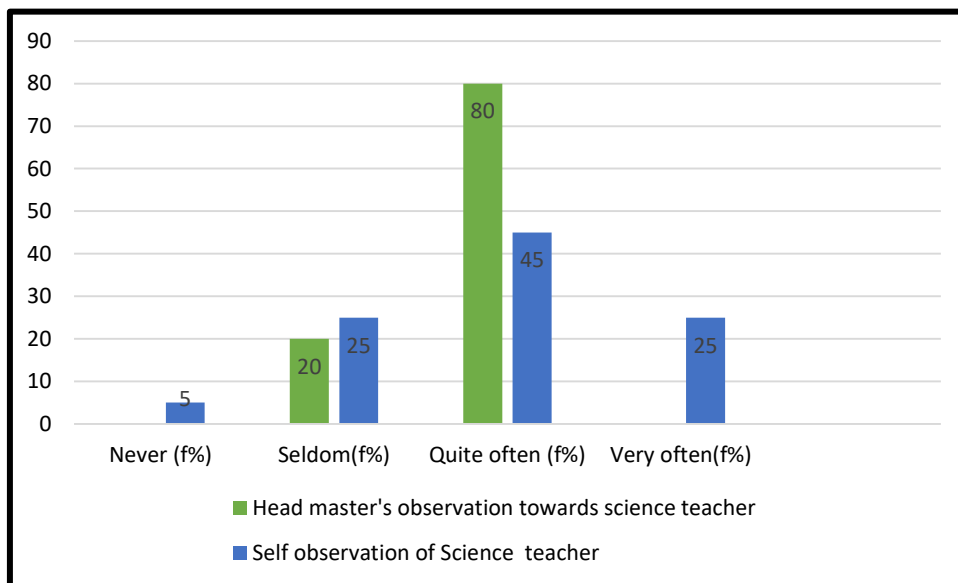


Figure 6

The figure 6 revealed that according to 5% head master, science teacher never conduct test periodically and according to 25% periodic test conduct regularly. On the other hand 20% head master and 25% science teacher gave their opinion that they sometime conduct the test periodically for evaluating teaching. It is seen a vast variation between 80 % head master and 45% science teachers observation that they conduct test time to time.

Statement 7. Guide students in completing their assignments

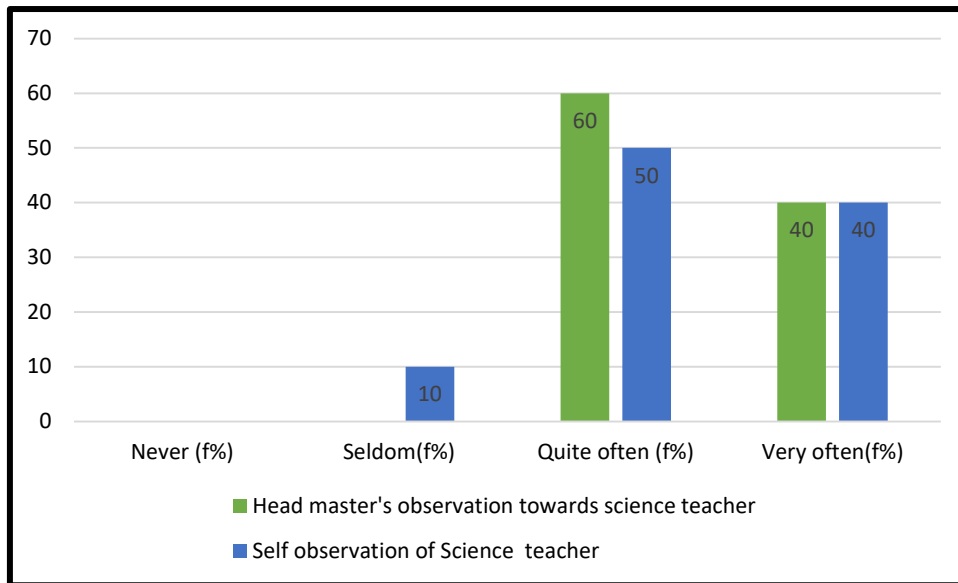


Figure 7

The above figure explained that 10% of science teacher guide students sometimes in completing assignments. According to the graph 60% head master and 50 % science teacher guide students time to time and 40 % both head master and teacher gave their opinion regarding regularly guide students in completing their assignments.

Statement 8. Encourage students to be punctual in their assignments

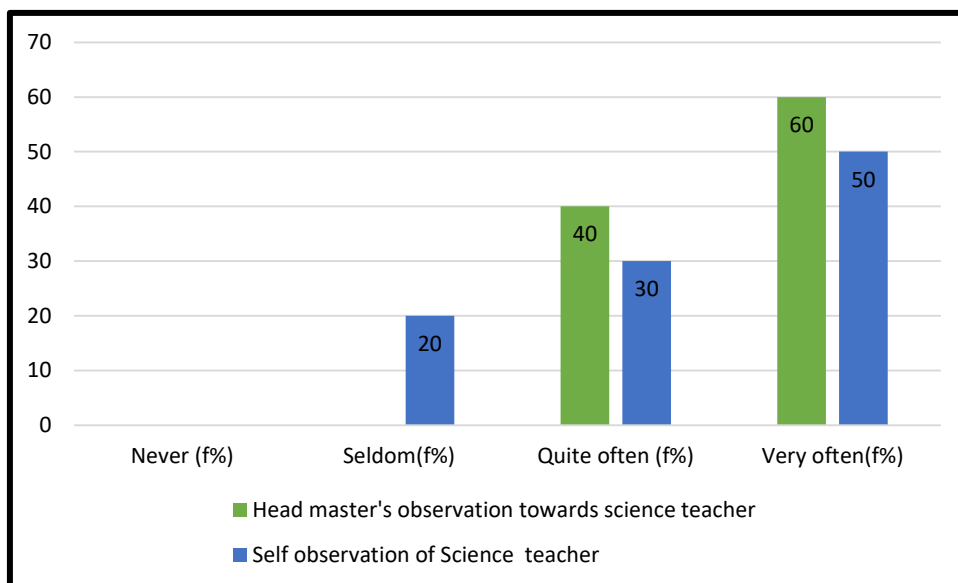


Figure 8

In the figure 8, it is revealed that Head master’s observation towards science teacher was good. 40% and 60 % of head master gave their opinion that science teacher encourage students time to time and regularly respectively. Again 30% and 50% science teacher encourages students time to time and regularly.

Statement 9. Concerned with the maintenance of discipline in classroom within the framework of democratic atmosphere

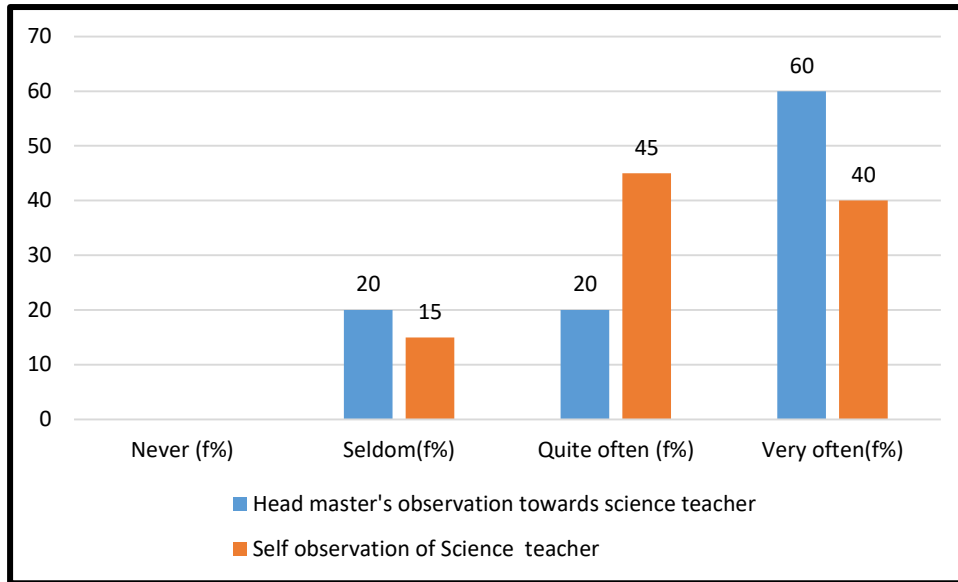


Figure9

The result of the figure 9 shows that views of both head master and science teacher opposes its other. 20 % Head master and 15 % science teacher gave their views as sometimes on the statement 9. But 20 % of Head master observed that science teacher concerned with the maintenance of discipline quite often but in against of this 45 % science teacher sad that they concerned time to time. Similarly 60% head master gave opinion that regularly concerned with the maintenance of discipline whereas only 40% Science teacher regularly concerned with discipline.

Statement 10. Help students in their reference work

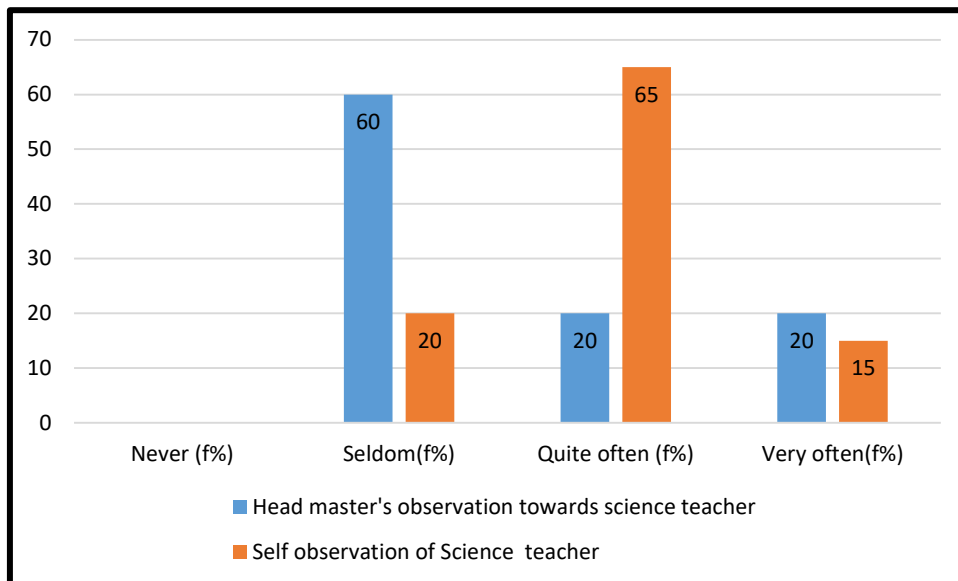


Figure 10

In the figure 10 the observations are varies in between head master and science teacher. 60% Head master said from their observation that teacher sometimes help their students in reference works and on the other hand 20 % science teacher said they sometimes. Whereas 20 % head master said time to time and another 20 % said that teachers regularly help students for reference work. In against of these views 65% science teachers said that they help students time to time and 15% said that they regularly help.

Statement 11. While teaching, ask more thought provoking questions than fact finding questions

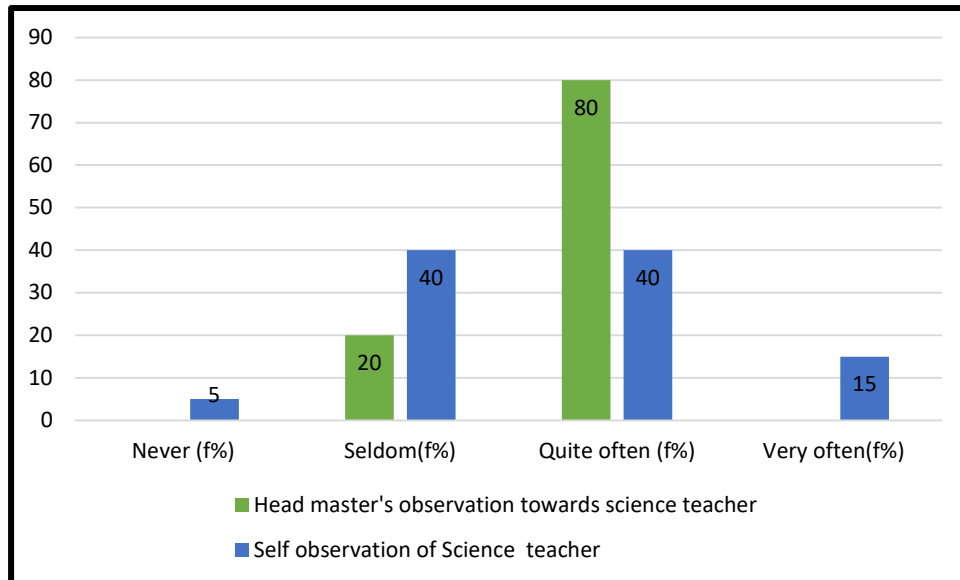


Figure 11

The figure shows that 5 % science teacher said that they never asked more provoking questions while teaching, 15 % said that they regularly asked questions, 40 % sometimes and 40% said that they asked questions time to time. On the other hand according to 20 % head master science teacher asked questions sometimes and for 80 %, science teacher asked questions time to time. Hear also head master opinion was different from science teacher self –perception. It may be the imagine of head master.

Statement 12. Take interested in co-curricular activities organized in the school.

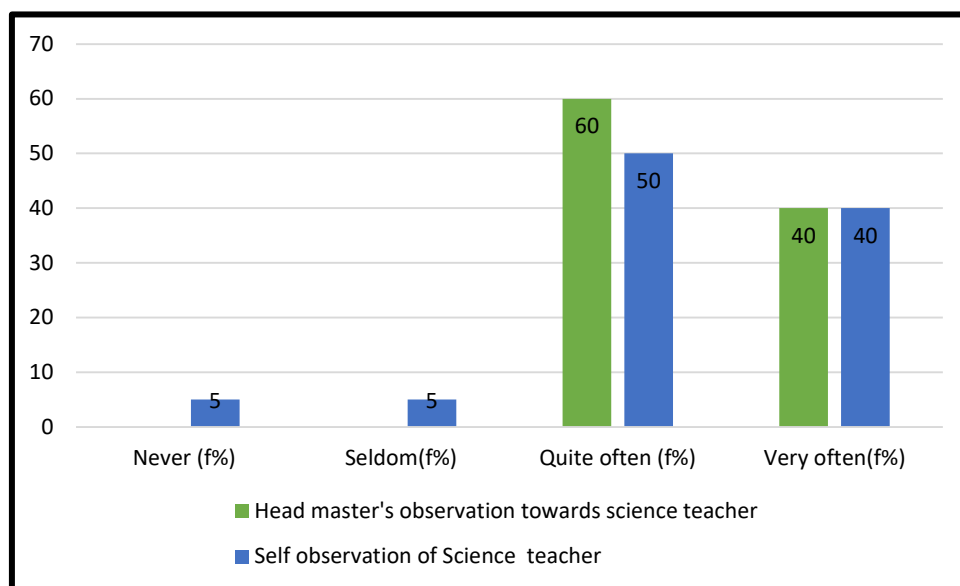


Figure 12

The figure shows that 5 % Science teacher never took part in co-curricular activities and 5% took part sometimes. Again 50% are quite often and 40% science teacher regularly took part in co- curricular activities. These observations are more or less similar with head master. 60% Head master said that science teachers took part in the co-curricular activities time to time and 40% said that teachers are regularly took part. Regarding regular interest in co-curricular activities both the views are similar.

Statement 13. Prepare lesson plan regularly.

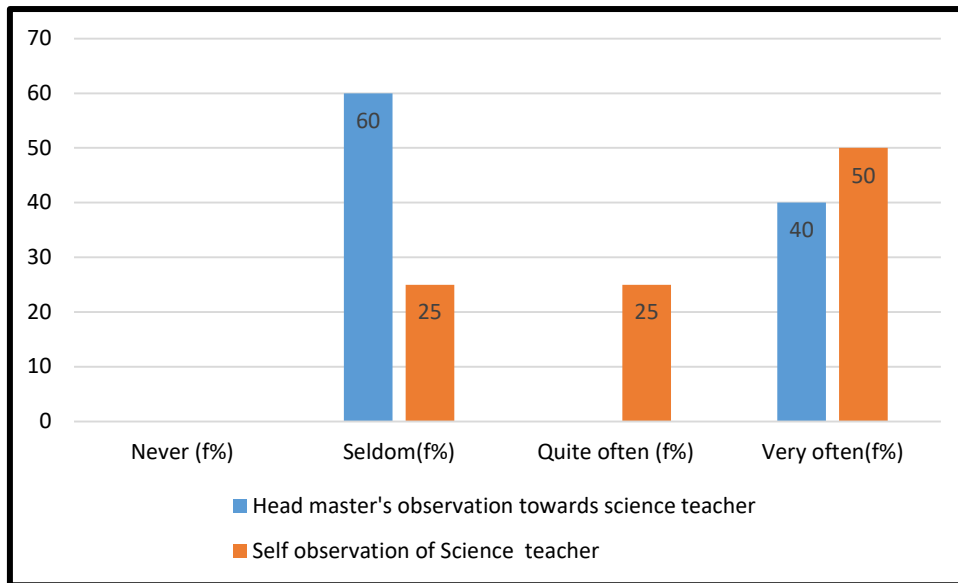


Figure13

The figure explained that according to 40 % head master, science teacher prepared lesson plan sometimes and 40 % said that they regularly prepared the lesson plan. Again by the self-perception of science teacher it is found that 25 % science teacher prepared lesson plan sometime, 25%time to time and 50% regularly prepared. Here in case of regularity the views of both Head master and science teacher are more or less similar.

Statement 14. I am fully conversant with the instructional objectives of the lesson

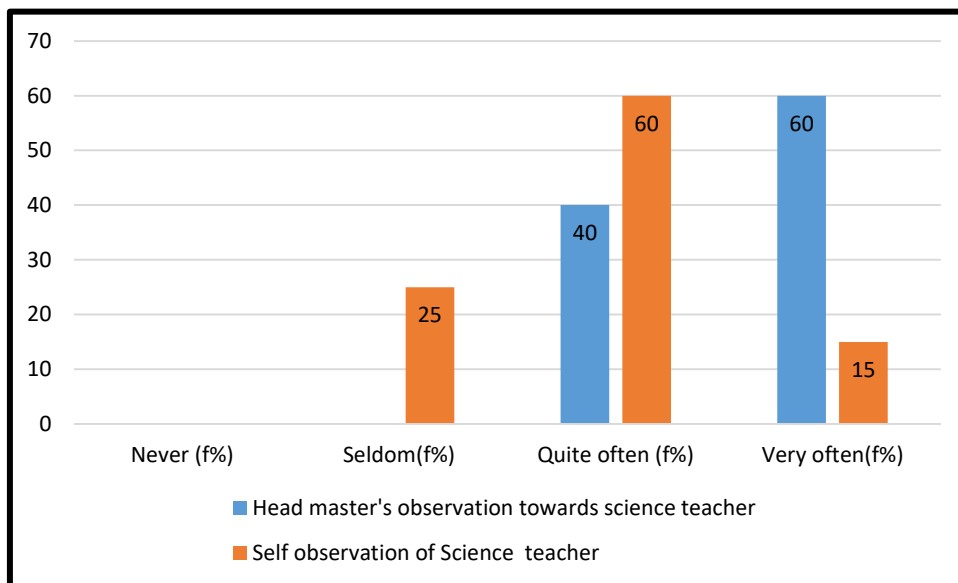


Figure 14

Figure 14 explained own perception of both head master and science teacher about their conversant with the instructional objectives of the lesson. Here 40% head master said that they conversant time to time and 60 % said they regularly conversant. On the other hand 25 % science teacher said they sometime, 60 % said time to time and 25 % said that they regularly conversant with the instructional objective of the lesson.

Statement 15. Communicate the subject matter clearly before the students.

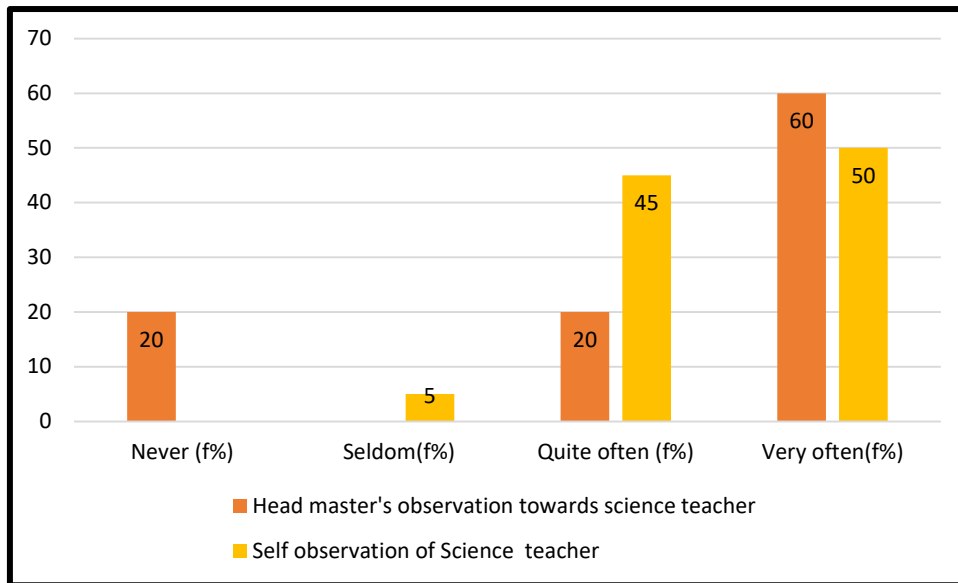


Figure15

The figure 15 revealed that according to 20% Head teacher, science teacher never communicate the subject matter clearly before the students. 20 % said that time to time and 60 % gave their views as regular communication with students regarding subject matter. Again according to science teacher own perception sometimes communicated by 5% teacher, time to time communicated and 50% science teacher said that they regularly communicated.

Statement 16. Give attention to each student individually.

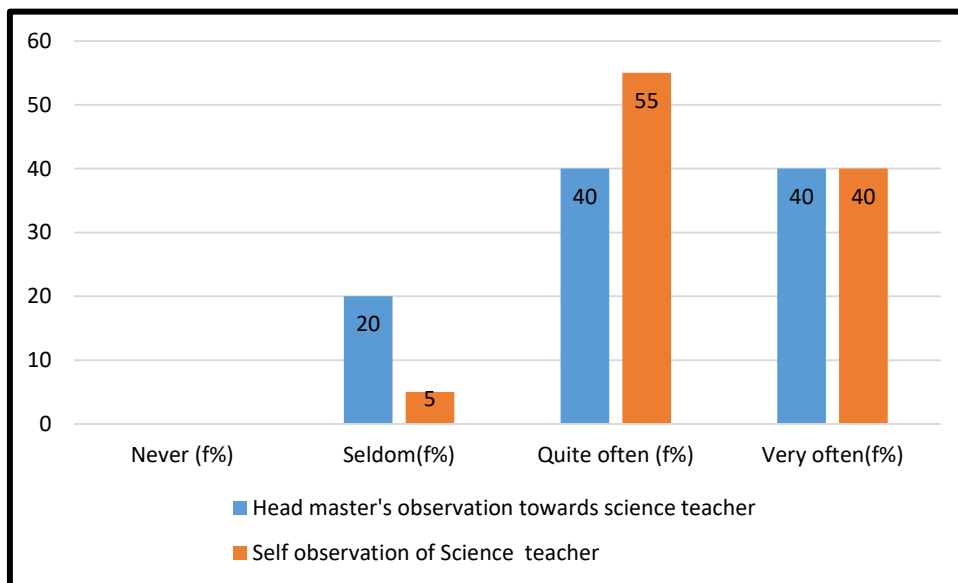


Figure 16

The figure shown the views of headmaster and science teacher regarding giving attention to each student by the science teacher. Here 20% head teacher viewed as sometime, 40% as time to time and 40 % as regularly. Whereas 40 % science teacher said that they regularly gave attention to the students,55 % said time to time and 5% said that they sometime. Both the observations are more or less similar.

Statement 17. Try to solve pupils' problem in the classroom.

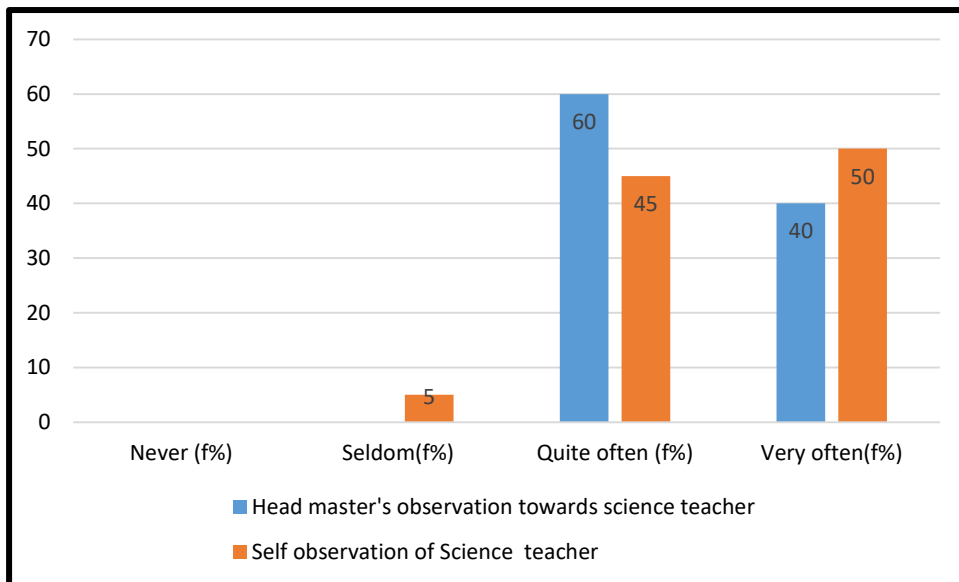


Figure 17

The figure reveals that 5 % of science teacher said by their self-observation that they sometimes try to solve pupils' problem in the classroom. The other 45 % and 50 % of science teacher try time to time and regularly respectively. Such as 60 % and 40% head master also have given their views that science teacher try to solve pupil's problem time to quite often and regularly respectively.

Statement 18. While teaching, use examples from daily life situations.

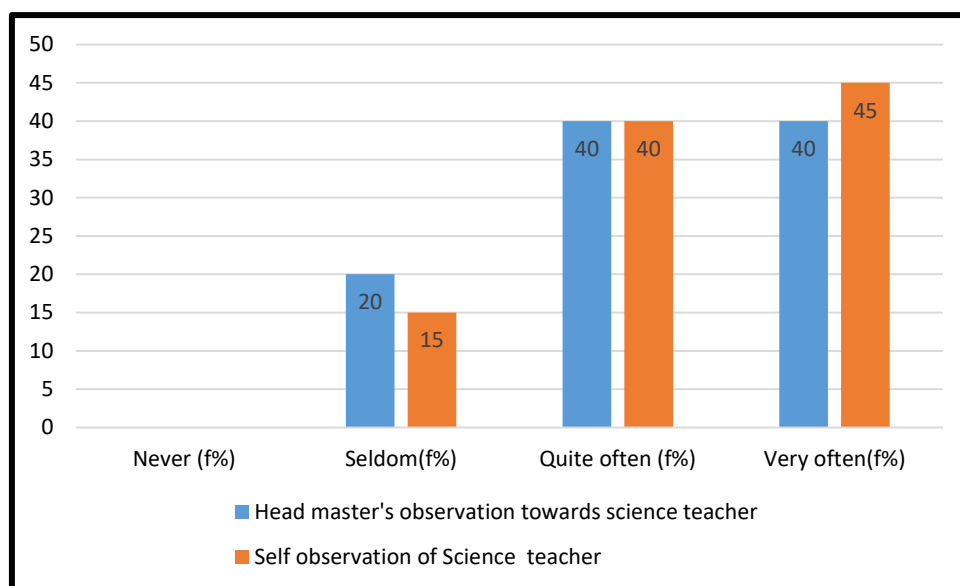


Figure 18

The figure explained that 20 % head master said that science teacher used examples from daily life situations sometimes. Again 40% head teacher said that they used time to time and another 40 % said very often used examples from daily life situations. The science teacher's views were also as like with the head master. 15 % said sometimes, 40% said time to time and 45% said that they used examples from daily life situations while teaching.

Statement 19. Listen patiently, even the irrelevant, question of the student and try to solve them.

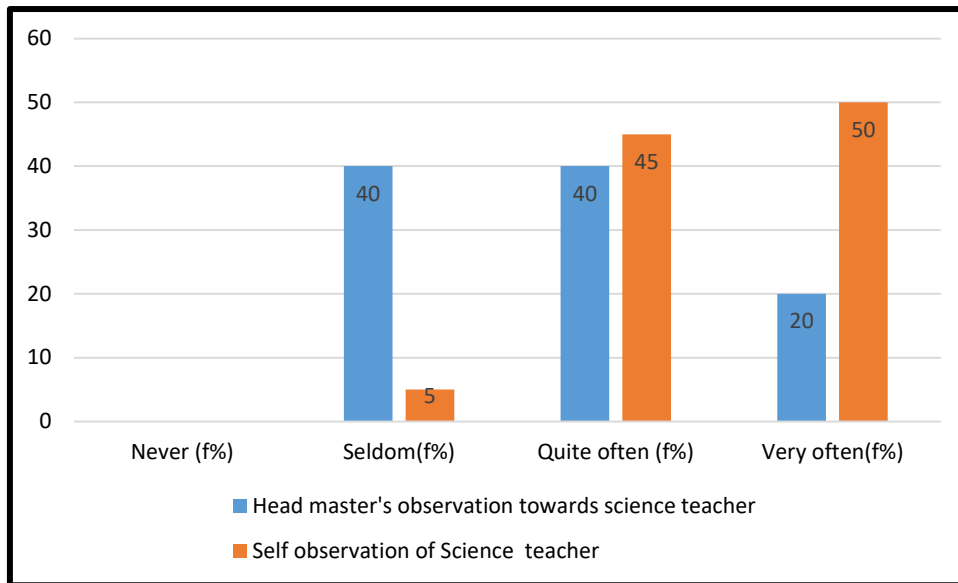


Figure 19

The figure shown that science teacher listen students question sometimes by the views of 40% of head master. Again 40% said they listen time to time and another 20 % said that science teacher listen patiently, even the irrelevant, question of the student and try to solve them regularly. Whereas in case of science teacher’s self-opinion 5 % teacher listen sometimes, 45% teacher listen time to time and 50% science teacher Listen patiently, even the irrelevant, question of the student and try to solve them.

Statement 20. Besides teaching science, have the ability to teach other needed subjects like current events, general knowledge etc.

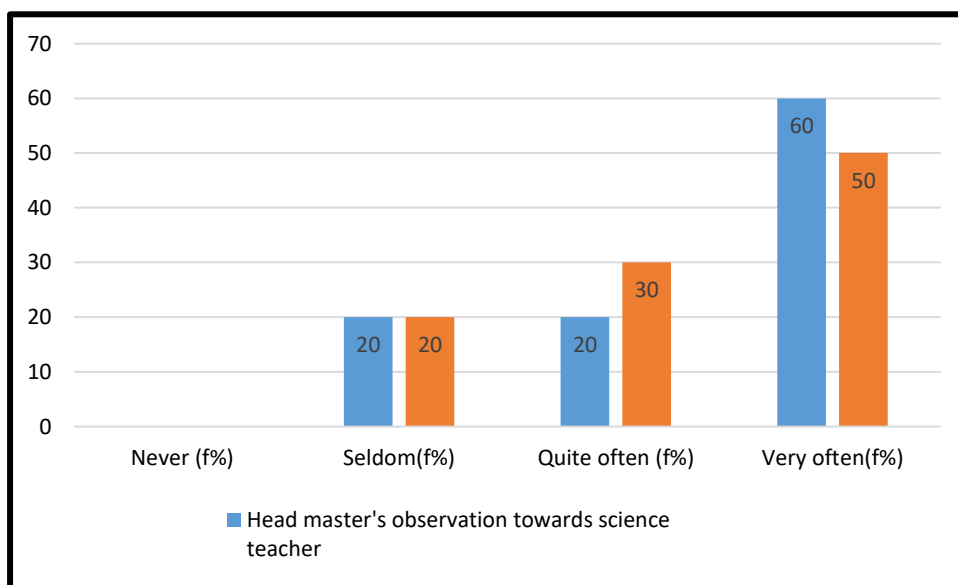


Figure 20

The figure 20 revealed that from the observation of both head master and science teacher it is found that 20 % head master and 20 % science teacher said that sometimes they discuss the other subjects .On the other hand 20% head master said that some science teacher have the ability to teach other subjects, again 60% said that most of the science teacher have the ability to teach other needed subjects besides science. As such 30 % science teacher said they teach time to time and 50% said they regularly teach other subjects like current event, general knowledge besides teaching science.

4. Conclusion

After analysis the data collected from the Head masters and Science teachers by using the questionnaire it is found that head master's role is important to improve the classroom instruction. In some cases head master's expectation is more but actually in the practical field it was not happened. For e.g. Regarding motivation of students, value interaction of students during teaching-learning sessions, encourage students to be punctual, concerned with the maintenance of discipline in classroom, communicate the subject matter clearly, have the ability to teach other subjects besides science etc, head master didn't give proper attention towards the classroom instruction and guide the science teacher properly. On the other hand in some sectors like using of proper teaching aid during science teaching, guide students in completing their assignments, help students in their reference work, take interest in co-curricular activities, prepare lesson plan regularly, give attention to each student individually, try to solve pupil's problem in the classroom, use examples from daily life situations while teaching, listen patiently to the students, etc. head master performed his leadership role. Head master regularly observed the teaching-learning process of science teacher and its effectiveness which improved the classroom instruction. Henceforth the self-perception of science teacher and observation of head master were similar in some points of classroom instruction. From the analysis it is also found that there is a significant relationship between Role of Head masters and its supervision on effective science teaching. In the study it is shown that the science teaching is become more effective by the regular supervision of the head master. The continuous supervision of head master is very much necessary to improve the classroom instruction. From the study it is also found that the effective science teaching is also characterized by student-centered activities associated with students being attentive, reading notes, doing homework, asking and responding to questions and engaging in regular hands-on practical inquiry-based activity and carrying out their own observations among others etc.

The implication of the study is to see the role of head master of secondary schools on effective science teaching: a study in Darrang and Udalguri district. The results showed that the classroom instruction is improved by the continuous supervision and monitoring of Head master of secondary schools. The effectiveness of science teacher is also impact by the supervision of Head master. Science teaching can be more effective by the proper guidance and monitoring of the head master.

A head master is also recognized as chief executive in improving classroom instruction and achieving significant results in education. The head master of schools should have some qualities for effective management of schools, along with teachers who are dedicated themselves to professional commitment to ensure effective teaching and learning. The effective science teaching, to some extent, is the result of science teacher effectiveness. More effective science teacher, that means more effective learning. There has been a little focus in assessing the role of head master of schools in supervising science teaching effectiveness which is one of the key factor for achievement and improvement of science teaching in secondary schools.

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