

LEARNING RECOVERY: IMPACT OF COVID-19 LEARNING LOSSES

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Abstract

The present study is an attempt to explore the impact of Covid-19 driven School closure on foundational concepts and skills related to academics of School Students. A Simple random sampling technique has been adopted for recruiting samples from the population. An offline survey was conducted to collect data among 594 participants. The findings of the study reveals that there was a significant learning loss occurred in the basic concepts and academic skills of the students due to Covid-19 School closure. For example, the cognitive and psychomotor abilities in academics were declined. Specifically, the long academic interval affects memory retention, comprehension, reasoning, and mind-motors coordination among students. This study further accelerates the teachers to focus on the lost opportunities during Covid-19 as a spectrum of learning recovery.

Keywords: *COVID-19, School Closure, Learning Loss, Learning Recovery, School Students, Academic Skills.*

Introduction

The COVID-19 pandemic is a global outbreak that has created unprecedented public health concerns. Almost many countries have imposed severe lockdown measures to reduce social contact and spread of the Novel Corona virus (Brodeur et al., 2020; Eyles et al., 2020). The consequent school closures have caused challenges for teachers, students, and their parents. Lost time in school can potentially create an adverse impact on children's educational outcomes and their future well-being (Eyles et al., 2020). To mitigate the unfavourable influence of physical closures, many schools have provided exclusively online lessons to their students. The assessment of the effectiveness of online delivery of education for students' academic outcomes is highly imperative, particularly during an ongoing severe pandemic (Clark et al., 2021).

Since 15th March 2020, Closure of commercial establishments, schools and colleges were implemented in the State Government of Tamil Nadu due to COVID-19. Primary schools were closed in the state from 15th March (Shalini, 2020). A press release stated that, the Class X, SSLC board exams were postponed to after 14th April 2020, which were due to begin from March 27 2020. Later on, these board exams were totally called off. Further it was declared that the students were advanced to the next grade without evaluation (Press release, dated. 16.04.2020).

In August 2021, the government of Tamil Nadu called for a consultation meeting pertains to reopening of schools. It admits the learning gap that had emerged due to school shutdowns as a serious problem. Through the process of profound discussions and debates with education experts, civil society voices and the teaching community, the ITK programme was born. Illam Thedi Kalvi or ITK substantially referred as “Education at your doorstep” (Mukherjee, 2022).

Review of Related Literatures

Interrupted access to school is associated with damaging reductions in foundational skills. Protecting and prioritizing foundational learning is key to reducing the potential loss (Conto et al., 2020). Returning to school after post pandemic may expect a short fall of learning loss ~63 to 68% in reading and ~37 to 50% in mathematics relative to a typical school year (Kuhfeld et al., 2020). There is a positive correlation between learning loss and students' socio-economic background. Further, a mitigation strategy has been recommended to overcome learning loss so that it does not continue to widen as a result of school closures that continue to occur due to Covid-19 which has not yet disappeared (Pasani C. F., et al., 2021).

Storey and Zhang (2021) found that, Achievement in mathematics is somewhat more negatively affected than reading achievement of the students. As a result of COVID-19 pandemic induced school closures have negatively impacted on 1.7 billion children, resulting in losses of learning time and a decline of learning scores (Wu, M., et al., 2022). Unforeseen extended school closures can lead to lower test scores, lower educational attainment and decreased earning potential (Psacharopoulos et al., 2020). Wong et al., 2020 argues that school reopening results in many challenges in which the children showed difficulty to maintain their motivation and concentration in studies.

Significance of the study

Various measures and mitigating programs were established in Tamil Nadu (Southern part of India) in addressing the psychological impacts and academic losses of students during the school closures. But there are some practical and socio-economic barriers that affects the children especially from the low-income families during the pandemic School closure. Focusing towards education sector, school closure not only disconnects the student from their school's facility. It forcefully shifted their learning from School Education to Home

Education or Online Education. In this regard the researchers decided to find the impact of Covid-19 learning losses. The study was conducted after the school re-openings during the year 2020. This piece of research discusses how the students of Tamil Nadu were facing difficulties with the fundamental concepts of each subject as a result of Covid-19 school closure.

Objectives

- To find out the impacts of Covid-19 School closures among the school students.
- To examine the losses in learning during Covid-19.
- To ascertain the learning loss among the school students at rural and urban settings.
- To implement the lessons learnt from losses to ensure the optimum learning recovery.

Research Questions of the Study

The present study focuses on the following research questions which addresses the academic impacts of Covid-19 School closure among the students.

- In what ways do the students faced difficulties in understanding the fundamental concepts of each subject as a result of Covid-19 School Closure?
- What are the real time challenges faced by the school students when come back to school after Covid-19 School closure?

Delimitations of the Study

- The present study is restricted to Students studying in selected two districts Chennai and Thiruvannamalai only.
- The present study attempts to study only the impacts of Covid-19 school closure on academic related physical and mental skills.
- Students enrolled other than state board are excluded.
- Inclusion of primary level children is strictly banned.

Methodology

The researchers employed Survey Method for the present study since it is a very much useful method in describing the characteristics of large population. It provides opportunity to the researchers to see the reality more closely.

Sample and Sampling Technique

The sample of the present study were the students studying in Government and Government Aided Schools at Middle, Secondary and Higher Secondary levels during the year 2020. It was decided to employ probability sampling procedure; therefore, Simple Random Sampling method was followed to recruit the respondents from the study population. The total sample was composed of 594 participants (M(age)=14.31years; SD=1.63 years; range=10-18 years). Among which, Chennai (N=316; M(age)=14.99 years); SD=0.78 years;

range=13-18 years), Thiruvannamalai (N= 278; M(age)=14.99 years); SD=0.78 years; range=10-18 years).

Data Collection Tool

The data was collected through survey questionnaire, consists of 11 dichotomous items which represents basic concepts and skills pertains to all subjects (Languages, Mathematics, Science, Social Science). The Survey items were carefully framed to cover the cognitive, affective and psychomotor domains of the samples.

Ethical Consideration

In the entire research process, the researchers firmly followed and adhered to the research ethics guidance of Social Research Association, concerning protection of human subjects. For example, collecting prior oral consent to access and conduct a survey from the samples. It has been mentioned clearly in the questionnaire about the study's objectives and purpose, and assured confidentiality of personal identity. Further, the researchers maintained a polite tone to establish a friendly environment to the subjects. This study also ensured the voluntary participation of the samples in the school settings, with the consent of their guardian (or) parents.

Data Analysis

To find out the frequency and percentage, the data got tabulated, organized, and analyzed through Microsoft Excel Office (Version 2021) The basic demographic information such as Gender, Age, grade of the samples (School students) were taken into consideration for analysis. The result showed that out of 594 participants, 286 were boys and 308 were girl students. Further, out of 594 students, 260 of them were falling between the age of 10 to 14 years, and 334 students stands between the age of 15 to 18. Furthermore, out of 594 participants, 148 students were studying in the middle classes (6-8th Grade), 328 students were studying in the secondary level (9 & 10th Grade) and 118 students were studying in the higher secondary level (11 & 12th Grade). In summary, the above-mentioned analysis of the demographic data confirms almost equal distribution of the participants. Majority of the participants align in the age group of 15 to 18 years, which means studying in the secondary level (9th & 10th Grade). The proceeding section, focus on the results and discussion of the statistical analysis of the data collected from the samples of the study.

Results

Table 1 Research Findings

Item No.	Questions	Response	Frequency (N)	Percentage (%)
Q1	Was your handwriting changed during Home Education?	Yes	361	61
		No	233	34
Q2	Is your reading speed reduced due to long interval?	Yes	404	68
		No	190	32
Q3	Are your hand trembles when drawing pictures?	Yes	167	28
		No	427	72
Q4	Is the Poem songs are hard to memorize?	Yes	408	69
		No	186	31
Q5	Are you feeling difficult to understand Tamil and English grammar?	Yes	424	71
		No	170	29
Q6	Do you apply your maths skill for a workout?	Yes	131	22
		No	463	78
Q7	Do you remember mathematical tables?	Yes	225	38
		No	369	62
Q8	Is it difficult for you to remember the names of the vitamins in vegetables and fruits?	Yes	297	50
		No	297	50
Q9	Can you draw a picture and mark the part?	Yes	178	30
		No	416	70
Q10	Did you forget the historical events in the lesson of the past? Do you	Yes	337	57
		No	257	43
Q11	Did you forget the years of historical events you studied in the past?	Yes	372	63
		No	222	37

Discussion

RQ. 1. In what ways do the students faced difficulties with fundamental concepts of each subject as a result of Covid-19 School Closure?

The data of the above table reveals, there is a negative impact of Covid-19 school closure on the academics of the students. To be specific, it significantly affected the Cognitive and Psychomotor domains of the students. The problems pertain to cognitive domain are memory retention, comprehension and application. Whereas, the problems related to Psychomotor domain is difficulty in mind-motor coordination during learning activities. Majority of the students (61%, N=361) have agreed that their handwriting was changed (Q1), reading speed (Q2) got reduced (68%, N=404), facing difficulty in drawing pictures (Q9) and

marking its parts (70%, N=416). The foresaid academic problems (Q1, Q2, Q9) highlighted the impact of Covid-driven school closure on the psychomotor domain of the students. Further, 69% (N=408) students felt difficulty in memorizing poem (Q4), 62% (N=369) could not remember mathematical tables (Q7), 57% (N=338) students forgot the historical events studied in the past grade (Q10), 63% (373) forgot the years of historical events studied in the past (Q11). The crucial finding of the study is, 71% (N=424) students felt difficulty to understand Grammar of language subjects and 78% (N=463) agreed the decline due to long interval. These two are the major key finding pertains to impacts on the cognitive domain of the students. To be precise, students were affected in both the learning domains irrespective of subjects they are studying. As a result of school closure, a long academic break, school students dwelling in rural and urban, Government and Government aided schools sensitized their learning loss on the foundational elements of learning.

RQ. 2. What are the real time challenges faced by the school students when come back to school after Covid-19 School closure?

The present study finds that there was a significant learning loss happened among the school children during Covid-19 driven school closure. Children were completely detached from the schools which causes academic disengagement which leads to learning loss. This has been confirmed by the previous track records of the overall pass percentage of 10th board examination result in Tamil Nadu. In 2019 the overall pass percentage was 95.2, but the first 10th board exam after the pandemic given the overall pass percentage of 90.07. The difference of student's performance between the aforementioned years has declined to 5.13%. In addition, it was about 91.39%, and 92.55% during 2023 and 2024 respectively. The Educational stakeholders have taken many initiatives to mitigate the learning loss. However, many children do not have access to online classes especially majority of the children from rural areas do not have gadgets and uninterrupted network connectivity to attend online classes. In addition, some of the children were supposed to go to agriculture works for daily wage in and around the village, to support their parents to balance their income shock.

The present study finds that, the school closure had negatively impacted on the memory retention, comprehension, mathematical skills, and mind-body coordination which requires good cognition to perform well in academics. These are the real time challenges faced by the students when comeback to school after pandemic driven school closure.

Educational Implications

- This study helps the teachers to identify the learning gaps with respect to the subject and to take decisions on equitable measures to mitigate the identified learning loss among the children.
- It helps the students to sensitize their learning loss occurred due to Covid-19 School closure.

- The major findings of the research project have been submitted to the Government of Tamil Nadu for the purpose of future policies on school education as a post Covid-19 modifications in school education.

Educational Implications

- This study helps the teachers to identify the learning gaps with respect to the subject of teaching.
- It helps the students to sensitize their learning loss occurred due to Covid-19 School closure.
- Earmarked decisions were taken on equitable measures to mitigate the identified learning loss among the children.
- Parents were given awareness at the right time to stop using their children to balance their income shock of the family.
- Simultaneous post covid learning recovery actions were planned and practiced.

Conclusion

Covid-19 School closure has significantly affected the learning curve of students. Though education has been given through online during school closure, socio-economic status of students plays a crucial role in getting access to smartphones. During data collection it has been found that students from rural background went for daily wages in farm fields. The parents of both rural and urban students faced income shock due to loss of job which made difficulties in providing technical support for home education. On the other hand, pandemic school closure forced both the teachers and students to adapt technology.

This paradigm shift from the traditional education to online education has also resulted in a positive impact in the teaching-learning environment. Nevertheless, the progressive changes in policies, technological advancements, in-service trainings and special schemes implemented by the Government of Tamil Nadu have increases the academic performance of the children every year. Outcome of the study can be used by every individual teacher to maximise optimum learning recovery.

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