



# An Analysis of Student Learning Loss during Covid-19 Pandemic

Juran Joy Reang

Student, Regional Institute of Education (NCERT) Bhubaneswar, India

## Abstract

The Covid-19 pandemic caused major disruption to the worldwide education system. The word “learning loss” refers to any loss of abilities and information such as specific or generic. The early studies and reviews of the first wave of lockdowns and school closures put forward significant learning loss in some countries. This present research analysis and review focused between March 2020 and March 2022 all the available evidence and documents the empirical findings of learning loss of students due to the Covid-19 school closures. This current analysis and thorough evaluation of records reveals loss of learning of the student’s evidence documented due to the start of the Covid-19 school closures. The findings of the present analysis were found that there is a learning loss during covid-19 school closures. Also found that significant learning loss between boys and girls of the Covid-19 and school closures.

**Keywords:** Learning loss, Covid-19, Pandemic, An Analysis

## 1. Introduction

The Covid-19 Pandemic has caused the most momentous disruption to the world education system in history. UNESCO (2020) report visualised that nearly 1.6 billion learners impacted in around more than 190 countries and 94% of the world’s student population, were impacted for educational institution closures. In this disaster teachers and administration were not prepared and also the outcome control situation to transmit the learning. In comeback from this disruption, many researchers began to study, analyse and review the impact of covid-19 pandemic school closures on students’

learning loss. The term “learning loss” is generally used in the literature in terms of declines in student knowledge and skills (Pier, Hough, Christian, Bookman, Wilkenfeld, & Miller, 2021). Learning loss occurs when educational progress does not occur at the same rate at which it has historically compared to previous years (Pier et al., 2021). Students` educational capabilities and perseverance had been found to be negatively impacted with the school disruptions (Alexander et al., 2007; Belot & Webbink, 2010; Haeck & Lefebvre, 2020). The negative effects due to the school closures, summer vacation, natural disaster and of absenteeism on student achievement previously literature are already well documented (Kuhfeld et al., 2020a).

## 2. Objectives

1. To study the impact of the covid-19 pandemic and school closures on learning of students.
2. To study the impacts differ between boys and girls of the Covid-19 and school closures.

## 3. Method

### 3.1. Search and Review strategy

In the present study researchers searched for studies published between March 2020 and March 2022. Researcher does not set any kind of restriction on the search to any particular geographical zone and reviewed only a specific English language publication part. This analysis included peer reviewed articles and journals published from several journal publications. Researchers excluded in this analysis about simulations or forecasting studies which give predictive modelling learning loss. While paper reviewed researchers used Google form and PubMed with search terms learning loss, Covid-19 pandemic, an analysis and snowball sampling (i.e., other studies cited identifying). Researchers identified 25 studies and matched the inclusion and exclusion criteria.

## 4. Analytical review and effects reporting

Once the article selection completed, researchers were classifying and analysed the data based on sample size and learning loss. As indicated Table 1, found that six were learning loss and one study found that insignificant in learning loss (Gore et. al (2021)). In the present finding researcher reporting learning loss effects size in terms of standard deviation change. Some papers do not include results based on standard deviation and sample but they are counted in overall analysis. Here below some papers are mentioned for the present analysis.

**Table 1: Descriptive Criteria of included studies**

<u>Authors (Country)</u>	<u>Sample size</u>	<u>learning loss</u>
Angrist et. al (2020) (Botswana)	7550	0.29 Standard Deviation
Maldonado et. al (2021) (Belgium)	402	0.17 Standard Deviation
Engzell et. al (2021) (Netherlands)	350,000	0.08 Standard Deviation
Clark et. al (2021) (China)	1835	0.22 Standard Deviation
Gore et. al (2021) (Australia)	1427	Insignificant
Schult et. al (2021) (Germany)	80,000	0.09 Standard Deviation
Tomasik et. al (2020) (Switzerland)	13134	0.20 Standard Deviation

## 5. Findings of the Study

In this section, researchers present and discuss briefly the findings of the systematic analysis of the literature study. For each research question, the researcher provides a summary of the crucial findings. Of the 25 studies analysed, a total of 7 were identified. The findings found that there is an impact on students' learning. Agrist et. al (2020) studies found that the learning loss at 0.29 standard deviation. Maldonado and De Witte (2020) a systematic review found Grade 6 students in Belgium experienced losses of 0.19 SD in mathematics and 0.29 SD in Dutch. There is an insignificant result found in the study Gore et. al (2021). Also the findings found a larger effect in girls compared to boys (Clark et. al, 2021). In the study of (Ardington et. al, 2021) found that in South Africa girls are better performing in both their reading levels and trajectories in normal school year, but due to school closures it was found that in grade 2 and grade 4 samples that girls' word reading is extremely negatively affected relative to boys. However, there is no evidence of learning loss in Denmark (Birkelund and Karlson).

## 6. Conclusion

The primary motivation of this analysis study was to investigate the learning loss of the students during the covid-19 school closures. This will aid the teachers and administration to facilitate proper learning. As a result of this analysis the Covid-19 school closures have a huge impact on students' learning. Especially of the school students learning loss found such as skills, information, abilities and mathematics. One study found that girls have a greater impact in learning loss compared to boys. Some of the countries do not affect or learn loss evidence is mixed in France, there is with average very low levels of learning loss experience (Thom and Vincent-Lancrin 2021). This analysis covered only the impact of learning loss and gender differ in learning loss.

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