

Received: 11 November 2022 Accepted: 02 February, 2023

DOI: <https://doi.org/10.33182/tmj.v8i3.1>

Impact of Online Learning on Young Students During Covid-19 Pandemic

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Abstract

The COVID-19 pandemic has introduced many challenges to the whole world in different aspects. It has affected people regardless of gender, nation, income, or social status. Education is no exception; it was equally affected. Schools were shut down in March 2020, and apart from various initiatives through the government and school authorities, parents or guardians would not allow their wards to attend the school in full swing. Now schools have also shifted from their basic learning model (classroom teaching) to virtual platforms to conduct online classes and try to maintain learning continuity among students. The main objective of this paper is to assess the influence of online learning on school-going students. The research findings are based on the responses obtained with the help of a self-structured questionnaire from the sample of 146. A descriptive research design has been used, and data has been calculated with the help of frequency distribution, ANOVA, and correlation analysis.

Keywords: *Online Learning, Digitalization, Mental Stress, Physical Health*

Introduction

The whole world is facing a pandemic health crisis. Since it was declared by the World Health Organisation, school authorities have been forced to shift to online teaching through e-learning systems (WHO, 2020). Due to the non-availability of vaccines for COVID protection below the age of 18, online mode has become favourable and essential for schools to sustain relationships with young students. Online classes have been introduced by the majority of schools with limited resources, but because of this prolonged uncertainty, sooner or later schools and parents understood the situation and were ready to adopt that mechanism.

Teachers also had to adopt the new deliverables, for which they may not have been trained. Schools and colleges initially did not have the proper facilities and strategies for the execution of online classes (Zhang, Wang, Yang, & Wang, 2020). Not only teachers and students, but even parents also had problems, as many of them did not have proper knowledge about the online mode. Many of the working parents had very limited time to assist their wards during online classes. Although

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there are several modes are available to support the online education (Nash, 2020) during this pandemic and schools were taken them as an advantage. Now, schools are more connected to students, and this will help them with continuous learning. Online methods of teaching make learning possible while also combating the cost of institutions (Farinella et al. 2000). Schools are not only offering online classes for their own curriculum, but they also offer various online enrichment activities to their students, which helps in the maintenance of interpersonal relationships. They also provided an interactive platform for students and parents so that schools and specialists or consultants could protect them against any kind of adverse situation.

Students from privileged backgrounds, supported by their parents and enthusiastic and able to learn, accepted and adopted the alternative e-learning opportunities. But we cannot deny the fact that students from rural backgrounds have limited resources and suffered academic losses during this pandemic. They don't have adequate access to information and communication technologies. Even those from urban areas who are economically weak often have limited access to digital technologies (Grishchenko, 2020).

Long screen time and sitting in front of devices escalate health issues. It's not only adversely affecting physical health; mental health deteriorates faster than physical health. It leads to anxiety and depression. The COVID-19 pandemic and the closing of schools have also affected the mental health of students (Savage et al., 2020). A number of studies have found that a large section of students suffer from mental disorders of varying severity (Khan et al., 2020; Jiang, 2020; Essadek & Rabeyron, 2020; Kaparounaki et al., 2020; Copeland et al., 2020).

Objectives of Study

1. To study the overall impact of online learning on young students during COVID-19 pandemic.
2. To study the correlation between online learning and working status and educational status of parents during COVID-19 pandemic.
3. To study the correlation between online learning and physical and mental exhaustion of young students during COVID-19 pandemic.
4. To determine the factors affecting online learning during COVID-19 pandemic.
5. To study the impact of age, grade, board and family status on online learning.

Hypothesis of the study

H₁: There is significant impact of online learning on young students during COVID-19 pandemic.

H₂: There is a significant correlation between online learning and working status and educational

status of parents during COVID-19 pandemic.

H₃: There is a significant correlation between online learning and physical and mental exhaustion of young students during COVID-19 pandemic.

H₄: There is significant impact of age, grade, board and family status on online learning.

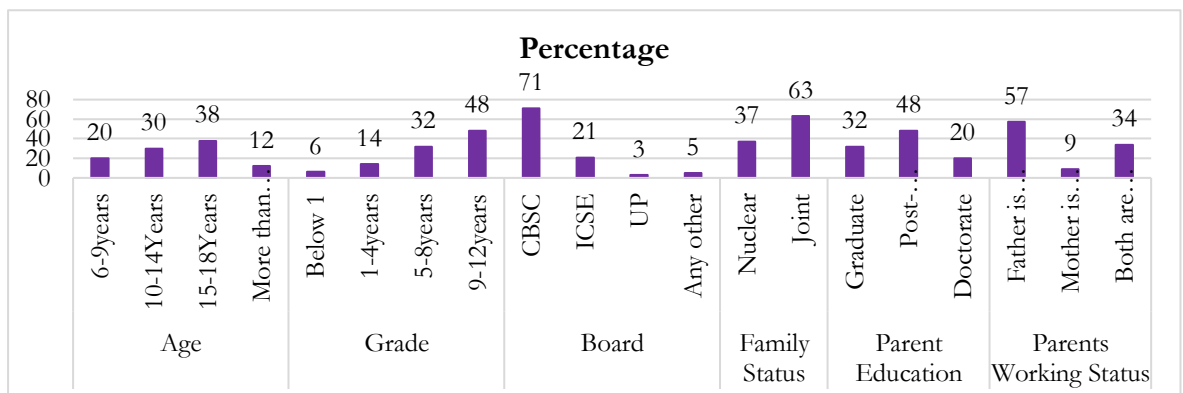
Methodology

The study is based on a descriptive survey design. Convenience sampling techniques were used to collect primary data, and primary data has been collected with the help of a structured questionnaire. 146 respondents were used for the study from Lucknow city. Data obtained from the field were analyzed using descriptive statistics such as frequencies of response, percentages, and hypotheses checked by one-way ANOVA, Pearson’s correlation coefficient, and chi-square.

Result & Discussion

The demographic profile (Table 1) of the respondents shows that 38% of students lie between the ages of 15 and 18 years and 48% from the 9th to 12th grade, who are quite comfortable with the latest technology and also better understand its application. More than 70% are from CBSC board, 21% ICSE and 3% U.P. Board respectively. 63% of respondents reside in joint families, which shows that young students get assistance from other family members while doing online classes. Parent education status also influences the learning ability and sincerity of young students towards online classes, and the data supports this fact as all of the parents are graduates and 68% of the parents retain their degree post-graduation. The data also illuminates the fact that 57% of young students' only father is working, 9% of students' only mother is working, and 34% of young students' both father and mother are working.

Table 1: Respondent Profile



Objective 1: To study the overall impact of online learning on young students during COVID-19 pandemic.

H₁: There is significant influence of online learning on young students during COVID-19 pandemic.

Table 2: influence of Online Learning

Dimension	Chi-square Tab	Chi-square Calculated	Degree of Freedom	Result
Overall Impact of Online Learning	110.89	837.87	88	Null Hypothesis Rejected

Outcome: At 5% level of significance, the critical (tabulated) value of χ^2 for degree of freedom (df) is (88) = 110.89 (As χ^2 calculated > χ^2 tabulated) Since the value of the chi-square calculated is more than the tabulated chi-square (Table 2). the Null hypothesis is rejected and alternative hypothesis is accepted. There is a significant impact of online learning during COVID-19.

Objective 2: To study the correlation between online learning and working status and educational status of parents during COVID 19 pandemic.

H₂: There is a positive correlation between online learning and working status and educational status of parents during COVID 19 pandemic.

Outcome: While analysing the correlation between effective online learning and the working status of parents (Table 3), the study found that there is a moderate and significant relationship between them ($r = 0.79$). The present study also shows a moderate and significant correlation between the effective learning of young students and the educational status of their parents ($r=0.03$). Hence, the hypothesis is accepted that there is a positive correlation between them. Although the r value (0.03) is very close to 0, which also implies that the educational status of parents has no correlation with effective online learning because all the parents (in the present study) are graduates and 68% hold post-graduation degrees, it would not make any difference on their part.

Table 3: Correlation between Online Learning and Working Status/ Educational Status of Parents

	Effective Online Learning	Working Status of Parents	Educational Status of Parents
Effective Online Learning	1		
Working Status of Parents	0.79	1	
Educational Status of Parents	0.03	-0.58	1

Objective 3: To study the correlation between online learning and physical and mental exhaustion of young students during COVID 19 pandemic.

H₃: There is a positive correlation between online learning and physical and mental exhaustion of young students during COVID 19 pandemic.

Outcome: Online classes or learning are very favourable for the young students in this pandemic, and they also emerge as a strategic tool for schools. But it also has certain limitations, like more screen time, less involvement in physical activities, a lack of concentration, and various mental as well as physical disabilities. The present study tries to identify the correlation between online learning and physical and mental exhaustion or stress in young students (Table 4). The study shows that there is a moderate and significant positive relationship between effective online learning and mental exhaustion ($r = 0.80$) and physical exhaustion ($r = 0.71$)

Table 4: Correlation Between Online Learning and Mental/Physical Exhaustion

	Effective Online Learning	Mental Exhaustion	Physical Exhaustion
Effective Online Learning	1		
Mental Exhaustion	0.80	1	
Physical Exhaustion	0.71	0.88	1

Objective 4: To determine the factors affecting online learning during COVID 19 pandemic.

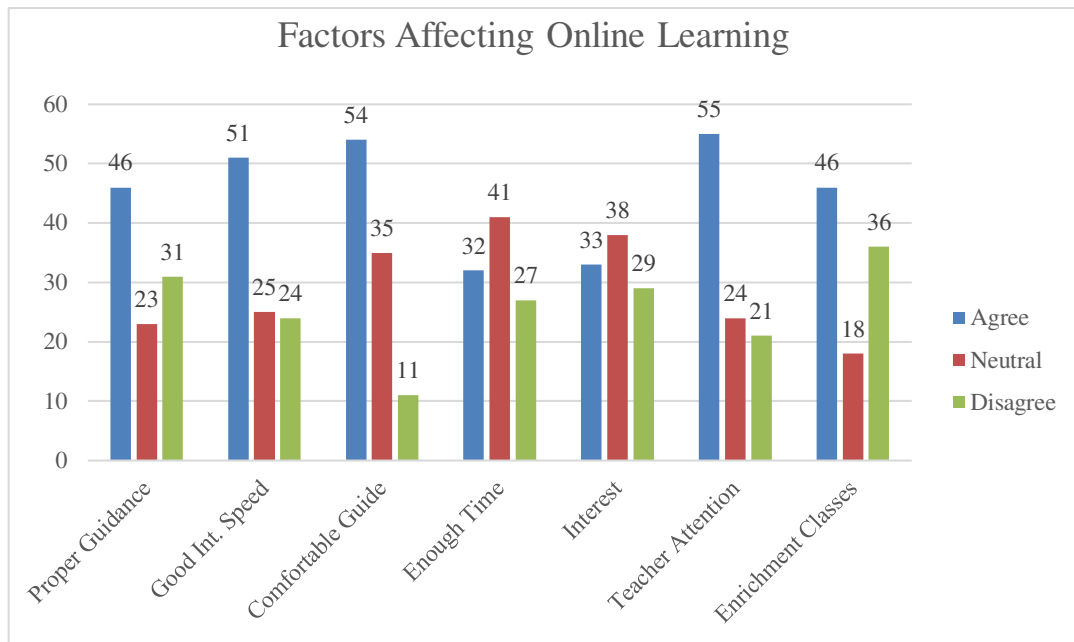
Outcome: From the above objectives, it is now clear that online learning has a significant impact on the mental and physical health of young students and is also correlated with the educational and working status of parents. Objective No. 4 is more focused on the determination of the factors that affect online learning. Figure 1 illustrates that 46% of respondents agreed on the fact that their wards need proper guidance while taking online classes, and 31% agreed on the same. More than 50% agreed that good internet speed affects online learning because students get clear instruction and are constantly connected with their classes.

Most of the parents are comfortable guiding their wards during online learning, as all of them are graduates. 41% of respondents showed a neutral response when asked if they have enough time to guide their ward during online classes; 32% agreed and 27% disagreed that they have enough time. The present study depicted mixed responses about young students' interest in online classes: 33% agreed, 38% were neutral, and 29% disagreed, respectively.

55% of respondents reveal that during online classes teachers provide appropriate attention to their ward, but 21% disagree, and 24% are not able to decide whether teachers or their respective wards pay proper attention or not. 46% of respondents shared the information that their ward also

participates in other enrichment classes apart from regular school classes, and 36% were not interested in other enrichment classes for their respective ward.

Figure 1: factors Affecting Online Learning



Objective 5: To study the impact of age, grade, board and family status on online learning during COVID 19 pandemic.

H4: There is significant impact of age, grade, board and family status on online learning during COVID 19 pandemic.

Outcome: To determine whether any of the differences between the means of age, grade, board, and family status are statistically significant, compare the p-value at the significance level to assess the null hypothesis. Table 5 shows the difference in impact of online learning based on age, grade, board, and family status. The present study shows that the impact of online learning is different for different age groups of students. Students below 9 years, 10–14 years, 15–18 years, and more than 18 years have dissimilar impacts. Below 9 years, students need assistance from their parents, and above 15 years, students are now well understood and quite aware of the online mode of learning.

The study also depicted that there is no difference on the basis of grade, board, or family status. Therefore, it concludes that the difference in impact of online learning due to grade, board, and family status is not significant. Online learning affected all, regardless of grade, their board, whether

they are from CBSE, ICSE, or UP, and family status, whether they are from a nuclear family or a joint family.

Table 5: ANOVA Table of Selected Dimensions

Dimensions	d.f.	F calculated	F tabulated	Null Hypothesis	Results
Impact of Age on online learning	19	4.07	3.05	Rejected	All population means are not equal
Impact of Grade on online learning	19	1.47	3.05	Accepted	All population means are equal
Impact of Board on online learning	19	0.64	3.05	Accepted	All population means are equal
Impact of family Status on online learning	9	3.54	5.19	Accepted	All population means are equal

Conclusion & Recommendations

The present study received responses from 146 students. Out of the respondents, 71% were from the CBSC Board, 38% were from the age group of 15–18 years, and 48% were from grades 9–12. More than 60% of the young students are from the joint family. Apart from parents, whether they are working or not, they get proper assistance from other family members, which makes online learning more effective. 55% agreed on the fact that they got proper teacher attention during online classes.

The present study depicts the correlation between mental and physical exhaustion and online classes. Almost 90% of parents agreed that online classes limit personal interaction, and their respective wards also lack adherence to classroom etiquette. Random monitoring while taking online classes, acquaintance with exercise or yoga, spending some quality time with your ward, exploring some indoor games (excluding video games), imposing some responsibilities like watering plants, cooking without fire, taking care of pets, etc. are a few suggestions for the parents that help their wards deal with mental and physical tiredness.

While assessing the impact of age on the effectiveness of online learning, the study found that age differences have a significant impact on online learning. Students below 9 years old did not effectively use the devices; they frequently lost interest in online classes. Parents were not allowed to take their wards to offline classes. They were invested in new devices, and we also enrolled them in other enrichment classes like ABCUS, music, dance, etc. The COVID-19 pandemic has led to

the adoption of online education on a large scale around the world for the first time. The lessons we learn about online education during this pandemic will be useful during future emergencies.

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