

Correlation of Students' Self-Study Habits with Participation in Their Online Teaching-Learning during the Second Wave of Covid-19 Pandemic

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Abstract:

The use of ICT in education spread to every corner of the world during the Covid-19 Pandemic. It detached the students from social contact. It was the only available alternative way to continue the teaching-learning process by staying at home. Many students were not capable of participating in their online teaching-learning. This study accomplishes its survey in the second wave of the Covid-19 with the help of scheduled interviews with 400 samples studying in secondary schools. It focuses on the self-study habit of the students during the period of schools closed due to the Covid-19 Pandemic. This study reveals a high positive correlation of the self-study habit of the students with participation in their online teaching-learning, and the value of correlation is $r_t=0.74$ (tetrachoric r). The present study partially unfolds the hidden picture of the educational havoc due to the second wave of the Pandemic due to the poor economic condition of their family.

Keywords: Student, online, study, teaching-learning

Introduction:

It is needless to repeat the consequences of the worldwide Pandemic¹ caused by the spread of Covid²-19 and its related lock-down³ procedure. All traditional business of human enterprise had hit by the first wave of the Pandemic then the second wave hit again. The first wave of the Covid-19 ended with a total lock-down. The first wave allowed some mandatory services where educational institutions were closed. The teaching-learning had to manage through online mode. Teachers had to continue their teaching-learning activities only through online mode until the schools were allowed to open for face-to-face mode. Many students participated in the online teaching-learning. But many could not attend it.

Importance of the study:

Online teaching-learning programs imposed on the teachers and students of all levels by the government have been a supplement to the regular mode of face-to-face teaching-learning activities. There is a need for systematic study on its practicability; because it depends on several factors such as the availability of internet gadgets like tablets or laptops or computers or mobile handsets with the internet. There are many places in remote areas where network facility is either not reachable or yet to serve. Many students are not able to purchase the required gadgets. Many students are not interested in online teaching-learning. And also, many school teachers are not

¹ Noun- An outbreak of a disease that occurs over a wide geographic area (such as multiple countries or continents) and typically affects a significant proportion of the population: a pandemic outbreak of a disease (Marriam-Webstar).

² Noun- A mild to severe respiratory illness that is caused by a Coronavirus (*Severe acute respiratory syndrome coronavirus 2* of the genus *Betacoronavirus*), is transmitted chiefly by contact with infectious material (such as respiratory droplets) or with objects or surfaces contaminated by the causative virus, and is characterized especially by fever, cough, and shortness of breath and may progress to pneumonia and respiratory failure (Marriam-Webstar).

³ A temporary condition imposed by governmental authorities (as during the outbreak of an epidemic disease) in which people are required to stay in their homes and refrain from or limit activities outside the home involving public contact (such as dining out or attending large gatherings) (Marriam-Webstar).

able to handle online class transactions. The online teaching-learning program provided by the schools has created a distinct difference between the learner groups: *having* and *lacking* online teaching-learning facilities. Many students lost their self-study habits. Many fell under the frustration of class deprivation, and some students got addicted to internet browsing. Even the issues on online teaching-learning go to the teaching skills with participating in the online teaching-learning. These types of problems (Pandemic) may face in the future too. Therefore, the school authorities, teachers, taught, and guardians need to understand the grievance. They have the responsibility to observe the causes of the degradation of students' study habits. They have the responsibility to find the corrective measures of the degradation of the study habits too. Is there any correlation between the study habit of the students and modes of class transactions? Are there facilities for class transactions other than online mode for needy students? One may find if there exist ways of removing the difference between having and lacking online teaching-learning facilities.

Review of related literature:

Sherafat & Murthy (2016) found in their study that study habit correlates with academic achievement. Both teachers and parents have to notice it in both the secondary and senior secondary levels. Jafari, Aghaei & Khatony (2019) found the Pearson correlation test that showed a direct and significant relationship between academic achievement and study habits. Study habit plays the role of a predictor of academic achievement ($r=0.235$, $p<0.001$). Dev (2016) states, "Home environment has positively correlated with academic achievement of students" ($r =.71$). Quality time management is also a good study habit. It depends on the physical factors such as students' health, surrounding environment, and educational facilities; psychological factors like motivation, interest, support-system, effort, skill, habit, and mental health, the goal set to achieve by the student. A teacher is capable of feeding all psychological needs of a student to help achieve the targeted goal. Therefore, constant connection between student and teacher is desirable in any educational endeavor. According to Upkong & George (2013), "Students should note that one hour, thirty minutes and fifteen minutes study time could only be effective during revision time, therefore students should study at least three hours daily because of different intellectual capabilities". But due to the covid-19 Pandemic, all traditional modes of class transactions were restricted, and only online were allowed. Dhawan (2020) refers to the words of Carey (2020) that online teaching is no more an option it's a necessity. During this difficulty, the concern should not be about whether online teaching-learning methods can provide quality education. It should rather how academic institutions may be able to adopt online learning in such a massive manner. She (Dhawan) also cites the quote of Chang Richards, Vargo, & Seville (2013) that When disasters and crises occur, educational institutions need to be resilient and should find new ways to continue teaching-learning.

Objectives:

1. To find the correlation of students' self-study habits with participation in their online teaching-learning.
2. To find the fraction of students who are participating in the online teaching-learning.
3. To find the hindrances of participating in online teaching-learning.

Methodology:

This study uses a mixed-method research design of survey type. According to Gay, Mills, & Airasian (2012), "The purpose of mixed-method research is to build on the synergy and strength existing between quantitative and qualitative research methods to understand a phenomenon more fully than is possible using either quantitative or qualitative method alone."

Hypothesis:

The device for observing the correlation of students' self-study habits with participation in their online teaching-learning consists of the following null hypothesis:

"There exists no correlation between students' self-study and participation in their online teaching-learning."

Operational Meaning and Delimitations of the Terms Used:

Students:

The students (male/female/other) involved in this study are secondary school students studying in the High Schools (class IX & X) irrespective of the medium of instruction and category of school management.

Self-study:

It refers to the time spent in self engagement in the school subject-oriented study activities of the students at home to enhance their learning aiming at their academic achievement alone. A student's self-study is regular if the average time spent in self-study exceeds or is equal to three hours.

Online teaching-learning:

The digital modes of teaching-learning made available to the students through different application software with the help of internet service and gadgets like tablets or laptops or computers or mobile handsets.

Participation in an online teaching-learning:

A student is said to have participated in an online teaching-learning of school teachers if and only if it facilitates two-way communications between students and teachers.

Population and Area:

It covers the entire secondary school students of Rangia Block (Educational) of Kamrup district of Assam, India.

Sample:

The sample size is 400 secondary school students and also their respective guardians.

Tools:

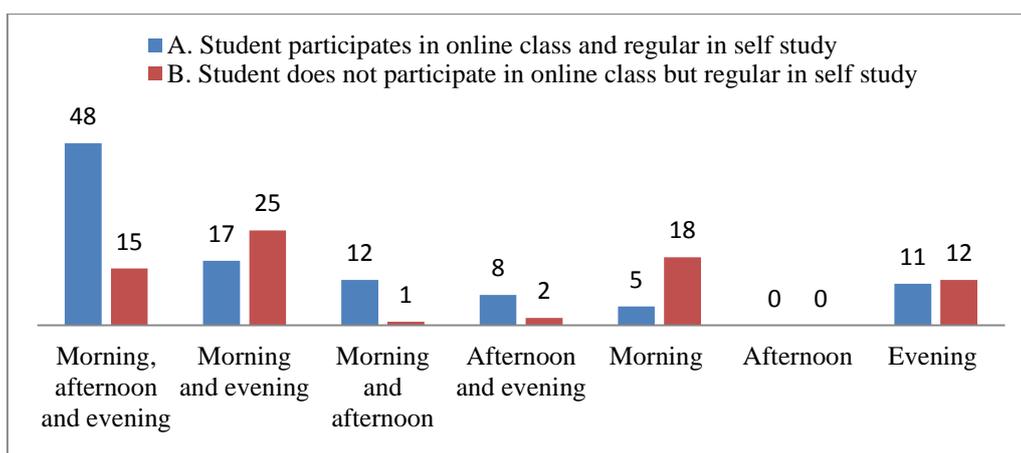
The tool consists of a schedule of interviews comprising two sub-sections- one for the students and the other for their guardians.

Techniques:

The investigator randomly visits more than 400 homes of the students throughout the survey without prior information. Both students and guardians were involved in the interview session. Thus it helped to cross-check their spontaneous responses, to record the reliable ones by the investigator.

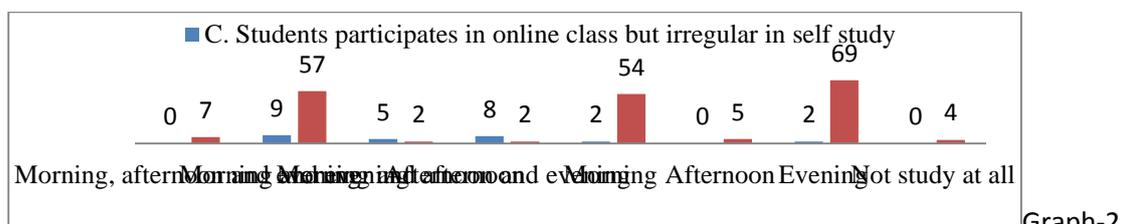
Analysis:

1. Four groups of students are detected in the survey as follows:
 - A. Participate in online teaching-learnings and maintains regular self-study habits.
 - B. Do not participate in online teaching-learnings but maintain regular self-study habits.
 - C. Participates in online teaching-learning but irregular in self-study.
 - D. Neither participates in online teaching-learning nor regular in self-study.
2. The number of students who expressed more than or equal to three hours of self-study, on average, in a day is as shown in graph -1:



Graph-1: Students who study regularly

3. The number of students who expressed less than three hours of self-study, on average, in a day is as shown in Graph -2:



Graph-2: Students who study irregularly

The Tetrachoric Table:

Students’ participation in the online teaching-learning (independent variable) occurs in the X-dimension, and students’ regularity in their self-study (dependent variable) is in Y-dimension in the 2x2 fourfold table. The detailed figures are as shown in the table-3.

Regularity in Self-Study	Absent in online teaching-learning (-)	Present in online teaching-learning (+)	Total
Regular (+)	B = 73	A = 101	A+B = 174
Irregular (-)	D = 200	C = 26	C+D = 226
Total	B+D= 273	A+C= 127	A+B+C+D=400

Table-3: 2x2 fourfold table of students’ regularity in self-study and participation in the online teaching-learning

Calculation of Tetrachoric r:

“Tetrachoric r is especially useful when we wish to find the relation between two characters or attributes neither of which is measurable in scores, but both of which are capable of being separated into two categories” (Garrett & Woodworth, 2008, pp. 384-388). By applying the approximate formula for calculation of correlation (Tetrachoric r),

$$r_t = \cos\left(\frac{180 \times \sqrt{BC}}{\sqrt{AD} + \sqrt{BC}}\right),$$

the value of the tetrachoric correlation (tetrachoric r) can be obtained. Putting the respective values (from table 3) in the formula:

$$r_t = \cos\left(\frac{180 \times \sqrt{1898}}{\sqrt{20200} + \sqrt{1898}}\right)^0$$

$$= \cos 42.22^0$$

Using table⁴ J for cosine,

$$r_t = 0.74 \text{ (approx.)}$$

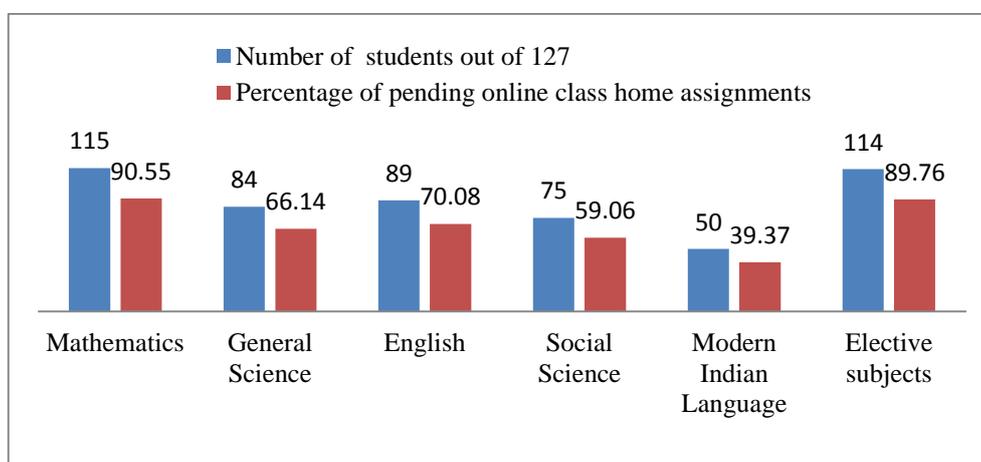
Rejection of the Null Hypothesis:

⁴ Table J is the values of r_t taken as the cosine of an angle

The value of $r_t = 0.74$ shows a high positive correlation and significant difference in the student groups. This value implies the more participation in the online teaching-learning, the more regular their self-study habits are. Hence, it rejects the null hypothesis.

Findings:

1. The 68.25% (273 out of 400) students did not participate in the online teaching-learning.
2. The 79.52% (101 out of 127) students who participated in online teaching-learning have maintained regularity in their self-study.
3. The 26.74% (73 out of 273) students have maintained regularity in their self-study without participating in the online teaching-learning.
4. The value $r_t = 0.74$ shows a high positive correlation of students' regularity in the self-study habits with participation in their online teaching-learning.
5. Subject-wise percentages of students (out of 127) who express that they have pending online class home assignments are as shown in graph-3.
6. 94% (376 out of 400) of students express their willingness to participate in their online teaching-learning.
7. 1.25% (5 out of 400) students say that their school teachers do not provide online teaching-learning.
8. 51.50% (206 out of 400) students say that they have no gadget for the online teaching-learning
9. 11.00% (44 out of 400) students say that they have no internet coverage.
10. 16.75% (67 out of 400) students say their network signal strength is too weak for online teaching-learning.



Graph-3: Pending online class home assignments.

Discussion:

The figures shown in the findings are self-expressive. Online teaching-learning motivates the students to maintain their regular self-study habits. The high percentages of pending online home assignments in different subjects (as in graph-3) indicate an inability to complete them in time. Students' response in this regard is the unscientific burden imposed on them by the teachers during online teaching-learning. Guardians' believes in this regard are the students' fear of the entire environment and negligence of their duty. Very few students who are serious with their home assignments and got them completed in time are due to extra efforts taken by their parents. It

indicates the necessity of training the teachers to enhance the required skills for online teaching-learning.

Guardians of those students who did not participate in the online teaching-learning feel shy to tell the reasons. They have problems either with the internet gadgets or network service. According to them, their students have deprived of school classes during the second wave of the covid-19 pandemic. They feel helpless and looser. They admit that they are unable to provide any academic support to their dear ones.

Students who participated in the online teaching-learning maintained regularity in their self-study relatively more than those who did not participate in it. But the online teaching-learning conducted by the teachers were not helping them enough to solve the problems of their home assignments. The reason behind it is either the dull handling of online teaching-learning or inadequate participation in it. Both reasons indicate the shortage in online teaching-learning. Therefore, teachers must develop and improve their online teaching skills to attract the attention of the students. Students must feel the importance of online teaching-learning. Students must involve in online teaching-learning wholeheartedly.

Conclusion:

Guardian sincere assistance in participating in online teaching-learning is of prime importance to the secondary students. Constant patience in online teaching-learning is its prime requirement. Teacher clarity in subject content delivery, like the quality of slide presentation with sufficient explanation, is mandatory for a successful online teaching-learning.

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