

## IMPACT OF ONLINE EDUCATION ON STUDENTS' LEARNING

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### Abstract

The present study investigates the impact of online education on students. With the proliferation of online learning, it is important to assess the effectiveness of this mode of education. The study uses a mixed-methods approach to explore the experiences of students enrolled in online courses. Quantitative data were collected through a survey of students, while qualitative data were obtained through interviews with selected participants. The results indicate that online education has a positive impact on students' academic performance and satisfaction with the learning process. However, challenges such as technical difficulties and lack of social interaction were also reported. The study provides insights into the benefits and challenges of online education and highlights the need for further research in this area to ensure the delivery of effective and engaging online courses.

**Keywords:** Online education, Student experience, Academic performance, Satisfaction, Challenges.

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### 1.Introduction:

Online education has gained significant traction in India in recent years, particularly in the wake of the COVID-19 pandemic. With the closure of schools and universities, online education has emerged as an alternative mode of education delivery, allowing students to continue their studies from the safety of their homes. The pandemic has highlighted the potential of online education to democratize education and provide access to quality education for all, irrespective of geographic or economic constraints.

Online education has also addressed the issue of limited seats in traditional educational institutions, providing students with a wider range of courses to choose from. It has opened up avenues for learning that were previously inaccessible to many students due to financial, social, or geographical barriers. Online education has also allowed for the development of specialized courses that cater to specific industries or professions, making education more relevant and job-oriented.

However, the rapid expansion of online education has also raised concerns about the quality of education being provided through this mode of delivery. Many online education providers have been accused of offering sub-standard courses with little academic rigor, resulting in a dilution of the quality of education. Moreover, the lack of social interaction and face-to-face engagement with teachers and peers has been identified as a major challenge for students enrolled in online courses. Despite these challenges, online education is likely to continue to grow in India, particularly in the wake of the pandemic, and it is essential to ensure that it is delivered in a manner that upholds the quality of education and meets the needs of students.

The rapid expansion of online education has revolutionized the way students learn, making education accessible to a wider range of learners. Online learning has become an essential component of higher education programs, providing students with flexibility in terms of time and location. The COVID-19 pandemic has further accelerated the adoption of online education as a means to ensure continuity of learning during times of crisis. With the growing popularity of online education, it is important to examine its impact on students.

## 2. Aim of the Study

This study aims to investigate the impact of online education on students' academic performance, satisfaction, and overall learning experience. Online education has been praised for its convenience and flexibility, but concerns have also been raised about the quality of education provided through this mode of delivery. This study seeks to shed light on the effectiveness of online education and the challenges that students face in this environment.

The study uses a mixed-methods approach to explore the experiences of students enrolled in online courses. Quantitative data were collected through a survey of students, while qualitative data were obtained through interviews with selected participants. The study examines the benefits and challenges of online education and provides insights into how to ensure the delivery of effective and engaging online courses.

## 3. Significance of the Study

The study is significant in the context of the current higher education landscape, where online education has become an integral part of the learning experience. The findings of this study can inform educators and policymakers in their efforts to improve the quality of online education and to ensure that it is a viable option for students seeking to pursue higher education.

## 4. Review of Literature

A study by **Zhang et al. (2019)** found that online education can have a positive impact on student learning outcomes, particularly when it is designed to promote student engagement and interaction.

**Bawa (2016)** conducted a meta-analysis of studies on online education and found that online education can be as effective as traditional classroom-based education in terms of student achievement and satisfaction.

A study by **Allen and Seaman (2017)** found that online education has continued to grow in popularity in the United States, with over 6 million students enrolled in online courses in 2016.

**Hossain and Farhana (2021)** conducted a study on the impact of online education during the COVID-19 pandemic and found that while online education had some positive impacts, students faced challenges related to technical issues, lack of interaction with teachers, and lack of motivation.

A study by **Swan et al. (2014)** found that online education can be effective in promoting student engagement and active learning when it is designed to promote interaction and collaboration among students.

**Liu et al. (2019)** conducted a study on the impact of online education on students' critical thinking skills and found that online education can promote the development of critical thinking skills when it is designed to promote student engagement and active learning.

A study by **Dziuban et al. (2018)** found that online education can be effective in promoting student satisfaction and engagement when it is designed to provide students with a sense of community and social presence.

A study by **Means et al. (2013)** found that online education can be effective in promoting student learning outcomes, particularly when it is designed to provide students with personalized learning experiences and opportunities for formative assessment.

A study by **Kim and Lee (2018)** found that online education can have a positive impact on students' academic achievement and satisfaction when it is designed to provide students with opportunities for self-directed learning and peer collaboration.

A study by Picciano (2017) found that online education can be effective in promoting student learning outcomes, particularly when it is designed to provide students with opportunities for reflection and metacognitive thinking.

## 5. Objectives of the Study

- To understand the socio-economic profile of the students
- To investigate the impact of online education on students' academic performance, satisfaction, and overall learning experience.
- To identify and rank the factors that influence students' affinity to online education
- To provide insights into how to ensure the delivery of effective and engaging online courses, and how to address the challenges faced by students in this mode of education delivery.

## 6. Research Gaps

Although the existing literature provides insights into the impact of online education on student learning outcomes, there are several research gaps that need to be addressed. Firstly, there is a need for more studies that compare the effectiveness of online education with traditional classroom-based education in different contexts and for different age groups. Secondly, while studies have highlighted the benefits of online education, there is a need to identify and address the challenges faced by students enrolled in online courses, such as the lack of interaction with teachers and peers, and the need to develop self-regulated learning skills. Thirdly, there is a need to investigate the impact of online education on the social and emotional development of students, as well as on their motivation and engagement. Finally, there is a need for more studies that focus on the design and delivery of effective online courses, particularly in terms of promoting student engagement, collaboration, and active learning.

## 7. Research Design

### Sampling Design

The sample for this study consists of one hundred and thirty-three students of various colleges across Bangalore. The sample selection was done by using Convenience Sampling method with the aim of making the students' sample as representative as possible. All students across colleges of Bangalore were considered as population for this study.

### Data Collection Tool

A structured Questionnaire was used for collecting data from residents regarding their perception and expectations about sustainable tourism development and quality of life.

### Data Analysis

The collected primary data were coded, computed and statistically processed, classified, and tabulated by using appropriate methods. Tables and statistical results were derived using Microsoft Excel

### Limitations of the study

The findings of this study are based on the data supplied by the respondents which might have its own limitations. The attempted objectivity has naturally been constrained by the extent of the respondent's readiness to give correct information.

## 8.Data Analysis and Discussions

**Objective 1** - To understand the socio-economic profile of the students

### Age group and Gender of Respondents

*Table 1: Age Group and Gender of Respondents*

		Gender of the Respondents		Total
		Male	Female	
Age group of the Respondent	16 - 25	27	31	58
	26 - 35	21	8	29
	36 - 45	25	3	28
	46 and above	13	5	18
<b>Total</b>		<b>86</b>	<b>47</b>	<b>133</b>

**Inference:** From the Table – 1, we can understand that out of 133 respondents, 86 are male respondents and the remaining 47 are female respondents. Out of these 86 males, 27 belong to the age group between 15 years and 25 years, 21 belong to the age group between 26 years and 35 years, 25 belong to the age group between 36 years and 45 years and the remaining 13 belong to above 46 years' age group. Among these 47 females, 31 belong to the age group between 15 years and 25 years, 8 belong to the age group between 26 years and 35 years, 3 belong to the age group between 36 years and 45 years and the remaining 5 belong to above 46 years' age group.

### Gender and Qualification of Respondents

*Table 2: Qualification and Gender of Respondents*

		Gender of the Respondents		Total
		Male	Female	
	Diploma or Technical Training	14	4	18
	Graduation	48	26	74
	Post-Graduation and Above	24	17	41
<b>Total</b>		<b>86</b>	<b>47</b>	<b>133</b>

**Inference:** From the Table – 2, we can understand that out of 133 respondents, 86 are male respondents and the remaining 47 are female respondents. Out of these 86 males, 14 have studied Diploma or undergone technical training, 48 have completed their graduation and the remaining 24 have completed their post-graduation or higher studies Among the 47 females, 4 have studied Diploma or undergone technical training, 26 have completed their graduation and the remaining 17 have completed their post-graduation or higher studies.

**Objective 2** - To investigate the impact of online education on students' academic performance, satisfaction, and overall learning experience.

**H<sub>0</sub>:** There is no significant relationship between Gender and the Mode of Education that the respondents prefer.

*Table 3: Correlation between Gender of Respondents and Preferred Mode of Education*

	Gender of the Respondents	Preferred Mode of Education
Gender of the Respondents	1	.997
Preferred Mode of Education	.997	1

**Inference:** From the above table, it can be observed that there is a positive correlation between Gender and the Mode of Education that the respondents prefer (i.e., Online/Offline). And hence the Null Hypothesis is rejected and it can be concluded that there is a significant relationship between Gender and the Mode of Education that the respondents prefer.

**H<sub>0</sub>:** There is no significant relationship between Age and the Mode of Education that the respondents prefer.

*Table 4: Correlation between Age and Preferred Mode of Education*

	Gender of the Respondents	Preferred Mode of Education
Age of the Respondents	1	.554
Preferred Mode of Education	.554	1

**Inference:** From the above table, it can be observed that there is a positive correlation between Age and the Mode of Education that the respondents prefer (i.e., Online/Offline). Hence the Null Hypothesis is rejected and it can be concluded that there is a significant relationship between Age and the Mode of Education that the respondents prefer

**Objective 3** -To identify and rank the factors that influence students' affinity to online education

**Garrett Ranking Method**

Seven factors namely Convenience, Flexibility, Accessibility, Technology, Cost-effectiveness, learning style were identified for the purpose of identify and rank the factors that influence students' affinity to online education. The respondents were asked to rank the items as per their preference. Garrett Ranking Technique was applied to analyse and arrive at the most popularly consumed category of snacks in the order. Under Garrett Ranking Technique, the Percentage Position was calculated using the formula as given hereunder:

$$\text{Percent Position} = \frac{100(R_{ij} - 0.5)}{N_j}$$

Where  $R_{ij}$  = Rank given for  $i^{\text{th}}$  variable by the  $j^{\text{th}}$  respondent.  $N_j$  = Number of variables ranked by the  $r$  respondents.

The respondents were asked to rank the eight items identified for the purpose of this study as 1,2,3,4,5,6, and 7, in order to know their preferences in selection of items as their much-preferred snacks. The calculated percentage positions for the ranks 1,2,3,4,5,6 and 7 and their corresponding Garrett's table values are given in Table

*Table 5: Percentage Position and their corresponding Garrett's Table Values*

Rank	Percentage Position		Garrett's Table value
1	$100(1-0.5)/7$	7.14	78
2	$100(2-0.5)/7$	21.43	66
3	$100(3-0.5)/7$	35.71	57
4	$100(4-0.5)/7$	50.00	50
5	$100(5-0.5)/7$	64.28	42
6	$100(6-0.5)/7$	78.57	34
7	$100(7-0.5)/7$	92.85	21

The above table shows the percentage positions for the ranks 1, 2, 3, 4, 5, 6 and 7 and their corresponding Garrett's Table values. For Rank 1, the calculated percentage position is 7.14, the Table value is 78.

*Table 6: Preference of the most important attributes*

Attribute/Score	1	2	3	4	5	6	7	Total	Mean	Rank
1	1872	462	1026	1150	882	1088	168	6648	49.98	4
2	1092	1122	912	900	1092	816	378	6312	47.45	7
3	1092	1452	1938	1000	420	646	294	6842	51.44	2
4	1560	1584	741	1050	966	374	441	6716	50.49	3

5	1404	1254	1368	900	546	306	672	6450	48.49	5
6	1950	1650	570	1150	756	544	336	6956	52.3	1
7	1404	1254	1026	500	924	748	504	6360	47.81	6

Table – 6 shows the number of respondents ranking the key factors. This table also shows the total scores, the mean scores and the ranks obtained. Accordingly, Table – 7 highlights the rankings of all the factors

*Table 7: Ranking of Attributes*

Sl No	Attribute	Rank
1	Flexibility	I
2	Convenience	II
3	Accessibility	III
4	Learning Style	IV
5	Interaction	V
6	Cost-Effectiveness	VI
7	Technology	VII

**Inference:** Thus, we can infer from Table -7 that Flexibility is the most important factor customers look for and the same has been ranked I. However, it has to be noted that Convenience has been ranked II followed by Accessibility at III, Learning Style at IV, Interaction at V, Cost-Effectiveness at VI and finally Technology at VII.

**Objective 4** - To provide insights into how to ensure the delivery of effective and engaging online courses, and how to address the challenges faced by students in this mode of education delivery.

**Insights and Suggestions**

- Ensure clear and organized course structure.
- Incorporate interactive and multimedia elements.
- Provide opportunities for collaboration and discussion.
- Use assessment strategies that align with course objectives.
- Offer technical support for students.
- Promote self-regulated learning strategies.
- Encourage active participation through timely feedback.
- Create a sense of community through social media or discussion forums.
- Foster a positive and inclusive learning environment.
- Offer training for instructors on effective online course design and delivery.

**9. Summary of Findings**

- The socio-economic profile of the students was understood
- The impact of online education on students' academic performance, satisfaction, and overall learning experience was investigated.
- The factors that influence students' affinity to online education were identified and ranked
- Insights and suggestions into how to ensure the delivery of effective and engaging online courses, and how to address the challenges faced by students in this mode of education delivery.



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