

## **Improvement of Students' Assignment Habit in Mathematics: An Action Research**

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### **Abstract**

*In the beginning of the academic year 2022/2023, majority of the students did not complete their assignment on time. So, this action research was carried out to improve the assignment (homework) habit of the sixth-grade students in mathematics classroom. Initially, open questions were given to the students to write the cause of not completing their assignment. The main problems were; students lacked practice, did not manage time for multiple assignment, lacked confidence to do assignment, forgetting assignment, spent maximum time in digital devices and did not get parental help to do the assignment. The assignment was seen and checked regularly throughout the year. 75.6% of the students had always done their assignment, 21.95% of the students has mostly done their assignment, 2.43% of the students sometimes done their assignment, none of the students done their assignment occasionally and no students have found never doing assignment at the end of the term III. After the regular treatment for couple of months students have done their assignment regularly and on time. Finally, it was seen that there was good impact of assignment habits on the performance of students in mathematics. I recommend mathematics teacher to provide less and known assignment in the initial phase to form the habit of doing assignment of students.*

**Key Words:** Assignment, School Mathematics, Homework, Assignment Habit, Impact of Assignment.

### **Background**

Gandaki Boarding School (GBS) is a non-profit institution which was established in Lamachaur, Pokhara with the motto 'Knowledge, Character and Service (Gandaki Boarding School, n.d.). It is one of the best institutions which provides strong, partnership program between teachers, students, parents and community. Additionally, the school focuses all-round, activities so that students express their talents in variety of events like athletics, academic, artistic, music and sports. Finally, the variety

of clubs, library and ICT infrastructure helps to strengthen student's potential.

I have been teaching mathematics at Gandaki Boarding School since 2011 A.D. I have been teaching from grade 4 to 12. I was mathematics teacher of grade 6 "A" for the academic year 2022/23. I was the new teacher for grade 6 students because I did not teach them in earlier classes. So, it took nearly one month to know their name and behaviour. As a teacher, my first work was to know the students individually. I used to teach in the classroom making fun as well.

They were motivated to listen the subject matter nicely. When the writing part come, they tried to escape. Any way I made them to write the classwork hardly. When the lesson completes, every day I used to give assignment. Next day, when I asked their assignment, some students said “I forget”, some said that their copy was left at home. Few of the students used to bring different copies in different day. When I said to them, “Shall I call your parents to do assignment?” students said “no no.... sir, I will do it tomorrow”. When the next day comes the situation was same. I made them compulsory to write the topic and I used to sign and comment in the beginning of the mathematics copy. It made me easy to identify the students who have done the assignment regularly. When they brought new copy, I used to do the same.

I tried to solve the problem myself. I interviewed with the class captains and the problematic students to improve the assignment habits of the students. Class captains and academically sound students said that “they were like this in grade five also, they never did their homework throughout the year, some of the students got punishment from the teacher, leave it sir”. I again consulted with the teacher who had taught them in grade five. The teacher responded that most of them tried to escape to do the homework. He added “I tried a lot, I gave punishment as well, I talked with their parents too but no improvement was seen.” I felt that, it was challenged me, I must solve this problem. Taking in my mind, I must do action research to find the causes of not

doing assignment and ways to improve the assignment habit.

As far I know most of the teachers provides homework to their students related to the lessons taught. Sometimes the teacher can give project work, group work and field work to their students. On the next day, the teacher sees, observe and check the assignment whether the students have done or not done. Teacher gives the feedback for the students. Some subject like Mathematics, students need lots of practice drill and recall to perform better result in the examination. So, the mathematics teacher provides some extra work as the home work (Home assignment) to the students. But sometimes some of the students do not do and complete their assignment due to various reasons. They might have difficulties understanding the concepts that are being taught, do not get proper time for doing their assignment or lack of parental guide while doing their assignment or the students might have engaged in different digital devices. In my class, in the beginning of the year, majority of the students did not complete their assignment at all. Hoping to solve the problem this action research is carried out.

### **Diagnosis of the Problem**

Teaching-learning is two-way communication between teachers and students in the mathematics classroom (Adhikari, 2021). The learning is fruitful and interesting if there is active participation of students. Student participation is an essential component of effective classroom teaching (Emanuelsson & Sahlström, 2008). When

students are actively involved in the learning process, they are more likely to stay engaged, retain information, and develop a deeper understanding of the subject matter.

### Major Problems

Student's dedication to extracurricular activities, including homework, is essential to their performance and quality in this subject. Similarly, assignments in mathematics classrooms can be an effective way to reinforce learning and help students develop and recall the various mathematical skill. For school kids, homework is a vital part of their overall education in its most basic forms. For a kid to grow and obtain the best possible results in school, homework must be completed. Most young people's widespread disdain for the importance of homework has a long-term effect on their immediate and future opportunities (Rahmani et al., 2024). No matter the assignment helps students to recall the learned text matter of lesson though my students always escaped from doing assignment.

My aim is motive them to do the assignment. So again, I started to observe

**Figure 1**

*Students' Assignment Status*

	Page No.	Remarks	Sign
Sets		done	
Whole Number		half done	
Integers		not done	
Fractions		half done	
Decimals		not done	
Integers (continued)		not done	
Lines and Angles		done	
Plane shapes		done	
Circle		half done	
Solid shapes		not done	

	Page No.	Remarks	Sign
Sets		done	
Whole Number		half done	
Integers		not done	
Fractions		half done	
Decimals		not done	
Integers (continued)		not done	
Lines and Angles		done	
Plane shapes		done	
Solid shapes		half done	
Circle		not done	

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Integers (continued)		not done	
Lines and Angles		done	
Plane shapes		done	
Circle		half done	
Solid shapes		not done	

Finally, I summarised the main problems; as many students did not do regularly. It was

them very closely. From the initial observation, I found that majority of the students did not complete their assignment. Initially, open questions were given to the students to write the problems of not doing and not completing the assignment. From both students' response as well as interview, it was found that there were variety of problems regarding not doing the assignment. Majority of the students responded "I do not practice in the class so lost confidence to do. I did not get time to do, I got too much assignment, I got all subjects assignment, I forget to do at home, I did not understand in the class, teacher did not guide me to do assignment, I did not get help from my parents, There is no environment to do assignment in my home, I am not interested to do it, I got health problem, I spent all the time in mobile/laptop/television/online game, I played all the time, and so I did not do, the assignment was too hard, I do not like mathematics, I did not copy the assignment in my diary, my teacher does not check and follow my assignment,". Some of them said "I always forgot."

challenging to make them complete their assignments. Often students had multiple as

well as more assignments and other activities to juggle, which made it challenging to complete math assignments on time. sometimes students forget to take maths copy and book to take at home so that they could not complete their homework regularly. Even they forgot to do assignment and to bring at school. Sometimes students lacked confidence in their ability to do math and play maximum time with digital devices at their home.

### Objectives

The objectives of this action research are:

- i. To identify the reasons for not doing the assignments.
- ii. To improve the assignment habit of students in mathematics.
- iii. To implement the plan, collect the feedback and develop re-plan as per the need.
- iv. To identify impact of the improved assignment habits on the performance of students. in mathematics

### Methodology

#### Research Context

This research has done in the Gandaki Boarding School for the improvement of assignment habit of 6<sup>th</sup> grade students in mathematics for the academic year 2022/23. It involved the class consisting of 41 students where I was currently teaching in that class during the academic year. The class consisted of 23 boys and 18 girls. 27 students are living inside the GBS hostel as a boarder

student and 14 students are day category (coming from their home and returning after school to the home).

### Method

The method used in this research is action research. Mills (2013) stated that “Action research is systematic inquiry done by teachers to gather information about, and subsequently improve, the ways their particular educational setting operates, their teaching, and their student learning”. So, this action research also has been done for the improvement of assignment habit of 6<sup>th</sup> grade students in mathematics. The initially open question was given to the students. They had to write their problem clearly without their name and identity. Students were asked to write various problems and causes of not doing and completing their assignments. Later on, I took the interview of each student one by one and asked orally to conform problem. Later on, students’ pseudo name was given as 1 to 41.

I have followed Stephen Kemmis Action Research Model; Plan, act, observe and reflect. After identifying the problem, I had made a plan for different strategies to improve the students habits then gone to the action to implement the plan. I had recorded the important information through observation during the class, while doing some action. Finally, the result of implementation was seen in this stage and re-planned for the next cycle if necessary.

### Collection and Analysis of the Data

I had collected the information daily, and weekly and term wise then recorded in excel

sheet. The data was analysed using simple statistical tools. The result was presented in figure, table and in description form. Lastly, to see impact of the improved assignment habits on performance of students in mathematics, the formula of mean that is “sum of all observation is divided by the number of items” was used.

### **Assignment Habits of Students**

In each term, I divided the total number of students in to five categories according to their assignment habits. First category was the number of students who had done their assignment always. The second was mostly, third was sometimes, fourth was occasionally and the fifth was never doing assignment. Students’ assignment records were shown in the diagram in each cycle. This was completed in three cycles with the plan. act, observe and reflect. The details are presented below.

#### **Cycle I**

##### ***Plan***

I made various plan to see and check the assignment regularly. For that I planned to take the help of captains because it was difficult to see and check the assignment of all the students within 40 minutes. Likewise, I promised to change the teaching strategies

and way of giving assignment in the class, I planned to call the parents to counsel and advise to make the environment of doing assignment of students at home and minimize the use of digital devices. Likewise, I planned to consult with the hostel parents for the boarder students.

##### ***Action***

I made 3 assignment captains to follow-up the assignment. I changed my way of teaching. I focused students centred activities and group work in the class. I made several time practices in the class. Initially, I made well known about the assignment, process and asked to write in the diaries. And the amount of assignment was given less so that they could complete the work on time. I called few problematic students’ parent and counselled the students and parents together to assist and follow up at home. I consulted with the hostel parents of boarder students to see their assignment in morning and evening time. In the class, I checked assignment with the help of captains and recorded the assignment weekly and filled in excel sheet.

##### ***Observation and Reflection***

Students’ assignment progress was observed and analysed by using excel sheet. The overall progress is shown in the figure 2.

Figure 2

Term I Assignment Record of students

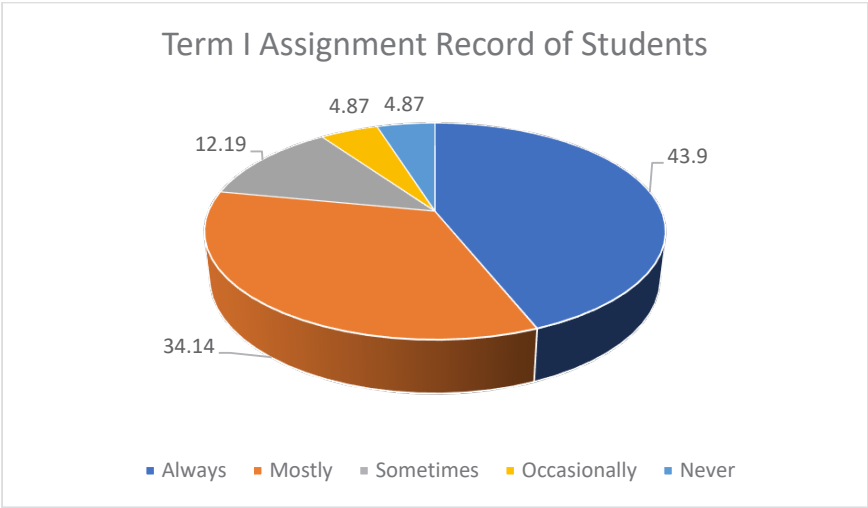


Figure 2 shows that 43.90% of the students had done their assignment always, 34.14% of the students has done their assignment mostly, 12.19% of the students done assignment sometimes and 4.87% students done their assignment occasionally and rest of them 4.87% had never done their assignment during the term I of the academic year 2022/23.

Re-Plan

From the cycle I, it was seen that only 43.90% of the students had always completed their assignment. I decided that to go for the re-plan to bring remarkable changes in the habit of students to do assignment. And planned for the cycle two.

Cycle II

Plan

Slightly improvement was seen in the cycle I. But to bring remarkable changes in the habit of students to do assignment, I decided to continue the plan of cycle I. I planned to make four assignment captains to follow-up

the assignment. They were requested to follow up the assignment of students and report the teacher. I planned to give less assignment, consult with parents, check the assignment in front of the students, provide immediate feedback as well as internal marks as homework. Minimizing the digital assignment consulting with the parents.

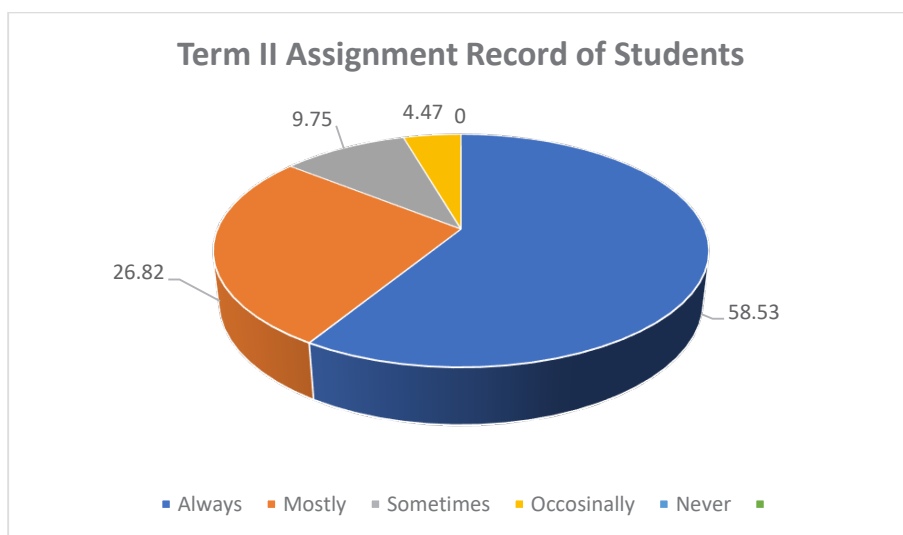
Action

I added one more assignment captain to follow-up the assignment and made four. I repeated effective actions of cycle I in the cycle II. Furthermore, and the amount of assignment was given less. I had checked the assignment in front of the students, provided

immediate feedback and internal marks. I had done more follow-up and visited with the parents than the cycle first. As like in the cycle first, I had recorded the assignment weekly and saved in excel sheet.

**Figure 3**

*Term II Assignment Record of students*



**Figure 3** shows that 58.53% of the students had done their assignment always, 26.82% of the students has done their assignment mostly, 9.75% of the students done assignment sometimes, 4.47% students done their assignment occasionally and no students has found never doing assignment during the term II of the academic year 2022/23.

### ***Re-Plan***

From the cycle II, students' habit of doing assignment was changed. And seen that 58.53% of the students had always completed their assignment. I decided that to go for the third cycle to bring more changes. And re-planned for the cycle three.

### ***Observation and Reflection***

Students' assignment progress was observed and analysed by using excel sheet. The overall progress of cycle II is shown in the figure 3.

### **Cycle III**

#### ***Plan***

This time, I planned to continue all the action plan of cycle I and II as that helped to bring remarkable changes in the habit of students. I made plan to consult all the subject teachers to minimize the multiple subject's assignment. I planned to request study hours duty teachers to ask and verify the

assignment whether the students have done or not. I Planned to call the parents to meet me and talked about the students’ progress. Furthermore, I planned to counsel the students individually. I planned to give 4 times extra assignment those who did not complete their assignment and follow-up regularly.

**Action**

I had checked the assignment with the help of captains. I made 4 assignment captains to follow-up the assignment as in cycle II. Internal assignment marks also given in front of the students those who had done assignment. I called the parents of problematic students and requested to guide at home during the assignment as well as not to provide the digital devices. I consulted with the study hours duty teacher to check the assignment. Furthermore, I talked all the

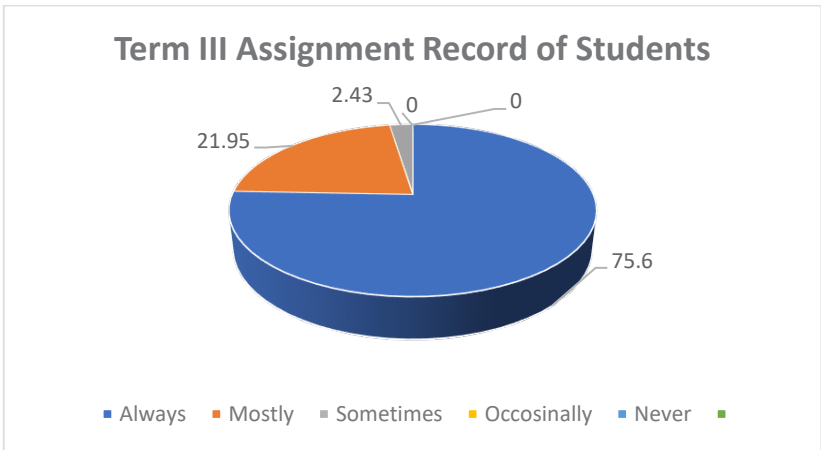
subject teacher teaching at grade 6 to minimize and manage the multiple assignment. Given extra 4 times assignment work was given those who did not do their assignment and followed up regularly. I made well known about the current assignment in the class and built the confidence to do assignment. I made them alert about the time management of multiple assignment. Similarly, lots of practice was given in the class related to assignment problem. I checked their assignment and then recorded the assignment weekly and filled in excel sheet.

**Observation and Reflection**

Students’ assignment progress was observed and analysed by using excel sheet. Those students had done their homework given 1 and not done given as 0. The overall progress of cycle III is shown in the figure 4.

**Figure 4**

*Term III Assignment Record of students*



**Figure 4** shows that 75.6% of the students had done their assignment always, 21.95% of the students has done their assignment mostly, 2.43% of the students done assignment sometimes,



none of the students done their assignment occasionally and no students has found never doing assignment during the term III of the academic year 2022/23.

**Assignment Habits and Academic Performance**

Assignment is the great task in mathematics as it offers several benefits for the student. In this research assignment was provided to the students with an opportunity to practice and reinforce the mathematical concepts taught

in class. By solving problems on their own, students got better understand the concepts and identify any areas that need more attention. Assignments helped students to solve and think the mathematical problems critically. Students developed problem-solving skills which was helpful to increase their academic performance in mathematics.

**Table 1**

*Average marks of students in mathematics in term II and III*

Term	Term II	Term III
Average Marks	75.12	75.66

**Table 1** shows that the average marks of students in second term and third term out of 100 full marks. Which shows that mathematical performance is increased from 75.12 to 75.66 marks due to improved assignment habits of students in term III in compared to the term II. However, there is small difference in the increase in the marks because in the second term, students had to prepare only the course taught in the second term but in the final term, they had to prepare from the entire course taught.

**Table 2**

*Average marks of mathematics in the final term according to the assignment status*

Assignment Status	Always	Mostly	Sometimes
Average Marks	80.06	63.11	52

**Table 2** shows that the students average marks out of 100 according to the assignment status of students. Students who had done their assignment always, their average marks of maths was 80.06. The students who had done assignment mostly got the average marks 63.11 and the students who had done assignment sometimes only was 52 average marks. This shows that those students who did assignment always, their academic performance in mathematics was higher than the other students.

### Findings and Discussion

After the third cycle, remarkable improvement was seen in the habit of students to do assignment on time. After the first cycle it was seen that 43.90% of the students had always done their assignment whereas after the third cycle it was seen that 75.6% of the students had always done their assignment. No students had found never doing assignment at the end of the academic year. Likewise, the average marks in mathematics in the third term is better than the second term. Finally, students who had done their assignment regularly, their average mark was better than the other students. This showed that there is positive impact of assignment on the academic performance of students in mathematics.

Math requires a lot of practice to become proficient. Students who do not practice regularly may find it challenging to complete their assignments. Students have multiple assignments and other activities to juggle, which can make it challenging to complete math assignments on time (Dolean & Lervag, 2021). It's important to prioritize the work and manage the time effectively. In math, even small mistakes can have a big impact on the final answer. Students should always check their work and make sure that they have not made any careless errors. Sometimes students lack confidence in their ability to do math, which can lead to procrastination or avoidance. It is important to remember that everyone can improve their math skills with practice and patience.

Holland et al. (2021) stated that unmanaged assignment for the students leads boredom and frustration. It impacts child's well beings like emotional health, sleep and child parent relationship. I agree with the statement that there must not be over broaden assignment. But the Nepalese parents always demand over assignment to their children. My claim is that less and manageable assignment helps students to reflect on their own learning and understanding of the concepts taught. By reflecting on their work, students can identify their strengths and weaknesses and work towards improving their understanding of the subject. Assignments offer teachers an opportunity to provide feedback to students. Feedback can be used to reinforce positive behaviours, correct misunderstandings, and provide additional support where needed.

Assignments help students to develop a sense of responsibility for their own learning. Parents role is crucial role to fulfil the gap between school and home. They can support and help students completing their assignments on time take ownership of their child's learning and develop good study habits (Chophel & Choeda, 2021). In short, assignments play a crucial role in the mathematics classroom as they promote learning, problem-solving, self-reflection, feedback, and responsibility.

### Conclusion

This study is done to improve the assignment habit of sixth grade students in the academic year 2022/23. Initially, this research was started from students' problem of not completing their assignment. The main problems were; students

lacked practice, did not manage time for multiple assignment, lacked confidence to do assignment, forgetting assignment, spent maximum time in digital devices and did not get parental help to do the assignment. The assignment was seen and checked regularly throughout the year in three cycles. After the regular treatment for several times students' assignment habit was improved. Finally, the assignment habit helped to improve the academic status of students in mathematics. At the last, there is no doubt, assignment helped to increase the academic performance of students. But I recommend mathematics teacher to provide less and manageable assignment for the students to form the assignment habit as well as for their betterment.

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### References

- Adhikari, K. R. (2021). Interaction Between Teacher and Students in Virtual Classroom. *Academic Journal of Mathematics Education*, 4(1), 31–35. <https://doi.org/10.3126/ajme.v4i1.45603>
- Chophel, T., & Choeda, U. (2021). Impact of Parental Involvement in Homework on Children's learning. *Journal of Education Society and Behavioural Science*, 35–46. <https://doi.org/10.9734/jesbs/2021/v34i630334>
- Dolean, D. D., & Lervag, A. (2021). Variations of homework amount assigned in elementary school can impact academic achievement. *The Journal of Experimental Education*, 90(2), 280–296. <https://doi.org/10.1080/00220973.2020.1861422>
- Emanuelsson, J., & Sahlström, F. (2008). The Price of Participation: Teacher control versus student participation in classroom interaction. *Scandinavian Journal of Educational Research*, 52(2), 205–223. <https://doi.org/10.1080/00313830801915853>
- Gandaki Boarding School. (n.d.). <https://gbs.edu.np/>
- Holland, M., Courtney, M., Vergara, J., McIntyre, D., Nix, S., Marion, A., & Shergill, G. (2021). Homework and Children in Grades 3–6: Purpose, Policy and Non-Academic Impact. *Child & Youth Care Forum*, 50(4), 631–651. <https://doi.org/10.1007/s10566-021-09602-8>
- Mills, G. E. (2013). *Action Research: A Guide for the Teacher Researcher*. Pearson College Division.
- Rahmani, L. A., Rexhepi, B. R., & Rexhepi, F. G. (2024). The importance of homework for students in primary schools. *International Journal of Religion*, 5(5), 271–285. <https://doi.org/10.61707/jynn4g70>