

Relationship between Problems Associated to Online Learning and Academic Stress among Secondary School Students

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Abstract: *The COVID-19 pandemic is accompanied with strict isolation measures that led learners and educators to confine to their homes; a disturbing social life and learning at isolation has made it stressful for students and educators. Online education in this condition has brought a lot of problems not only to students but also to their parents. This study is conducted to assess the problems associated with online learning and to find its relationship with academic stress among secondary school students. The sample taken were 100 secondary school students, the data was collected in google forms, the tools used were Academic Stress Inventory to check the academic stress of secondary school students related to online learning and Questionnaire to check the problems associated to online learning of secondary school students. The statistics used for the study were Mean, Standard Deviation and Correlation to find the significant relationship between the two variables. The results show that there is a positive correlation between the two variables.*

Keywords: Online learning, academic stress, secondary school students

1. Introduction

Due to covid-19 pandemic, the government of different countries all over the world has closed all the educational institutions to control the spread of disease, which is creating a direct impact on students, educators and institutions. The sudden shift from the physical classroom to virtual space is creating a disturbance among students. The purpose of this study was to analyse the academic stress experienced by students during online education and the problems associated to online learning. The study also analyses the relationship between the two variables.

The definition of quality education has undergone a metamorphosis in the online mode and now it includes the ICT components that help to overcome all the challenges due to the physical distance between the teacher and the learner. Switching Over to the online mode of teaching is a huge challenge for teachers. They have to imbibe a number of hard and soft skills to continue online classes successfully to date. A shift to online methods can be far more difficult due to lack of access to the Internet and devices which has created a gap in digital literacy. Rough estimates suggest pursuing online education can be very costly to the poorest households. Although the government of India is taking initiative to develop digital infrastructure, a lot needs to be done in this direction.

Online learning is the delivery of instruction to a remote audience using the web as an intermediary. Motivation, interest, and involvement of the teacher can enhance learning. The choice of activities can range from audio to video, learner Presentations, surveys, investigatory projects, quizzes, reports with illustrations and graphics etc. When it comes to online education and learning, many factors help in the success and failure of the classes through online mode.

For online education to succeed, both students and instructors must observe how it functions and have trust in the medium and the various online platforms. Mahapatra & Sharma (2020) studied online education and academic stress and its psychological impact on children and adolescents in India. The findings of this study showed that various psychosocial issues which lead to academic stress among children and adolescent students. Chandra(2020) attempted to study online education and perception of academic stress and emotional intelligence copying strategies among college students, indicated that significant differences were observed between the fear of academic failure among male and female students.

High speed internet and stable power supply are the biggest problems. Comparing face to face, online learning brings forth significant shortages such as lack of human connect, absence of opportunities of collaborative learning, supervision and the most glaring being lack of opportunities for hands on learning in complex subjects such as science and mathematics. Since online education can be accessed at home or from any other convenient place, there is very less discussion among the peers. Most of the discussion takes place through email, chat room or discussion groups. There isn't any campus atmosphere to improve social interaction; so students do not get the opportunity to develop any social links which do help in the career growth. Many feel that faculty members and students are not trained in using online programs, online courses are not designed properly or there is inadequate financial management. The quick and sudden shift of teaching from a conventional system to a virtual and online framework might cause intense stress among students. Stress occurs when a person is uncertain about something and most important; it affects both the body and the mental health. Academic stress has become part of students' academic life due to the various internal and

external expectations placed on their shoulders. Even though the benefits of online learning are many; the sudden shift from offline to online study and the problems associated to it may cause academic stress in students.

Schools offer a structured online learning environment, but many online learning problems like internet problems, weak signals; lack of interaction with teachers and peers, financial problems etc., which students face, is a stressor. Therefore, this study aimed to explore the relationship between problems associated to online learning and academic stress among secondary level school students.

2. Methodology

2.1 Method

Online survey using Google form was used for this study.

2.2 Tools

The tool used for this study was Academic Stress Inventory with 34 items. The items are so arranged that answers to them could be assigned numerical values. Each item or statement in the academic stress Inventory is followed by three responses such as 'always', 'sometimes' and 'never'. Responses were scored as '3', '2', '1' for positive items and '1', '2', '3' for negative items. The individual score on the academic stress scale is the sum of the responses on all the items. The investigators also developed a questionnaire to find out the problems associated to online learning. The items are so arranged that answers to them could be also assign numerical values. Each item or statement in the questionnaire is followed by two responses such as 'Yes' or 'No'. Responses were scored as '1', '0' for positive items and '0', '1' for negative items. The individual score is the sum of the responses on all the items.

2.3 Sample

A sample of 100 secondary level school students from the state of Kerala in India was selected randomly for the study. Secondary level students are students who are studying in classes 8 to 10, the last three years of secondary level of schools in India after which students can join higher secondary level in different streams.

2.4 Statistics

The statistics used for the study were Mean, Standard deviation and Correlation to find the significant relationship between the two variables.

(i) Mean

$$\bar{X} = \frac{\sum_{i=1}^n x_i}{N}$$

Where:

\bar{X} bar is the arithmetic mean, \sum is the sum of all the scores and N is the number of scores.

(ii) Standard Deviation

$$\sigma = \sqrt{\frac{\sum (x_i - \mu)^2}{N}}$$

Where:

$\sum (x_i - \mu)^2$ is the sum of squared deviation of the scores from arithmetic mean and N is the number of scores.

(iii) The correlation coefficient (Karl Pearson's coefficient of correlation) Indicates the strength of the relationship between two variables can be found using the following formula:

$$r_{xy} = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}}$$

Where:

- r_{xy} – the correlation coefficient of the linear relationship between the variables x and y
- x_i – the values of the x-variable in a sample
- \bar{x} – the mean of the values of the x-variable
- y_i – the values of the y-variable in a sample
- \bar{y} – the mean of the values of the y-variable

(Draper & Smith, 1998)

Objectives of the study

- To find out the level of problems associated to online learning among secondary school students.
- To analyse the problems associated to online learning among secondary school students.
- To find out the level of academic stress among secondary school students.
- To find out the relationship between problems associated to online learning and academic stress among the secondary school students.

Hypothesis of the study

H₁ There is a significant relationship between problems associated to online learning and academic stress among the secondary school students.

3. Analysis and Interpretation of Data

(i) The figure 1 given below shows the level of problems associated to online learning among secondary school students. The percentage of secondary level students in different levels; Average, Below average and Above average based on Mean and standard deviation of the scores. The students who scored above Mean + standard deviation were considered as Above average, students who scored below Mean - standard deviation were considered as below average, students who got scores between these two values were considered as average. The figure shows that 61%, 15% and 24% secondary school students belong to Average, below average and above average sections.

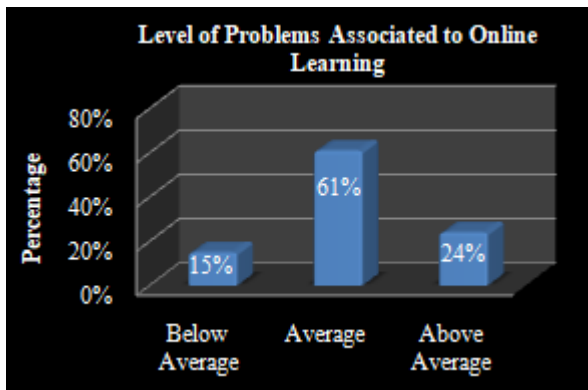


Figure 1: level of problems associated to online learning among secondary school students

(ii) The problems associated to online learning among secondary school students were analysed. Figure 2 gives the percentage of secondary school students facing different types of problems associated to on line learning. 25.8%, 58%, 75.6%, 40.4%, 48.8% and 40% secondary school students face health issues, lack of class room environment, stress, internet failure and other technical issues, lack of interest in learning and financial issues respectively.

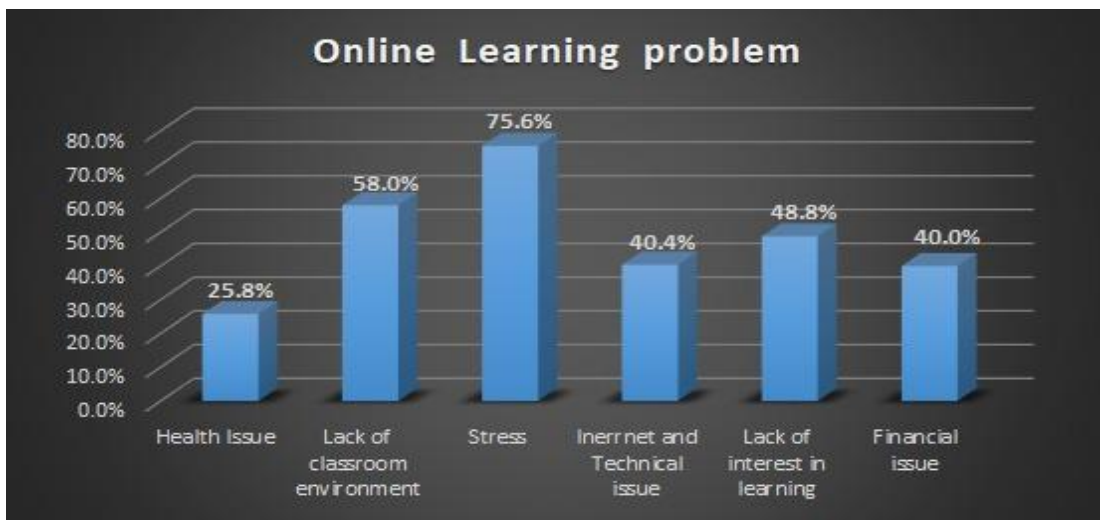


Figure 2: Problems associated to online learning among secondary school students

(iii) The figure 3 given below shows the level of Academic stress among secondary school students. The percentage of secondary level students in different levels; Average, Below average and Above average based on Mean and standard deviation of the Academic stress. The students who scored above Mean + standard deviation were considered as Above average, students who scored below Mean - standard deviation were considered as below average, students who got scores between these two values were considered as average. The figure shows that 19%, 67% and 14% secondary school students belong to below average, average and above average sections.

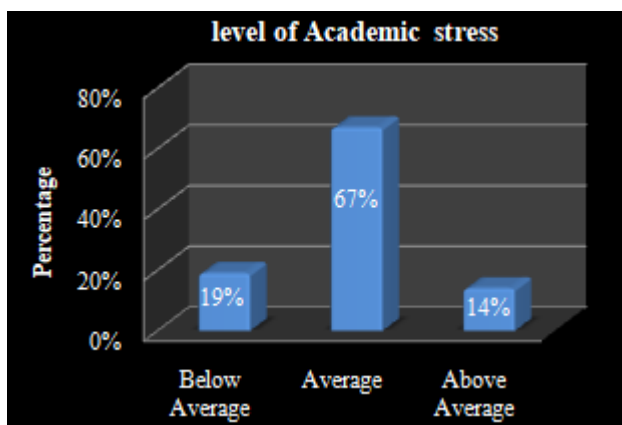


Figure 3: level of Academic stress among secondary school students

(iv) The scores of students related to problems associated to online learning and academic stress among the secondary school students were calculated and values were used to find the Correlation. The results are given below in Table 1.

Table 1, Relationship between problems associated to online learning and academic stress among the secondary school students

Variables	Mean	Standard deviation	Correlation coefficient	Level of significance
Problems associated to online learning of secondary school students	17.2	7.075	0.806	0.01
Academic stress of secondary school students	53.59	23.14		

*Significant at 0.01 level

Table 1 shows the mean value of Problems associated to online learning of secondary school students is 17.20 with standard deviation 7.075 and the mean value of Academic stress of secondary school students is 53.59 with standard deviation 23.14. Here the Pearson correlation coefficient is 0.806, $p < 0.01$. So there is a high, positive, significant relationship between online learning problems and academic stress among secondary level school students.

4. Findings and Conclusions of the Study

- 61%, 15% and 24% secondary school students belong to Average, below average and above average sections regarding the problems associated to online learning.
- The findings of the study shows that 25.8%,58.0%,75.6%,40.4%,43.8% and 40.6% respectively were the percentage of secondary school students facing health issues, lack of classroom environment, stress, internet failure and other technical issues, lack of interest in learning and financial issues.
- 67%, 19% and 14% secondary school students belong to Average, below average and above average sections regarding the academic stress among secondary school students
- The results of the study reveal that there is high, positive, significant relationship between online learning problem and academic stress among secondary level school students.

5. Educational Implications of the Study

This study would be helpful to teachers, parents, educators and students to understand the problems associated to online learning and its impact on education. The findings of this paper will be useful to assess the key challenges of online education and will be beneficial to understand the academic stress experienced by students and how a cultural and educational modification can be implemented.

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