

# **The Effectiveness of In-campus Study Hours on Academic Performance of Day Students at Nangkor Central School**

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## **Abstract**

This pre-experimental study was conducted in one of the central schools in Pema Gatshel to pilot the effectiveness of in-campus study program during off-school hours to enhance the academic performance of day students. The study employed one-group pretest-posttest design to 30 students from different grades. Data obtained were analyzed using descriptive statistics and paired-samples t-test from a pre-test and post-test records. The finding in general indicated that there was statistically significant improvement in the mean marks in academic score by the day students, indicating effectiveness of study. It is recommended if school could provide in-campus study hours to day students who live nearby schools and experience distractions at home.

## **Introduction**

Nangkor central school under Pema Gatshel dzongkhag (district) caters to classes ranging from nine till twelve and offers all streams (Science, Commerce, Arts) for the students from adjoining areas and as well for those students from other districts. The statistic of Education Management Information System (EMIS) showed a total of 433 students in this school. It is one of the top performing schools in the country. The school has received lots of academic accolades and fellowship over the years as a token of appreciation for excelling at academic performance. However, over the past few years, it has been observed that there is a gap in learning outcome of the students especially the performance of day students. The analysis of examination result of past three years indicated that not many day-student students perform well in tests and examinations as shown in Table 1. Boarder students outperformed the day-student students. In all aspects, day-students' low academic performance cannot be overlooked and efforts of any sort is required to set the same educational standards for all the students, regardless of day-student and day-students, to meet the expectations of an individual and the school.

## Reconnaissance

### Situational Analysis

Boarding schools constitute a major mode of education in many countries and it is same in our country too. In Nangkor Central school (NCS) settings, we have both day and boarder students in the same classrooms, taught by the same teachers, and receive the same instruction and syllabus. However, not many day students performed well as compared to boarder student in the past three years in the board exam results as shown in Table 1. Table 1 is the comparison of total passed and failed students, mean scores for each subject, and lists of academic toppers. In all the aspects, the boarding students had outperformed day students.

*Table 1: Past three years academic records between day and boarding students*

	2019		2020		2021	
	Boarder	Day students	Boarder	Day students	Boarder	Day students
Pass Percentage	92.5	89.5	91.7	66.7	100	92.9
Overall Toppers fraction	11/12	1/12	11/12	1/12	10/12	2/12

It is a concern to our school and educators. School improvement and student success will continue to be at the forefront of educational reform and policy in our school. One of the factors of the poor grades is noticeably associated with prevalent gaps built between boarding students and day students (Debu, 2014). There has been a growing body of research outside Bhutan about boarding school, contributed to increasing understanding of boarder students and their academic outcomes, and related factors to it (Martin, Emma, Burns, Kennett, Pearson, & Munro-Smith, 2021). However, not many studies are noticed outside Bhutan or within Bhutan about the innovative strategies that stand out for day student students to raise the academic score. The table below highlights the gap in performance between boarder and day student.

### Competence

The research is a collaborative study by a team consisting of two teachers and an administrator. Two of them have facilitated national level Teacher Professional Development Programmes, participated in National Level Curriculum Conferences, written and published academic papers.

All three researchers are part of a School Research Team (SRT) who have published “Preferred Learning Styles of Students of Nangkor Central School” in international journal in 2022.

### **Literature Review**

Academic performance of students is one of the main indicators used to evaluate the quality of education in our schools and colleges. It is evident the diversity of research methodologies that have examined the experiences and outcomes of boarding has yielded varied findings (Jafari, Aghaei & Khatony, 2022; Martin, et.al., 2021; Lawrence, 2014). Each has informed a distinct aspect of the boarding phenomenon, both positive and negative.

According to Jafari, Aghaei and Khatony (2022), academic performance is a complex process that is influenced by several factors or combination of factors, such as study habits or a combination of study method and skill. Good study habits include studying in a quiet place, studying daily, turning off devices that interfere with study such as TV and mobile phones, taking notes of important content, having regular rests and breaks, listening to soft music, studying based on own learning style, and prioritizing the subjects.

Academic performance of students is influenced by parental involvement. One study state that more involvement is not necessarily better approach, rather, how parents become involved seems to be the crucial factor. It is better to identify what particular elements of involvement may be most effective for students, and when. (Boonk, Gijsselaers, Ritzen, & Brand-Gruwel, 2018). Unless the parental education meets the requirements in promoting academic performance of a day student, the challenge to strive to enhance academic performance will be out of reach by far.

Darling-Hammond and Cook-Harvey (2018) claims that positive school climate improves academic achievement, boost grades, test scores, and student engagement. The elements of school climate contributing most to increased achievement are associated with teacher-student relationships, including warmth, acceptance, and teacher support even during off-school hours. Providing extended learning time to ensure that students do not fall behind, including skillful tutoring and academic supports, support for homework, mentoring, and enrichment can enhance academic achievement (Martin, et.al., 2021).

Findings revealed that the boarding students academically achieve better than day students and that day students are distracted at home, unlike boarding school students who are under the control of teachers for their studies (Ugochukwu et al., 2018). Boarders get more chances of participating in group studies with their batch mates for better achievement in academic progress (Jacob & Kaushik, 2019) whereas day student work in silos. Boarding represents a somewhat intensive and on-going process of interactions between student and environment—interactions that have potential to shape students’ academic outcomes (Martin, et al., 2021) whereas day students partially oversight this opportunity. Students who were more likely to seek help from others performed better (Sun, Xie, & Anderman, 2017).

Students’ needs, requirements, abilities, capabilities, their pattern of studying etc. have been neglected for a long time and they were forced to learn the same thing, by the same method, by the same person in the same environment (Sun, Xie, & Anderman, 2017).

It is imperative in our school-setting to develop certain innovative strategies in order to improve the academic achievement of day student students. A triangulated effort must be drawn from all relevant stake holders such as teachers, parents and student themselves.

### **Purpose**

This research was felt overbearing by the low academic achievement bar of day student at Nangkor Central school. Team of researchers are inspired by the idea that even the day students who live nearby school can harness some academic advantages from the school even during off-school hours. This will cultivate the effective study habits and time management skills to enhance academic achievement in their academic career. This action research intends to enhance the academic performance of day-student through effective study habits and practices. This appears to a suitable intervention to bridge the above-mentioned gap.

### **Research question**

How in-campus study habits during off-school hours improves the academic achievement of day student in Nangkor Central School?

### **Objective of the Research**

Based on the problem statement, the objective of the research is formulated as, to find out how much the in-campus study hours method increases the academic achievement for day students.

## **Research Methodology**

### **Research Design**

This study employed one-group pretest-posttest design also called as pre-experimental design. According to Voxco (2022), a single case observed at two time points, one before the treatment and one after the treatment with no control or comparison group is employed is considered as pre-experimental design. Changes in the outcome of interest are presumed to be the result of the intervention. He also stated that pre-experimental designs often happen before a true experiment is conducted because researchers want to see if their interventions have an effect on a small group of people before they dedicate time to conduct a true experiment.

All participating day students received the same structured intervention and there was no control group. It enabled researchers to investigate the impact and effectiveness of the structured extra in-campus study habits on academic performance of day students.

### **Participants and Sampling**

This study was conducted to study the effectiveness of extra in-campus study hours just like boarders to day students living nearby school. The sample population for this study were the regular day student (both boys and girls) of the school who live nearby school and were allowed to attend study hours (feasibility). A non-probability sampling method, convenience sampling was employed because participants will be chosen based on their availability and accessibility to school during off-school hours for research purposes (Palinkas, Horwitz, Green, Wisdom, Duan, & Hoagwood, 2015).

### **Data collection**

#### **1. Pre-Test**

Before intervention, 30 sample students were given the pre-test. The pre-test data were the score from the first cycle test of the sampled students. Cycle test is a structured summative assessment conducted twice in a year in the school to assess students' academic performance.

## **2. Intervention**

In the intervention, the researchers monitored the structured study hours in the school during off-school hours for the period of three months. They were allowed to interact and collaborate with boarder students in the process of learning. All students were guided to maintain the study log and submit to researchers.

## **3. Post-Test**

After intervention, a post test was conducted for sample students. The post-test data were the score from the second cycle test of the sampled students.

### **Intervention Plan**

The interventions strategies that were administered to study the effectiveness of extra in-campus study hours in the performance of students were:

1. Structured one hour in-campus study in all week day allocated with proper monitoring and coaching. All students were guided to maintain the study log and submit to researchers. This was to track students learning progress. Further, it was to ensure their attendance.
2. Sample students were allowed to collaborate with boarder students and teachers during the study time. This was done to provide students opportunity to learn from peers.
3. Sample student's physical health and nourishment were taken care through parents' involvement. Parents provided snacks so that they don't get hungry staying more hours in school.

### **Research variable, indicator and instrument**

There are two variables involved in this research. Independent variable is the structured in-campus study hours and the dependent variable is the academic performance in the cycle test. The indicators are the scores in the test papers. A written test is the instrument used in both pre-test and post-test.

### **Analysis**

To achieve the expected objective of the study, data obtained were analyzed using paired-samples t-test from a pre-test post-test and descriptive statistics (frequency, percentage and mean). This enabled researchers to obtain the statistical evidences of effectiveness and improvement.

### **Ethical Clearance**

The written approval of approved form was obtained from School Research Team (SRT). The informed consensus form for participants and parents was developed for filling before actual involvement in research. Participants including parents were informed on purposes of research conduct.

### **Results and Discussions**

The data obtained from the pre-test and post-test score was analyzed. From the result of data analysis, it showed that in-campus study habits during off-school hours has improved the students' academic performance of day students. The results from this research as a solution of the problem statement to improve academic performance of day students.

The following results deal with the mean score, gender wise mean score, passed and failed percentage, and also the students' rank between the pre-test and post-test.

#### **1. T-test (paired-positive-tail)**

In-campus study program during off-school hours was effective to improve the students' academic performance. It is strongly supported by the result of the data analysis as shown in Table 2. The level of significance was ( $\alpha$ ) = 0.05 and degree freedom (df) = 29 with t-test value 3.03. The critical t-table value for t-test 3.03 with  $\alpha$  = 0.05 and df = 29 was 1.699 as presented in Table 2. The t-test value is higher than the critical t-table value.

*Table 2: Showing the t-test value of the student's in pretest and posttest.*

<b>Variable</b>	<b>t-test</b>	<b>t-table</b>	<b>Comparison</b>	<b>Classification</b>
<i>Pre-test and Post-test</i>	<i>3.03</i>	<i>1.699</i>	<i>t-test &gt; t-table</i>	<i>Significance</i>

This indicated that there was a significance difference between the result of the students' in pretest and posttest after the intervention (Bevans, 2022). It means that in-campus study program during off-school hours could improve the students' academic performance.

The researchers calculated the value of the t-test by using the following formulas (DATAtab, 2021):

Number of cases

$$n = 30$$

Degree of freedom

$$df = n - 1 = 30 - 1 = 29$$

Mean

The pretest value is denoted by  $x_i$  and posttest value by  $y_i$ , the differences of each pair is represented by  $d_i$ .

$$\bar{x} = \frac{\sum d_i}{n}$$

Standard deviation

$$s = \sqrt{\frac{\sum (d_i - \bar{x})^2}{n-1}}$$

Standard error of the mean

$$s_e = \frac{s}{\sqrt{n}}$$

t-value

$$t = \frac{\bar{x} - 0}{s_e}$$

## 2. Other Statistical findings

### a. Academic mean score

The result of the students' mean scores from pre-test and posttest are presented in the Table 3. It is evident from Table 3 that the overall academic mean scores had improved by 7.33 %. In pre-test the mean score was 53.28 and post-test test score was 57.19.

*Table 3: Mean score of pre-test and post-test*

Mean	Pre-test	Post-test	Improvement (%)
30 Students	53.28	57.19	7.33%

### b. Gender-wise mean score

The result of the students' means scores of male and female from pretest and posttest are presented in the Table 4. It showed that the overall academic mean scores of males had improved by 6.30% and 11.7% for female.

Table 4: Gender wise mean score

Mean	Pre-test	Posttest	Improvement (%)
Male	53.90	57.29	6.30%
Female	50.83	56.78	11.7%

It indicated that the mean score of post-tests for both males and females was greater than the mean score of pre-tests after the intervention as shown in Figure 1.

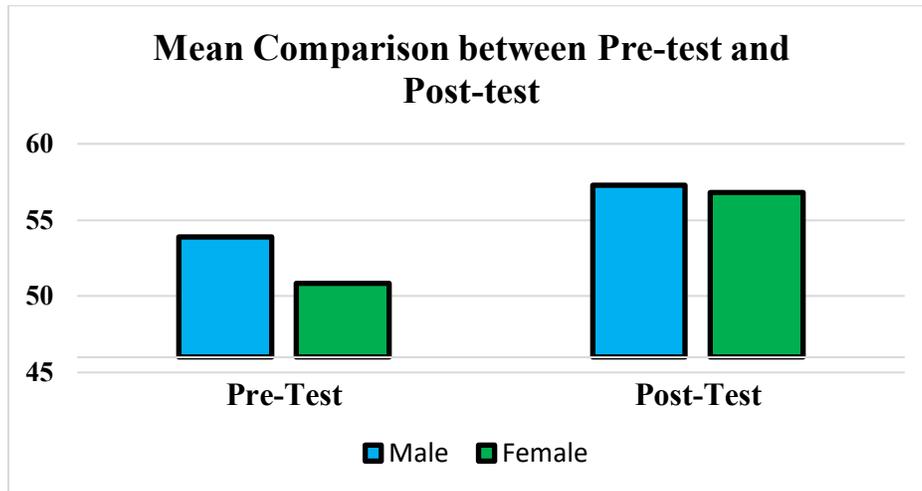


Fig 1: Gender-wise mean score

### c. Passed and failed percentage

The result of the students' passed and failed percentage of male and female from pre-test and posttest are presented in the Table 5. The Table 5 showed that the passed percentage had improved by 43.75% and failed percentage decreased by 50.0%. In pre-test the number of passed students is 16 and it becomes 23 in post-test. In pre-test the number of failed students is 14 and it becomes 7 in post-test.

Table 5: Passed and failed percentage

Category	Pre-test		Post-test		Improvement (%)	
	<i>Passed</i>	16	53.33%	23	76.67%	+7
<i>Failed</i>	14	46.67%	7	23.33%	-7	-50.0%

Table 5 revealed that the number of passed students in post-test was higher than the number of passed students in pre-test, indicating that the number of passed students was drastically improved after the intervention.

#### d. Comparison of ranks

In our study, day students constituted what we might consider a “treatment” group and boarders constituted a “comparison” group. The two groups were taught in the same classrooms and received the same syllabus and instruction from the same teachers. These ranks are in comparison from whole school result. The result of the students’ rank from pre-test and posttest are presented in the Figure 2. In pre-test the number of students in the first position is 2 and remained the same with 2 in the post-test. In pre-test the number of students in the second position is 1 and becomes 2 in the post-test. In pre-test the number of students in the third position is 0 and increased by 1 in the post-test. In pre-test the number of students in the fourth position is 1 and becomes 0 in the post-test. In pre-test the number of students in the fifth position is 1 and becomes 2 in the post-test.

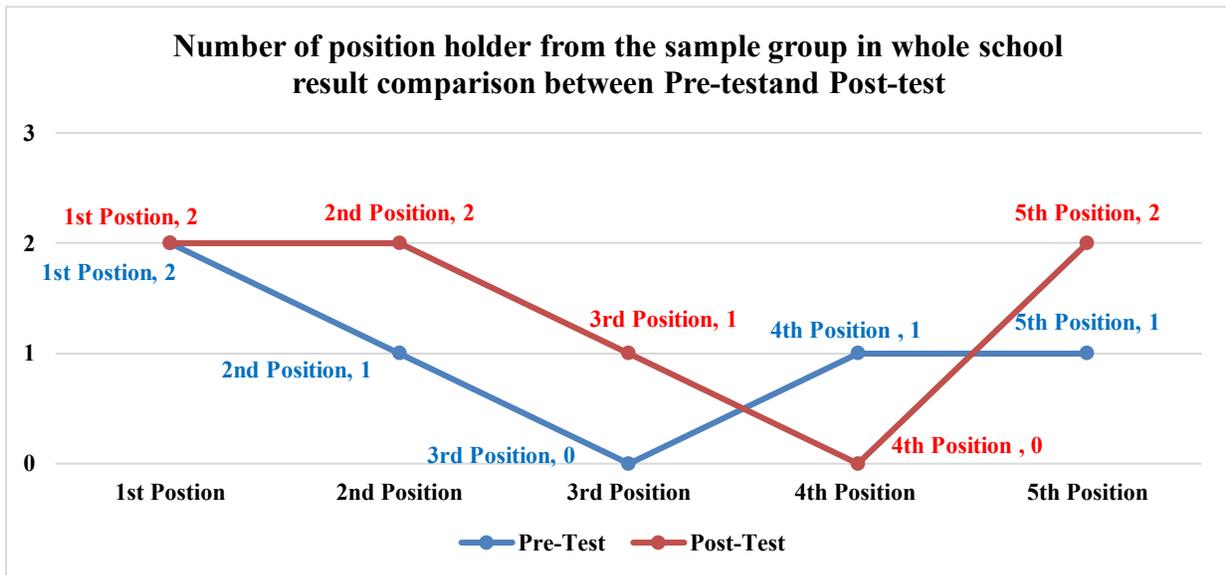


Fig 2: Comparison of ranks of students

It indicated that the number of top five position holder was improved after the intervention.

## Conclusion

It is evident from this study that in-campus study programs during off-school hours improves the students' academic performance.

## Recommendation

1. To School: If there is feasibility to allow day students living nearby schools to attend extra-hours of study in the campus, day students would perform better in academics.
2. To students: If there are distractions and disturbances at home, it is advisable to make efforts to study extra hours in school to complete your homework or self-study.

## Limitation

One reason that it is often difficult to assess the validity of studies that employ a pre-experimental design is that they often do not include any control or comparison group. Without something to compare it to, it is difficult to assess the significance of an observed change in the case. The change could be the result of unrelated compounding factors like coverage of content and variability in test question. Again, this study was carried out on a small scale and used a limited population, therefore, it cannot be used to generalize the conclusion.

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