

# Evaluation of Ocular Effects by Online Study in Pandemic Situation among Primary to College Level Students of Tripura and Their Effective Remedies

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## Abstract

Due of the continuing COVID-19 outbreak, the Kingdom of Tripura India has had to cancel all educational activities, leading to an unanticipated transition from the country's customary face-to-face classrooms to an online-only model of education. Thus, the current research set out to inquire into how undergraduate medical students at Bhavan's Tripura College of Medicine and Medical Sciences, Bhavan's Tripura College, Tripura India, viewed the efficacy of synchronous online learning. Methods: Utilizing a discussion guide with seven open-ended questions, qualitative research was done using synchronous virtual focus group conversations. Using a maximum variation sampling strategy, we were able to recruit sixty medical students who participated in eight separate focus groups. All interviews were taped, transcribed verbatim, and subjected to a content analysis based on the industry standard (Maying, Kiger, M. E., & Braun, V.). The vast majority of students surveyed said that they preferred using their smartphones to access educational resources online. Based on our content analysis, we know that students would benefit from having their lessons videotaped and then having a quiz at the conclusion of each session. It was the students' opinion that adaptability and con-online education is appealing due to its convenience, yet access to high-speed internet in remote places remains a problem. Students often find it difficult to actively participate in online educational opportunities. However, in the context of agricultural instruction Because of the hands-on nature of many courses, a full transition to online delivery may not be feasible. Using this article's recommendations as a guide, instructors may more effectively include a hybrid mode into their instruction for the modern classroom.

**Keywords:** *Perceptions of Online Learning, Online Learning, Education During COVID-19, Blended Learning, Benefits And Challenges of Online Learning.*

## 1. INTERODUCTION

In December of 2019, in Tripura India, the Covid-19 epidemic began and within months had spread to every continent. Educating children was only one of several fields that was impacted by the epidemic. With the situation rapidly deteriorating, Collage throughout the world also went into lockdown. Because of the widespread closure of Collage and universities, educational management was put under a lot of pressure with few choices. In order to ensure that education in Tripura India can continue in a secure environment, the Ministry of Education has announced the availability of online courses. Within a few of days, online education has replaced traditional higher education everywhere, even at medical schools. This sudden shift from classroom instruction to online-only has forced medical Collage to rethink how they provide their programs to students.

Modern physicians are trained using multimedia resources like video lectures and computer-based tests in addition to traditional print textbooks. Many medical institutions throughout the globe have begun using the "flipped classroom" approach as a result of this shift in educational philosophy. Despite the fact that various hospitals have had very different experiences, this may nonetheless help them embrace synchronized online models at this crucial time. We may divide the world of online education into two distinct categories: synchronous and asynchronous. Unlike asynchronous methods, which often entail large delays between teaching and its reception (e.g., Email, prior video recording, discussion boards, etc.), synchronous methods enable "live" contact between the teacher and the pupils. While it's been known for a while that online courses may be a

useful learning resource, some students have found that the lack of non-verbal cues makes it harder to succeed. Participant feedback in online courses may also be affected by factors including the quality of interactions between students and teachers, the ease with which course materials can be accessed, and the students' ability to effectively balance their time spent studying with other responsibilities.

Online learning outcomes may be compared to traditional classroom learning outcomes by comparing a representative sample of both types of courses. A dataset of hundreds of courses offered at 23 institutions in Virginia's community college system was used in research using this approach; the authors discovered that students' performance was worse in online courses with regards to course persistence and end-of-course grades. In unpredictable global conditions, such as pandemics, online medical education may lead to more effective and simpler access to a bigger amount of knowledge. Undoubtedly, the present COVID-19 epidemic has increased the emphasis on online learning in education; nevertheless, we believe that this trend will prove to be permanent in medical education in the future. Bhavan's Tripura College of Medicine and Medical Sciences used a wide variety of instructional strategies, including as classroom lectures, small-group talks, 4-box case analysis, large-group clinical case discussions, online seminars, and dry laboratories (online laboratory demonstrations). About 60% of the content was delivered via lectures, 20% was covered in case discussions (4-box case analysis and clinical case discussions) 10% was delivered in online seminars, and 10% was delivered in dry labs. In order to evaluate the efficacy of these strategies and the obstacles to online learning, we performed this qualitative research. Our primary objective in this exploratory research is to see how medical students feel about the synchronous online learning techniques that were introduced to their second-semester curriculum as an urgent response to the continuing Covid-19 outbreak in India.

## 2. LITERATURE REVIEW

**Zakaryia Almahasees (2021)** The spread of COVID-19 has interrupted classes at several schools. Universities' ability to respond quickly to a crisis has been put to the test. During the epidemic, online education has replaced traditional classroom teaching as the primary means of education in Jordan. Two online questionnaires were administered to instructors and students after four months of online education to gauge their impressions of the learning experience. The purpose of the research was to determine how instructors and students see online education by use of separate questionnaires. One was given to 50 teachers, and another 280 students were chosen at random, all in an effort to learn more about the pros and cons of online education in Jordan. Based on the data collected, it was determined that zoom and Microsoft Teams were the most popular online platforms in Jordan for conducting online interactive lessons and communicating with students outside of the classroom, respectively. Both teachers and students in the survey felt that online courses were beneficial throughout the flu season. Nonetheless, it is not as efficient as one-on-one instruction. Adapting to online education, particularly for deaf and hard of hearing students, a lack of contact and motivation, technical and Internet concerns, data protection, and security were all cited as obstacles to online learning by both instructors and students. They were also in agreement that there are many benefits to studying online. Self-study, cheapness, ease of use, and adaptability were the most prominent positive aspects. Due to COVID-19, online education may serve as a stopgap measure; nonetheless, it cannot replace in-person instruction. The research suggests that a hybrid approach to education may help create a challenging classroom setting.

**Olasile Babatunde Adedoyin (2020)** According to the World Health Organization, the Covid-19 pandemic is a current danger to humankind. Due to the widespread disruption that the epidemic has caused, many institutions of higher education have been compelled to relocate their operations, with online education acting as the primary medium of instruction during this period of crisis. It is clear that online learning is different from emergency remote teaching, and that online learning will be more sustainable while instructional activities become more hybrid if the difficulties encountered during this pandemic are well investigated and transformed into opportunities.

**Ahmed Al-Azawei (2017)** Using a tailored version of the technology acceptance model, this research examines students' thoughts on blended e-learning systems (BELSs) and the viability of adapting educational hypermedia systems (EHSs) to students' individual learning preferences (TAM). Moodle, a web-based learning management system, has just been implemented by a university in Iraq to work in tandem with traditional face-to-face (F2F) classrooms to provide more adaptable learning options and enhance student retention. Using TAM, we looked at how students' opinions and experiences varied in relation to how satisfied they were with their use of technology in the classroom. We added measures of e-learning self-efficacy, learner satisfaction, and preferred learning strategies to the original model. The purpose of the proposed framework is to examine how learning styles impact the prediction of satisfaction and BELS acceptance; however additional factors may be included. Over two hundred and ten college freshmen agreed to participate in the study. The Index of Learning Styles (ILS)

Questionnaire was used to conduct the survey and collect the data. The relationship between dependent and independent variables was analyzed using a partial least squares structural equation modeling (PLS-SEM) approach. This study departs from the existing TAM literature in that it emphasizes the interplay between learner personality and technological adoption, rather than treating them as separate concepts. An adequate match was found, and ITU and PS were effectively included into the model (PS). However, there was no evidence that individual variations in psychology had a beneficial effect on student outcomes or the rate of e-learning implementation.

**Saleh Al-Salman (2021)** This research looks at how several factors—including digital technology, instructional and assessment quality, socioeconomic and mental health factors, and course type—affected the perceptions of online education held by university students in Jordan during the COVID-19 emergency transition. Students' willingness to learn online in the future is negatively impacted by personal challenges (such as economic and psychological stress), but positively impacted by the quality of the online experience (including instructional and assessment quality), according to a survey of 4,037 undergraduate students from four Jordanian public and private universities. Students also judged that Arts & Humanities courses were more suited for online teaching/learning than Sciences courses, a distinction that held even after accounting for students' individual problems and the quality of the online learning experience.

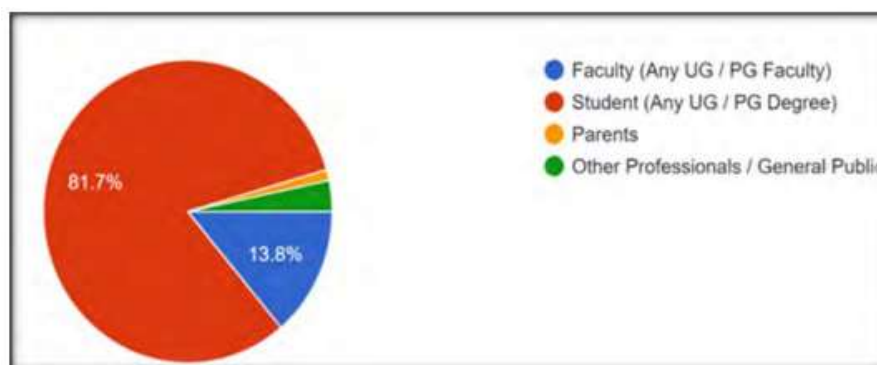
### 3. METHODOLOGY

Students and teachers from all throughout the country's higher education institutions have been polled using online questionnaires. While online educators have a wealth of information and expertise, it may be challenging to match that with the quality of their students' learning experiences. Due to COVID 19's paradigm change from face-to-face classroom instruction to online learning, inadequate internet infrastructure and technical assistance were available. Higher education institutions in India have already begun classes since the CORONA Virus outbreak was verified in January, and news of the severity of COVID-19 emerged in early March.

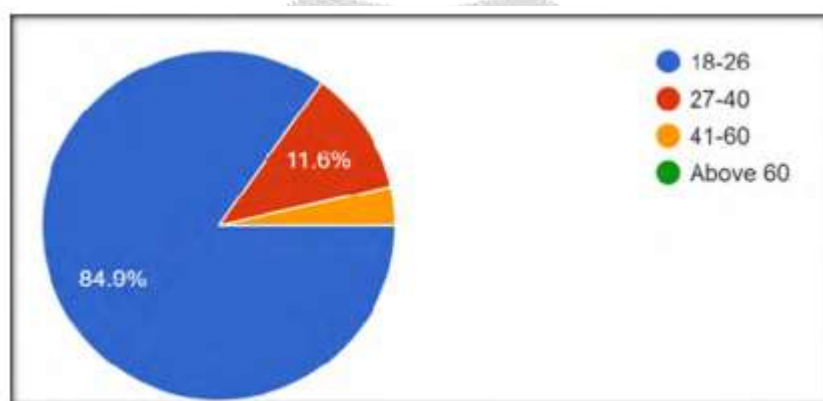
Due to a small but significant number of confirmed cases of COVID-19, all lower-level educational institutions and related activities were suspended in the third week of March. Closing campuses is part of a coordinated effort to contain the spread of the deadly COVID 19 virus, and has been ordered by higher education officials in cooperation with the health department. In light of the CORONA illness outbreak, the Indian prime minister has decided to keep the whole country under Quarantine Lockdown. For students' convenience, the Ministry of Human Resource and Development (MHRD) suggested that colleges and universities provide courses digitally. The education industry is undergoing a global shift toward holding lessons online, which has presented a number of challenges to achieving successful teaching and learning.

For this emergency COVID-19 pandemic situation, online teaching cannot begin until the faculty has been given the all-clear on the efficacy of the technical tools used by top universities to provide online courses. In light of the current COVID-19 problem, it is important to remember that this online learning/teaching is meant to be a temporary teaching tool and alternate form of action. Keep in mind that the rise of online education has led to a rise in inequities, which may hinder students' capacity for learning and productivity. Changing one's mindset to favor online teaching and learning over the more conventional classroom setting would need careful, deliberate, and consistent focus. There is a possibility that a large number of kids do not have access to computer labs or the internet. It may be very challenging to get access to the internet or other forms of technology in many rural areas of India. For professors, the burden of managing their time, developing engaging lessons, and delivering those lessons effectively via the use of multimedia is a formidable one.

Both teachers and students may benefit from careful preparation for effective learning. Regardless of the positives and negatives of the online education system, communication is the most important component, and it is especially important when trying to comprehend a person's behavior inside it. It's becoming more challenging for instructors to directly address and dispel student concerns via open and honest dialogue. The emergency situation has made it all the more difficult to make the paradigm change from the old chalk and talk mode of education in India to online education. All parties involved, from parents and educators to administrators and policymakers, have responsibility for finding effective solutions. Students and teachers in online courses are on different platforms, with the education bureaucracy requiring both to take place online. It's a test for both the professors and the pupils, and it forges a binding contract between them.



**Figure 1. Various stakeholders participated in the survey**



**Figure 2. Age group of the stakeholders participated in the survey**

Requires serving as a mentor and helping one get ready for school tests. Given these considerations and the current educational trends, the education sector plays an important part in the critical service during the corona emergency, as reported by a poll. Participants in this survey represent a cross-section of the higher education community. Students, teachers, parents, and members of the general public of varying age ranges participated in the poll. In all, 874 answers were received; the results reveal that 81.7% are students, 13.8% are faculty, and the remaining 5% are from professionals and the general public. The questionnaire is made up of a series of questions that were prepared via a brainstorming session. Academic professionals (technical, scientific, managerial, medical, etc.) at the helm of institutions/universities play an important part in the formulation of the questionnaires.

Experts agree that the success of a teacher and a student's learning process in an online classroom depends on the instructor's delivery and the students' capacity to absorb the material. In light of the above, we ask instructors, students, and the public (who may themselves be teachers from a variety of backgrounds) to complete out google forms in order to provide their honest feedback. The 874 respondents' replies are gathered online using the google form platform. For your information, we have included enough room in the Google form for participants to submit feedback on how we might enhance the quality of the teaching and learning experience. As can be seen in Figure 1, 81.7% of students across all classes took part in the survey. It's plain to see that kids are bearing the brunt of this sudden disaster. Students in all majors and certificate programs get survey questionnaires.

Faculty from a variety of disciplines shared their thoughts on online education (including material delivery, student reaction, technology utilized, software available, and so on) and expressed interest in reading a summary of the results. Also, the survey included a conspicuous question about respondents' ages so that researchers could find out more about the demographics of the people who were most interested in the topic. It is clear that 84.9% of respondents are between the ages of 18 and 26 (most of them are classified as students), 11.6% are between the ages of 27 and 40 (faculty members), and the remainder are above the age of 41 (professors, parents, and other professions).

#### 4. DATA ANALYSIS

##### Structure of online classes

The majority of students (54.40%) would rather watch lectures recorded and posted on the university's website, YouTube, or another app, while just 27.04 percent would rather watch lectures recorded and presented in real time. Overall, 17.92% favored live courses, while 0.65% favored recorded ones. Nothing except books and reading stuff. Respondents are split between those who like recorded lessons and those who like live classroom lectures that can be rewatched at a later time, since this provides students more leeway in how and when they study. The vast majority of respondents, when asked about the kind of books they read, Eighty-four percent of viewers said they would rather watch videos with accompanying reading materials. 53% of those surveyed thought it was more beneficial for the teacher to do the teaching. producing presentations in PowerPoint (see Table 3)

**Table 1: Basic information regarding online classes.**

Questions	Response	N = 307
		Percentage
Did you attend any online course earlier?	No	52.77
	Yes	47.23
Whether your college has begun online classes in the wake of corona?	No	17.92
	Yes	82.08
As the COVID-19 continues to spread, educational institutions around the globe has been shut, disrupting the educational system. What will you suggest to meet the current situation?	Assignments and reading materials can be provided	2.93
	Curriculum schedule can be suspended	29.97
	Managing with online classes	67.1

**Table 2. Technical requirements for online classes.**

Attributes		N = 307
		Percentage
Communication means to class updates	Any two mode	1.63
	Posting in university website	5.86
	Text message	8.47
	e-mail	21.50
Preferred device for an online course	WhatsApp	62.54
	Both smartphone and laptop	0.65
	Desktop	0.65
	Laptop	35.83
	Smart phone	57.98
Source of internet	Tablet	4.89
	LAN	2.93
	Mobile data pack	85.67
	Wi-Fi	11.40

**Table 3. Structure of online classes. frequency and duration of online classes**

		N = 307
Attributes		Percentage
Online class format	Live online Classes	17.92
	Live classes that can be recorded	27.04
	Recorded classes that is uploaded at University website/YouTube/any other application	54.40
Nature of Course material	Sending reading material	0.65
	Reading material is sufficient	11.40
	Video Content supplemented with reading material	84.36
Nature of Video content	Video content is sufficient	4.23
	As per the convenience and requirement	2.93
	Both PowerPoint and whiteboard	2.28
	Course Instructor should teach using whiteboard	34.53
	Course instructor should use PowerPoint	52.77
	Lecture only	7.49

About 58% of students surveyed preferred twice-weekly 45-minute online sessions. A little under half of respondents (48%) said they only wanted to devote two to four hours each day to online course and needed a 15-minute break in between (See to the Table 4)

**Table 4. Frequency and duration of online classes**

		N = 307
Attributes		Percentage
How often do you expect the course instructor to conduct the classes?	Alternate days	0.65
	As per the schedule to complete the syllabus	4.56
	Daily	1.30
	Fortnight	4.56
	Weekly once	29.97
	weekly twice	58.96
Suitable duration for online classes (per class)	30 min	29.97
	45 min	45.93
	more than hour	0.65
	1 h	23.45
How much time would you like to spend in a day for online classes	2-4 h	48.86
	4-6 h	14.33
	6-8 h	0.65
	Less than 2 h	36.16
How much time you need as break between two online classes	10 min	22.15
	15 min	47.88
	Less than 10 min	5.21
	More than 15 min	24.76

## 5. CONCLUSION

Students in the medical field were generally positive about synchronous online courses. For the development of medical education, this has immense and encouraging promise. Regular and thorough assessments of both the model's underlying concepts and its impact on student learning are necessary for checking in on online education's success. Using technology to teach is more difficult than in a conventional classroom. Conclusions from this survey showed that after Corona, the vast majority of students had a favorable impression of online education. Learning over the internet was deemed beneficial because of its flexi-the students' access and comfort, respectively. Generally speaking, well-upload recorded movies with a logical format to a school's website sites. Additionally, they emphasized the need of having quizzes and other interactive elements included into classroom time. Add homework after each session to enhance the educational expert emergence. Most students, however, agreed that online courses had the potential to be restrictions, sluggish feedback, and an inadequate trainer all contribute to in essence, the tools of the information and communication age Therefore, when designing an online course, it's important to keep all these things in mind. in order to maximize its positive impact on the education of the student. There's a chance that Possibly once the COVID-19 epidemic calms

down, we will witness a continuous increase in study aids online despite a rise in online education in a method that combines unconventional teaching strategies with the more conventional classroom setting. Because of this, we decided to conduct this research. help in rethinking and remaking the higher education system using a combination of online and traditional methods.

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