

Interaction Between Teacher and Students in Virtual Classroom

- Khadak Raj Adhikari

Abstract

Several school and colleges of Nepal have adopted online and virtual teaching instead of physical class during the pandemic situation of covid-19. The main objective of this action research is to find the interaction between teachers and students in virtual classroom. 161 students have been taken as sample from different grades 5,8,9 and 12 from the school of Gandaki Province. During the virtual class, students neither responded the teacher nor involved in the classroom interaction. After the regular treatment for couple of months, in comparison to the initial phase the remarkable improvements were seen in the student's participation, attendance, assignments and classroom interactions in the virtual classroom.

Introduction

During my 20 years of teaching mathematics, I have been facing many challenges regarding classroom interaction. The classroom interaction plays the vital role while dealing with students and teaching mathematics (Brown, 2014). There are many challenges which I have faced during my teaching especially in construction of teaching materials, preparation of solid and digital materials and classroom management. I have unique style of teaching and engaging students with interactive way. During my class, students worked together, with discussion, collaboration in democratic way. But most of the teacher felt that the quiet and silent classroom is good (Budhathoki, et al., 2016). It means that there no interaction with the teacher. Nepalese classrooms are mostly dominated by lecture method and less chances given to participate in the classroom interaction (Panthi, & Belbase, 2017). As a result, the achievement and interest towards mathematics is decreasing.

Most of the educational institution of Nepal has been shutting down due to the

pandemic situation of Covid-19 (Dawadi & Simkhada, 2020). Government of Nepal, Ministry of education, Science and Technology has decided to run the teaching and learning by alternative method (Ministry of EST, 2020). Several schools have been running online class as an alternative way of teaching and learning process. Gandaki Boarding School has also decided to run online classes during the pandemic situations. I had been faced many challenges for the preparation of digital lessons though I have been facilitating many teachers about the preparation of digital lesson plan and teach virtually. It was really difficult to prepare mathematical lesson, PowerPoint presentation, animated audio-visual and animated quizzes. This was the first experiences for school as well as me to run and look for the outcomes of online classes in the history of school. The teachers and students accepted the use of modern technology system in education (Momani, et al., 2017). So, the students and teachers are highly interested and tested their online lessons via meet and, assignments though google classroom. Initially, the presence of

students was low because of various problems like electricity, devices, internet and proper skills to handle online classes. The students' responses towards virtual classes were good but gradually some days their responses and interaction with teachers is being less.

This action research has been done in Gandaki boarding school, lamachaur, Pokhara Nepal where I am currently teaching at this school. From the beginning of the academic session 2077, I have taken virtual class of grade 5, 8 and 12 of mathematics. After few months, adding one more class of grade 9. Grade 5, 8 and 9 has number of students 42 in each class and 35 students in grade 12. In average 161 students were learning online classes with me. The main objective of this research is to increase the teacher- student interaction in virtual classroom. This research is aimed answer the research questions; why do many students do not interact with teachers and how can teacher-students interaction be increased in virtual classroom?

Problems

During the virtual class, especially senior students neither respond the teacher nor involve in the classroom interaction. They never asked the question except few students. I wanted to take the little feedback of lessons from the students but only few students responded. In case of grade 8, a bit more students responded but overall, not satisfactory. But in grade 5, the student's interaction was satisfactory. But some times when I ask about the classwork and homework, the students left the class.

Teachers have the primary responsibility for bringing students into classroom activities and for establishing the good relationship and feeling of the classroom atmosphere (Englehart, 2009). So, I always appreciate my students to involve in the interaction to demonstrate and communicate

in the mathematics classroom. Likewise, I want the students to ask questions, make 'comments and to respond by raising hand on meet. In case of grade 5, the students are much more encouraged and participated in interaction. Initially I asked about their home assignment. They used to respond nicely and interact effectively. Some students used to show their assignment using their cameras. Unfortunately, very few students left the meeting when I ask about home assignment. The students of grade 5, speaks honestly and they responded innocently. A small text of classroom interaction has been transcribed below.

Teacher: Hello students, have you done your assignment?

Students: Yes, sir we have done.

Teacher: Students A have you done your homework?

Student A: Yes sir, I have done.

Teacher: Can you show me using camera?

Student A: Ok sir have a look.

Teacher: Students B can you show your homework?

Students B: Sir my camera is not working but I have done.

Teacher: Its ok, thank you.

Teacher: Student C can you show your assignment?

Students C: Sir.... I have not done.

Teacher: Why?

Student C: Forgot.

Teacher: Can you do it today and show me tomorrow, ok?

Students: Yes sir.

Teacher: Students D have you done your assignment?

Students: Sir he/she left meeting.

This conversation goes up to 5/7 minutes. After that the class starts with the interaction with students. And a small audio has been transcribed and presented

below.

Teacher: Hello students, can you solve the equation? $x+30^0=90^0$?

Students: Yes, sir we can do the answer is 60 degree.

Teacher: How can you find 60 degree?

Students: Sir $60 +30=90$ degree.

Teacher: yes, you are right.

Teacher: Student A can you say what is the value of x?

Students A: sir 60 degree.

Teacher: You are right but how can you find 60 degrees?

Student A: sir,..90 minus 30 then 60 comes.

Teacher: You are absolutely right. Now, students B can you say?

Students: sir.....he/she left meeting.

In case of grade 5, the classroom interaction is good however there is still problem for responding who have not done assignment. Likewise, those students who do not want to participate in the classroom they just left the meeting. Still, some of the student seems present in the class and do not respond in the interaction at all.

In case of grade 8 and 9, very few of the students responded in the classroom. Other students did not respond to the teacher's questions and neither they ask any questions to the teacher nor participate in the interaction. During the class time I used to ask the assignments progress. Very few students responded. Likewise in the classroom teaching, I ask about the previous lesson's feedback, the condition is same. When the lessons go forward, the students do not speak at all. Similarly, in grade 12 also the same case, no body responded in the beginning. During the whole class, few students ask the question if they did not understand the lesson. After completing one slide in PowerPoint, I used to interact like this;

Teacher: Any problem?

Students:(no response)

Teacher: Shall I go forward?

Students: yes (some respond in chat box).

During the class, I asked few other questions in which there was no response and reaction from the students. I speak myself describing the lesson. Finally, I reminded the assignment and said thanks for your participation. In the next day, when I ask about the assignments but few of the students responded but other do not.

Finally, from the main problem of virtual classroom there is less interaction between teacher and students in mathematics classroom. I felt that the lessons were long and quiet boring for students, less audio-visual materials in the lesson. In addition, the students have faced various problems like device problem, internet problem and electricity problem so that they cannot participate in the classroom interaction. I feel that to make the mathematics class more interactive and effective, students' participation in the interaction is must and need to do some action plan to improve this situation.

Implications

After investigating the problem, I felt that it is quite serious and need to find out the solution as soon as possible. Firstly, I made my class more interactive, enjoyable, attractive and students centred so that students paid more attention towards virtual class. In some classes, I request students to prepare some materials themselves and present in the class. Secondly, I started to take the attendance in the beginning or middle of the class or the last of the class. So, the students are supposed to respond orally in the classroom. During the class, I made a plan to call students with their names to respond turn wise to the subject matter. Sometimes, I let them questions and

ask the answer orally in the classroom as class participation. Likewise, I requested students to answers of specific questions in the chat box and that was granted as internal assessment marks. Additionally, I made mathematics quiz and interacting in the class. I had allocated 10 marks as internal marks of class attendance and other 10 marks for home assignment and classroom interaction.

In grade 5, I linked mathematical problem in to daily life activities so that student's curiosity might increase. Likewise, while setting the word problem, linking with their favourite cartoon characters. This strategy really encouraged students to read and interact with the answers. Finally, the project work has been given to students and letting them to present in the classroom and ask comment from their friends. The telephone conversation has been done with the parents to respond about the student's attendance.

Findings and Suggestions

The school has run physical classes after the long break of Dashain and Tihar holiday for two and half months. Again, second phase of Covid-19 has been spread and schools has decided to take online classes. I started to take the attendance of students displaying to them awarding 1 marks of each day. If somebody is absent then called with parents about the cause of absentees and the attendance record is sent to the concerned level supervisor. The supervisor has followed up the students and their presence were good in final term. Likewise, calling students at the middle of class with their names to respond the answers. If they respond awarding marks showing them. This strategy worked a lot. Likewise showing the assignment progress from google classroom, increased

their interaction. If they have done work regularly and awarded as internal marks. I asked them do the problem in copy and capture picture and let them share their work. In the higher classes asked them to make some presentation as project work and presenting in class and commenting by other friends. These final techniques increased the classroom interaction in mathematics. Figure 1: shows that the overall classroom interaction report before and after the action research in which students' interaction was increased from 48% to 80% in grade five, 36% to 68% in grade eight, 28% to 55% in grade nine and 15% to 36% in grade twelve after the treatment.

I would like to suggest school administration to follow-up students those who do not attend and leave the virtual class. Regular follow-up and supervision of virtual classroom from principal, vice principals and supervisors are necessary. The role of parent is important for the supervision of virtual class of their children. So, they should guide, support and supervise and observe all the activities. The parents are supposed to stay with their children during the virtual classroom. More over other subject teachers are suggested to do further research in interaction between teachers and students in virtual classroom.

Re-plan

Comparing to the initial phase and final phase of online classes, the improvements were seen in the student's participation, attendance, assignments and interactions but further action research is necessary for remarkable change. This action research will be helpful for the improvement on the mathematical interaction between teaches and students. Finally, re-plan and the further

research is necessary, and decided see overall improvement on student's mathematics outcomes.

Author's Biography:

Khadak Raj Adhiakri is Mathematics Teacher in Gandaki Boarding School, Pokhara, Kaski. Currently he is M.Phil. Scholar in Nepal Open University. He has published many papers in different reputed journals. He is interested in research in Mathematics Education.

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