ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor (RJIF): 8.4
IJAR 2024; 10(12): 233-239
www.allresearchjournal.com
Received: 15-09-2024
Accepted: 25-10-2024

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A study on Students perception towards online classes

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DOI: https://dx.doi.org/10.22271/allresearch.2024.v10.i12d.12235

Abstract
Over the years, the focus on enhancing the quality of online education in higher education institutions has grown significantly. While many studies have explored the perspectives of administrators and instructors, relatively few have delved into students' views on the quality of online education. This study used qualitative methods to explore the experiences of students from two universities and a community college. The researchers observed three students, conducted interviews, and collected both printed and digital records. The study analyzed both positive and negative experiences to identify the factors influencing these perceptions. Findings revealed that students appreciated aspects such as flexibility, cost-effectiveness, access to online research materials, user-friendly internet navigation, and visually appealing course interfaces.
However, a lack of technological assistance, delayed teacher response, difficulties with motivation and self-control, loneliness, repetitious teaching strategies, and poorly organized course material were all cited as reasons for bad experiences. Improved teaching methods in virtual environments can result from instructors having a better understanding of students' attitudes about online learning. This survey also evaluated undergraduate students' perceptions of the rapid shift to entirely online education brought on by COVID-19.

Keywords: Online education, student perceptions, COVID-19, flexibility, teaching strategies, course organization, motivation

Introduction
E-learning's explosive growth in recent years is indicative of the increasing use of technology in training and education initiatives. Because so many people have access to the Internet, web-based learning is frequently associated with e-learning, which is the delivery of teaching through electronic platforms like the Internet, intranets, and multimedia like CD-ROMs or DVDs. The phrases "e-learning," "online learning," and "web-based learning" are frequently used interchangeably, and this study will follow suit. Self-paced modules, asynchronous interactions (where students connect at different times), and synchronous sessions (where participants participate in real-time) are some of the formats in which e-learning can be implemented. According to research, American companies spent $3 billion on IT-supported training in 1999; by 2003, that amount had increased to $11 billion. More than half of corporate training is expected to shortly switch to digital formats, according to global estimates of the e-learning sector, which were predicted to reach over $18 billion by 2005.In order to reach a wider audience-especially working professionals who have limited access to traditional education-colleges and universities have also increased the number of online courses they offer. Additionally, these institutions have been forced to investigate novel delivery techniques due to changes in organizational strategy and curricula.
The availability of online learning is expected to rise significantly in the upcoming years in both the academic and business sectors, highlighting the vital role that e-learning will play in education and professional development. E-learning's growth is fueled by both changing learner needs and preferences as well as technology developments. Flexible learning solutions that can be tailored to meet individual schedules, learning styles, and objectives are becoming more and more in demand as professional and educational settings become more dynamic. Furthermore, interactive features like movies, simulations, tests, and discussion boards are frequently used into e-learning to improve student involvement and simplify difficult subjects.

For different populations that might otherwise find it difficult to access traditional learning venues, such as working professionals, parents, and students in rural places, this flexibility and adaptability are especially beneficial.

Review of Literature

M. Lee, J. Choi, and S. Kim (2020) [25] conducted a study titled "Student Perceptions of Online Learning in Higher Education: A Review of Literature." This research investigates the various elements that shape students' views on online education, with a particular emphasis on technology, course design, and student engagement. The authors assert that the success of online learning is contingent upon the coherence between technological resources, content presentation, and student motivation. While students value the flexibility and accessibility offered by online formats, they also encounter challenges such as technical issues, insufficient direct interaction with instructors, and a lack of face-to-face collaboration.

A. K. Gupta and S. Tiwari (2021) [24] presented a review entitled "The Impact of Online Learning on Student Motivation and Engagement." This analysis explores the connection between online education and student motivation, identifying significant obstacles such as insufficient self-discipline, procrastination, and limited peer interaction. The authors stress the critical role of course design and prompt instructor feedback in fostering student engagement. They propose that well-organized online courses featuring interactive components, such as group discussions and real-time assessments, can alleviate some of the motivational difficulties encountered by students in virtual learning settings.

K. S. Sharma and P. A. Johnson (2022) [23] authored "Student Experience in Online Learning: A Comprehensive Review of Recent Studies." In this review, the authors evaluate literature concerning student satisfaction with online courses from the past five years. Their key findings reveal that students' perceptions of online education are significantly affected by the quality of instructional materials, the availability of support services, and the responsiveness of instructors. Nonetheless, the authors also highlight that students frequently express feelings of isolation and a lack of personal connection with both instructors and peers in fully online environments.

Need for the Study

Higher education accrediting organizations are paying more attention to upholding good standards for online learning. To maintain these standards, a number of organizations have set rules. The Western Cooperative for Educational Telecommunications (WECT), for instance, established the "Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs" in the beginning of the 1990s. Since then, other organizations have also created distant learning standards, such as the American Council on Education in collaboration with the Alliance for Alternative Programs for Adults and the American distant Education Consortium (ADEC). Furthermore, the American Federation of Teachers (AFT) created "Distance Education: Guidelines for Good Practice," while the Instructional Telecommunications Council released "Quality Enhancing Practices in Distance Education." The "Guidelines for the Evaluation of Electronically Offered Degree and Certificate Programs" were later developed by the Council of Regional Accrediting Commissions, which extended WECT's original recommendations. Organized into seven categories-institutional support, course development, teaching and learning, course structure, student support, faculty support, and assessment-the Institute for Higher Education Policy (IHEP) reviewed existing guidelines and proposed 24 benchmarks for evaluating online education in 2000. This study will assess whether students believe that online education meets these objectives by using IHEP's student-focused benchmarks, namely those on teaching and learning, course structure, and student assistance, as a framework.

Objectives of the Study

- The study focuses on exploring students' perceptions of online education based on their individual learning experiences.
- It aims to identify the factors that have influenced students' views on online education.
- The research will analyze both the positive and negative experiences related to online learning.

Research Methodology

Research Design

This study employs a quantitative approach, using regression analysis to assess how factors like flexibility, cost-effectiveness, resource access, and academic success influence students' perceptions of online education. Additionally, ANOVA will identify significant perception differences across groups based on age, academic field, and year in school, allowing for both predictive and comparative insights into students' online learning experiences.

Sample Selection

The sample will include undergraduate students from diverse fields who have completed at least one online course. A stratified random sampling method will be used to ensure demographic, disciplinary, and experience-level diversity, enabling the analysis of trends across various student groups.

Data Collection Methods

Data will be gathered via an online survey with closed-ended and Likert-scale questions, measuring factors like flexibility, cost, and instructor engagement against student satisfaction and perceived quality. Demographic details will also be collected to assess group differences.

Data Analysis Techniques

Regression Analysis

Multiple regression will be conducted to explore the relationship between factors like flexibility, cost, and resource availability and outcomes such as student satisfaction and perceived effectiveness of online learning. This analysis will identify the most influential factors affecting positive perceptions of online education.

ANOVA

One-way and two-way ANOVA tests will assess whether perceptions differ significantly based on demographic variables like age, academic year, or major. This approach will provide insights into group-based differences in online learning experiences.

Data Analysis and Interpretation

Percentage Analysis

Gender

Table 1: Showing the gender of the respondents

Gender	Frequency	Percentage
Female	39	35.36
Male	43	64.64

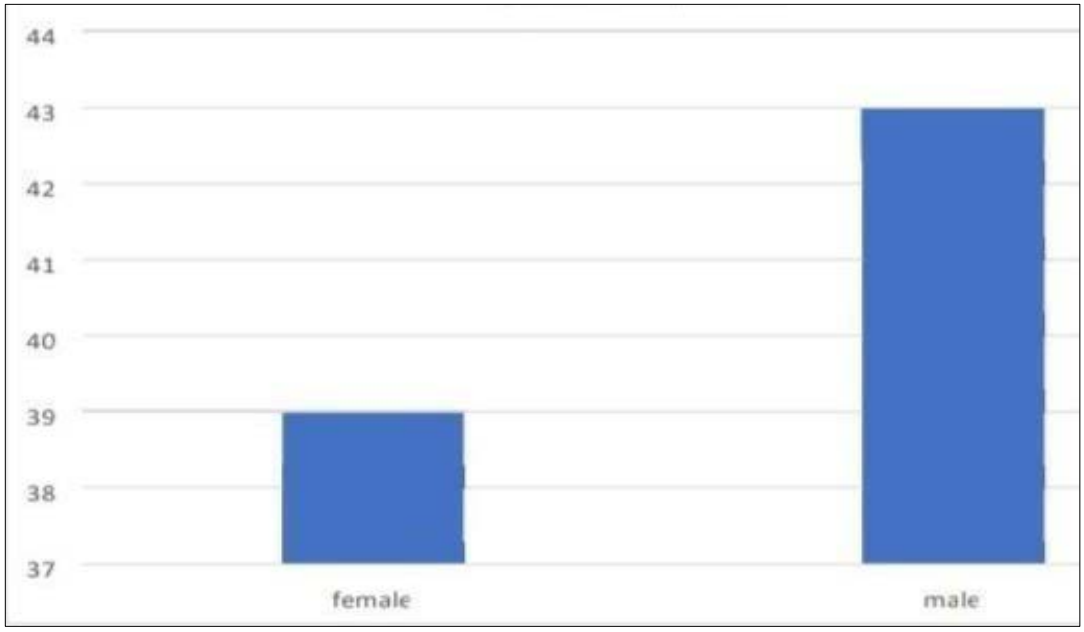

Fig 1: Count of Gender

Inference

The table and chart illustrates the gender distribution of respondents, showing that a majority (64.64%) are male, while 35.36% are female. This suggests a gender imbalance in the sample, with males representing nearly two-thirds of the participants. This distribution may influence the study's findings, as gender-related perspectives and experiences could impact perceptions and outcomes in online education.

Class of the respondents

Table 2: Showing the Studying Class of the respondents

	Frequency	Percentage
Collage	45	54.87
Competitive Exams	7	8.53
HSSC	18	21.95
SSLC	12	14.63

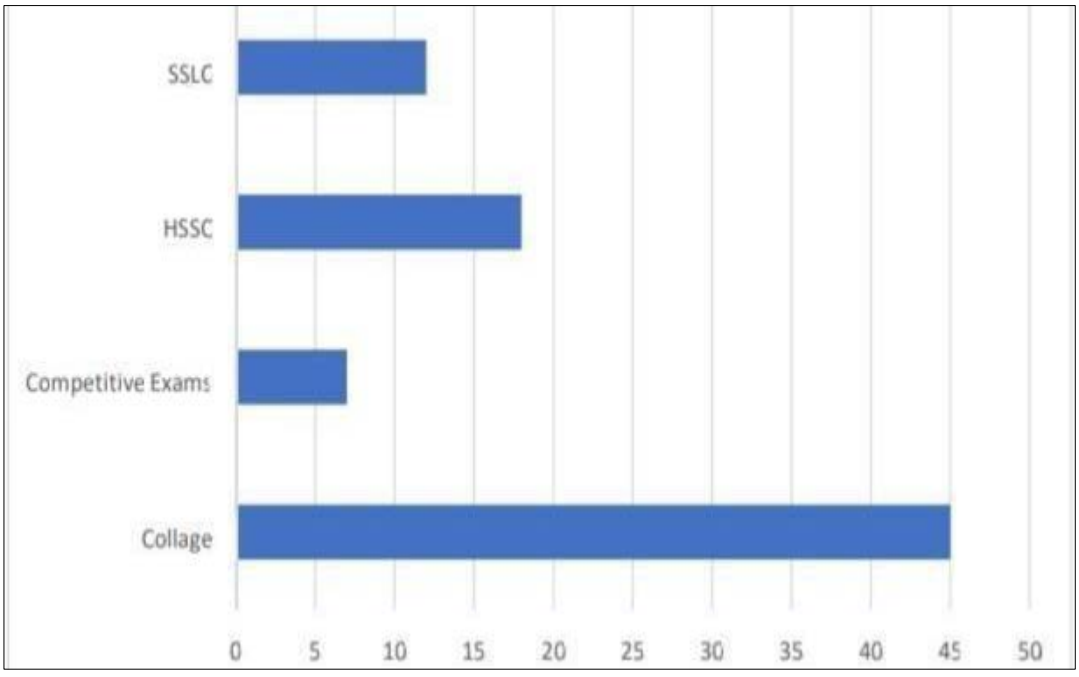

Fig 2: Count of Class of Studying

Inference

The table and chart shows the educational focus areas of the respondents. A majority (54.87%) are associated with college studies, indicating a primary interest in higher education among participants. Those preparing for competitive exams represent 8.53%, while 21.95% are

engaged in HSSC (Higher Secondary School Certificate) studies, and 14.63% are at the SSLC (Secondary School Leaving Certificate) level.

Gadget Used

Table 3: Showing the Gadget used by the respondents for Online Class

	Frequency	Percentage
Desktop	15	18.29
Laptop	22	26.82
Mobile	34	41.46
Tablet	11	13.41

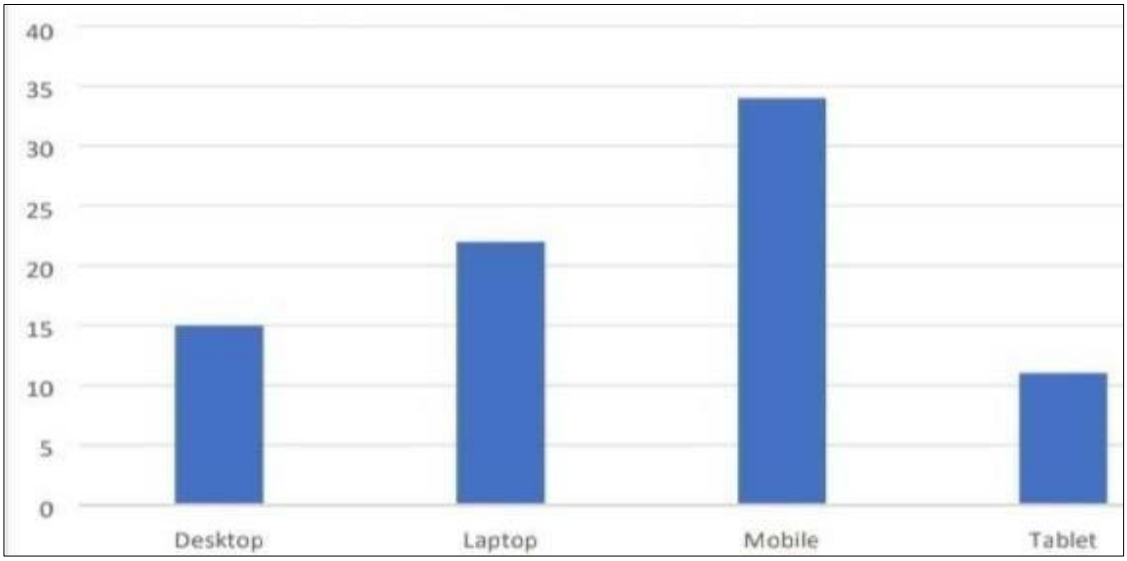

Fig 3: Count of Gadget Used for Online Classes

Inference

The table and charts presents respondents' primary devices for accessing online education. The majority (41.46%) use mobile devices, suggesting a preference for portable and accessible technology. Laptops are the second most common device at 26.82%, followed by desktops at 18.29%, and tablets at 13.41%. This distribution indicates that mobile devices and laptops are the primary tools for online learning, potentially influencing the design and functionality requirements for online educational platforms to accommodate mobile accessibility.

Attention of Students

Table 4: Showing the attention of the respondents for Online Class

	Frequency	Percentage
Concentrate only Class	16	19.51
Listening multimedia and Online Class	30	36.59
Listening only multimedia	13	15.85
not Listening Online Class	23	28.05

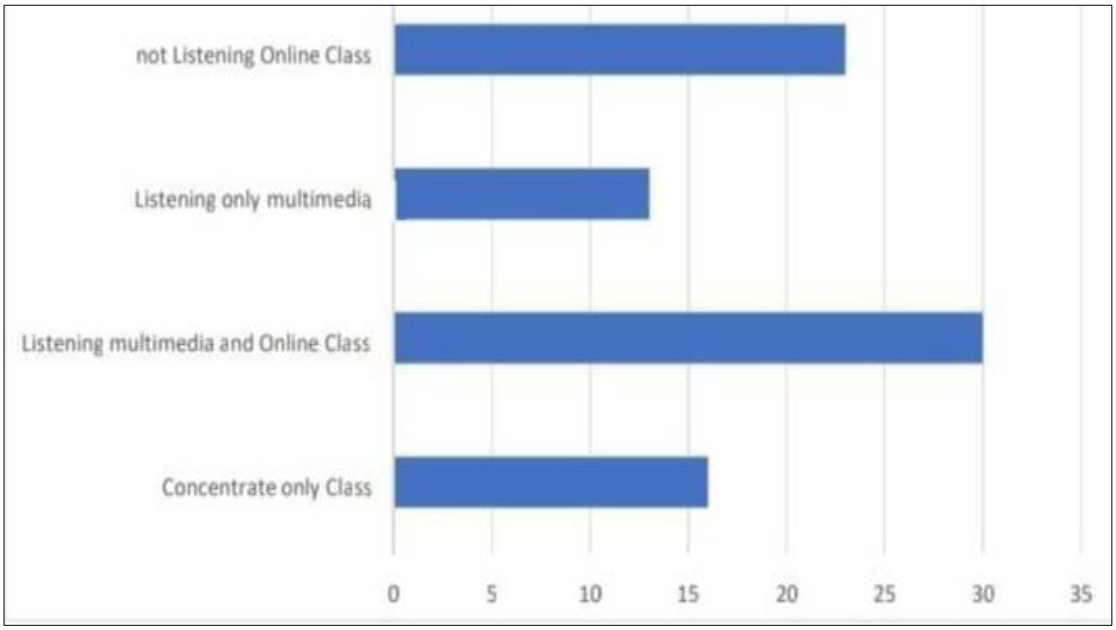

Fig 4: Count of your attention towards online class

Inference

The table and chart outlines respondents' engagement with online classes and multimedia resources. A substantial portion (36.59%) combines online classes with multimedia, indicating a preference for blended learning methods. Meanwhile, 28.05% do not engage with online classes at all, and 19.51% focus solely on the class itself without additional multimedia. Only 15.85% listen exclusively to multimedia. This pattern suggests that while many students value a mix of resources, a notable percentage either strictly follow class content or entirely opt out of online class participation, highlighting diverse engagement styles in online learning environments.

Nature of Subject

Table 5: Showing the Interest of the respondents towards Nature of Subject

	Frequency	Percentage
Skill Development Classes	30	36.59
Sum Paper	25	30.49
Theory Paper	27	32.93

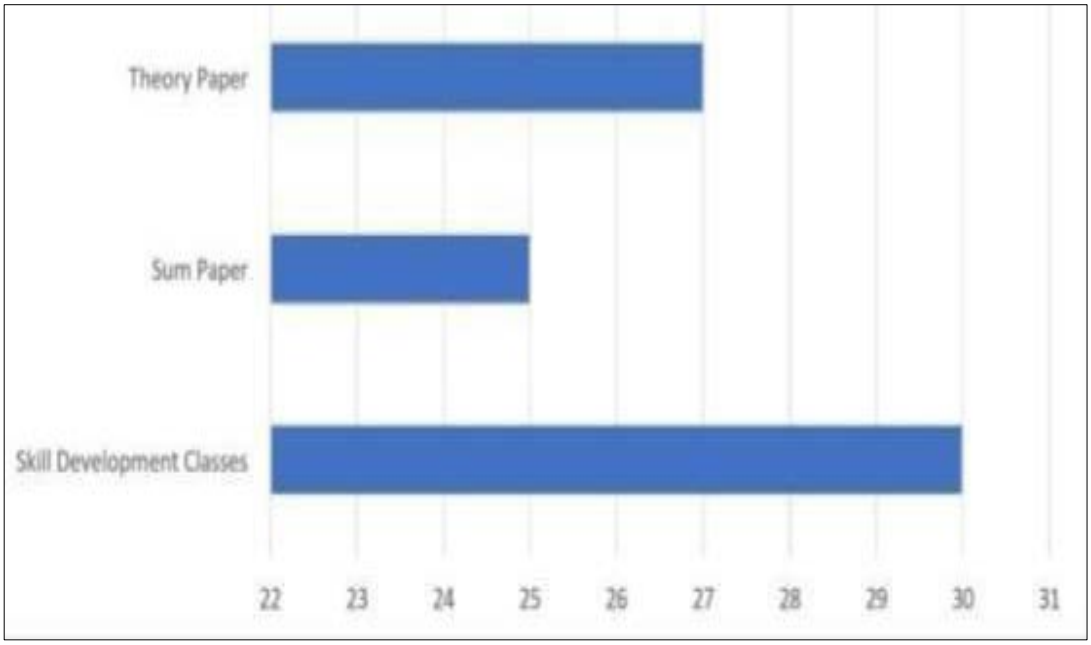

Fig 5: Count of which nature of subject you like most

Inference

The table provides insight into respondents' focus areas within their studies. A significant proportion (36.59%) engage in skill development classes, indicating a strong interest in practical, hands-on learning. Theory-based classes are also popular, with 32.93% of respondents focusing on theory papers. Additionally, 30.49% are involved in summarizing papers, which may suggest an emphasis on comprehension and synthesis skills. Overall, the distribution shows a balanced interest across skill-building, theoretical knowledge, and summarization, reflecting a diverse approach to learning priorities.

Statistical Analysis

Regression Analysis

Regression analysis is a statistical tool that explores the relationship between a target variable and one or more predictor variables. It is commonly used to identify trends, predict outcomes, and determine the influence of different factors on the target variable.

Independent Variable - Duration of Online Class Dependent Variable - Duration of Break

ANOVA

Table 6: Regression Analysis Table

Regression Statistics	
Multiple R	0.165769
R Square	0.027479
Adjusted R Square	0.015169
Standard Error	5.385666
Observations	81

Table 7: Regression analysis of dataset with significance levels.

	DF	SS	MS	F	Significance F
Regression	1	64.74641	64.74641	2.232219	0.139143194
Residual	79	2291.426	29.0054		
Total	80	2356.173			

Inference

The regression analysis table shows a Multiple R value of 0.1658, indicating a weak correlation between the independent and dependent variables. The R Square value is 0.0275, suggesting that only 2.75% of the variation in the dependent variable is explained by the independent variable,

which is quite low. Adjusted R Square (0.0152) further confirms that the model has limited explanatory power when accounting for sample size.

In the ANOVA table, the F-statistic is 2.2322 with a Significance F value of 0.1391. Since the significance value exceeds the typical 0.05 threshold, the regression model is not statistically significant, indicating that the independent variable does not meaningfully predict the dependent variable within this data set. This analysis suggests that other variables may be needed to improve the model's predictive accuracy.

Correlations

Table 8: Correlation Analysis Table

	Class Duration	Break
Class Duration	1	-0.166548492
Break	-0.166548492	1

Inference

The correlation coefficient of (-0.1665) indicates a weak negative relationship between Class Duration and Break. In general terms, a negative correlation suggests that as one variable increases, the other tends to decrease. However, given the small magnitude of this coefficient (close to zero), the relationship between these variables is likely to be minimal and may not be practically significant.

For the purposes of statistical inference, we interpret this correlation as an indicator that there may be a slight, inverse relationship between Class Duration and Break. However, this weak negative correlation suggests that Class Duration does not strongly predict the frequency or length of Break, or vice versa. Additionally, because the correlation coefficient is close to zero, it implies that while there is a measurable association, the variation in one variable is not strongly associated with the variation in the other. This result could be due to natural variability, suggesting that other factors might be influencing either or both variables independently.

Conclusion

This study looked at how students felt about the quality of online learning and found important variables that affected both good and bad experiences. The advantages of online learning were emphasized in the analysis, including its cost-effectiveness, flexibility, ease of access to resources, and potential for improving the learning process through well-designed digital course interfaces. Students did, however, also mention a number of serious issues, such as a lack of technical assistance, a lack of instructor feedback, self-regulation issues, loneliness, repetitious teaching strategies, and unstructured course material. These results highlight the intricacy of online learning and the need for development in areas that have a direct bearing on student engagement and satisfaction. A minor association between Class Duration and Break was found by the statistical analysis, indicating that although there is a slight inverse link, it is not practically significant. Regression analysis also revealed that Break Duration is not significantly predicted by Online Class Duration, suggesting the potential impact of additional variables not examined in this study. This small correlation implies that flexible scheduling of online lessons and breaks could be implemented without significantly affecting students' retention or attentiveness.

Furthermore, the research investigated undergraduate students' perspectives on the abrupt transition to virtual education brought on by the COVID-19 pandemic. According to the findings, a lot of students felt anxious about learning online, which was made worse by worries about false information in the media and uncertainty about disease outbreaks. These results underscore the necessity for educators and institutions to embrace flexible and robust methods to online education, as well as the significance of giving students clear, consistent information and support during times of crisis.

In the end, this study provides insightful information about how to best utilize online learning to meet the needs of students and enhance learning results. Teachers and institutions can take focused steps to enhance teaching methods, enhance course design, and offer the required emotional and technical support by knowing the elements that contribute to both positive and bad experiences. Upholding high standards will be crucial to creating a more productive and interesting virtual learning environment for a variety of student demographics as online learning continues to gain popularity, especially in reaction to global disruptions.

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