

Development, Implementation, Opportunities of Online Teaching: A Collaborative Inquiry

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Abstract

With society being shaken both metaphorically and materially due to the unprecedented pandemic caused by Covid-19, how could education be spared its consequences? Almost suddenly, millions of instructors and students from primary to higher education institutions were forced to adjust to the new normal. Due to the disruptive development, it became critical to sustain educational standards in addition to safeguarding health. Online teaching-learning became the new normal. This paper attempts to trace the development, implementation, and positive impact of online teaching- learning at a selected university.

Keywords: Asynchronous learning, flexibility, knowledge creation, self-motivation

Introduction

The Covid 19 pandemic has changed our lives in ways we could not have anticipated. We were forced to rethink and realign ourselves in response to these developments by leveraging our existing resources and knowledge. The same is true in the academic setting. Before the pandemic, there was already limited use of information and communications technologies in education; it was now time to use it to deal with the one-of-a-kind challenge that educators faced. As a result of the pandemic, the notions of e-learning, asynchronous learning, and digital platforms became ubiquitous.

The new normal has compelled teachers and academicians to reassess and reconsider education and its processes. Learning theories, methods, didactics, and communication are all placed in a virtual arena filled with numerous possibilities (Nuere & Miguel, 2020).

Regulatory agencies such as the University Grants Commission and the Ministry of Education have issued a list of guidelines regularly to safeguard the teaching-learning environment in India from the start of the pandemic-induced lockdowns. This research attempts to assess the implications of using digital technologies for sustainable educational practices based on teachers' experiences over the last six months.

Research Questions

1. How did the development of online teaching-learning take place in the selected university?
2. What procedures were used in the implementation of online teaching-learning in the selected university?

3. What are the benefits of online teaching-learning?
4. What are the prospects for online teaching-learning in the future?

Research Methodology

This paper is a collaborative inquiry that falls in a qualitative study. According to Savin-Baden, and Howel, the data acquired symbolizes the researcher's experiences, and those experiences urge those participating in the research to reflect on their own experiences. Collaborative inquiry necessitates clear shared reflection procedures by individuals participating in the study regarding their experiences and views on the common purpose and goal (Savin-Baden and Howel, 2013).

Delimitation

The study is delimited to:

1. The development and implementation of the online teaching-learning program.
2. The positive sides of online teaching-learning for teachers of the selected University.
3. The use of Google Classroom, Google Meet, and MS PowerPoint.

Context of the Study

The research was undertaken at a private university and focuses on the experiences of the university's teachers. When physical classes were suspended due to lockdown restrictions, the selected university formed a task group to develop and implement a model for online teaching-learning. Teachers were prepared for online teaching through orientation and training programs.

A blended learning approach was adopted, in which students could engage with teachers on a live online platform (synchronous learning) while continuing to learn at their own pace and convenient time (asynchronous learning) through recorded lectures and e-content.

Departmental online coordinators were tasked with assisting professors in recording, sharing, and managing video lectures and e-content utilizing Google Classroom, Google Meet, and Active Presenter.

Assumptions of the study

The study assumes that teachers of the selected university received adequate training and orientation to implement the online teaching-learning model. It is also assumed that the narrations of the authors and teachers provide comprehensive detail about their experiences.

Sample of the study

A purposive sampling technique was employed for this study (Neuman, 2015). To answer the first question, the second author discusses the development of the online model. He also interviewed the members of the task group. The third author reports on the implementations of online teaching in the second question. To answer the third and fourth questions, the first author extrapolates her findings from another study where she interviewed ten teachers in a focus group from the Department of Education (Chacko, 2021).

Instruments used in the study

The authors gathered data for the study through observations and reflections.

Research Results

The development of online teaching takes place in the selected university.

The second author is embedded in the research and was a team member developing the model. He narrated his experience and validated it with the members of the team.

Development

In May 2020, a webinar was held to introduce faculty to the online teaching model in the selected university. The webinar informed teachers on the fundamentals of online teaching and teaching approaches that may be effectively implemented in online classes. A core group of faculty members met and brainstormed to find the best way to train all faculty members so that best practices could be implemented for the selected university's online classes. The core group consisted of three members: the two authors and member R (pseudo name).

The unique challenges that the selected university faced in implementing online teaching-learning were:

- 1. Diversity in socio-economic background of the students.** It was learned that many students did not possess either a desktop, laptop, mobile device, or a stable Internet connection. This would pose a significant impediment to the implementation of online teaching-learning.
- 2. Inadequate IT infrastructure at the University.** Like other institutions, the selected University also faced severe financial constraints due to the Covid-19 pandemic. A limited number of desktop devices with webcams and speakers could be procured in preparation for online teaching-learning. The existing Internet bandwidth also could not be upgraded due to the same reasons.

The core group then decided to propose a mixed method of online learning via synchronous and asynchronous learning. In the synchronous learning environment, the teacher and students meet using an online platform in real-time. The benefit that this mode would provide is that teachers would be able to engage and interact with students like in a physical classroom; it would allow teachers to discuss concepts in-depth, and learning would be dynamic. Challenges of synchronous learning were identified as complex in bringing all teachers and students together simultaneously due to separation in space and time; and the immense disparity among students possessing mobile devices and stable Internet connectivity.

In an environment, the students can learn at their own pace with the given IT facility at hand. Teachers provide recorded lessons and reading materials that students can access at their convenience. The benefit identified with this mode of learning was that given the socio-economic diversity among the students at the selected University, each student would access the lessons when they are ready with a mobile device and Internet. On the other hand, the student could experience a lack of apathy due to the impersonal nature of asynchronous learning.

The synchronous learning environment decided to have at least one live class per week via Google Meet video conferencing platform. It was felt that with one live class, students would remain engaged with the classroom learning and interactions; it would also be less burden on the IT infrastructure of the University, which has limited computers and Internet

bandwidth for all classes to function simultaneously.

The University Grants Commission (UGC) recommendation for designing Massive Open Online Courses (MOOC) was referred to for asynchronous learning. Google Classroom was chosen to implement asynchronous learning due to its familiarity among teachers and students before the Covid-19 pandemic. The engagement with students would be in four quadrants viz Video Presentations, Lecture Notes, Assessments, and Discussion Forums.

The selected University follows a Choice Based Credit System (CBCS) for all its courses across all disciplines. Each course has a credit hour, which means the class meets for a minimum number of hours per week during regular classroom engagements. A breakdown of the proposed four quadrants was developed to justify synchronous and asynchronous learning to meet the minimum credit hours (Figure 1).

A weekly classroom engagement was named a module that represented all four quadrant activities. Quadrant One (Q1) or Video Presentations were pre-recorded video lessons that were to be uploaded on Google Classroom for viewing. It would also include the one live class per week held via Google Meet. Quadrant Two (Q2) or Lecture notes were also made available to students related to the concept discussed in that module. Quadrant Three (Q3) or Assessments were in the form of Multiple-Choice Questions (MCQ), short and long answer questions, and assignments.

The weekly assessment would help teachers gauge the level of understanding students show in that week's module. Quadrant Four (Q4) or Discussion Forums could be a live chat with students using Google Classroom, WhatsApp, or Video Conferencing either during a predetermined time or in real-time as per the teacher's convenience.

The core team also felt that an Online Coordinator should be appointed whose job would be to (a) communicate with teachers, students, and other stakeholders about the online teaching and learning environment and applications; (b) coordinate training for teachers and students in using IT infrastructure and online teaching-learning modules; (c) soliciting feedback from teachers, students, and other stakeholders; (d) and preparing a fortnightly report for quality control.

Module 1: BCOM351 Human Resource Management			
	1	2	3
Q 1	25-30 mins Videos	25-30 mins Videos	40 mins live conference call
Q 2	Text with approximately 3000 words. With average reading time of 150 words per minute the engagement time will be about 15-20 mins	Text with approximately 3000 words. With average reading time of 150 words per minute the engagement time will be about 15-20 mins	
Q 3	10 MCQ per module comprise of Quiz. Engagement time is 1 minute per MCQ for Quiz.	Assignment questions should be 5 minutes per short question and 10 minutes per long question.	
Q 4			Live Discussion Thread (20 minutes)
	1 Hour	1 Hour	1 Hour

Figure 1. Four quadrants of e-content.

Along with the Online Coordinator, Departmental Facilitators should be appointed who would (a) be the contact person for teachers and students; (b) provide training and technical support; (c) prepare a departmental report on online teaching-learning.

Procedures Used in the Implementation of the Online Teaching in the Selected University

The third author is embedded in the research and is one of the team members implementing the model. He narrated his experience and validated it with the members of the team.

Implementation

After discussion, it was decided that faculty members be divided into groups that could assemble in the Management Computer Lab. Several computers were furnished with webcams and speakers to have hands-on training with the new tools to be taught.

The training was divided into two parts:

- a) Google Classroom
- b) Active Presenter

Google Classroom is a Learning Management system developed and managed by Google. This tool has been developed over the years and has gotten better with time, and therefore it was recommended that the selected University takes full advantage of this free tool.

Faculty members were trained on using this tool to meet the four-quadrant method suggested by UGC. Faculty members were also oriented on the four quadrants, namely:

- a) Video Presentations
- b) Lecture notes
- c) Assessments
- d) Discussion Forums

The major challenge that most teachers would face was how to create video presentations, and that is where the second part of the training was used.

Active Presenter is a free video creation tool that has become popular, especially during the pandemic. Following some study, member R discovered that Active Presenter was both free and simple to use and that it was the exact solution that the selected University required.

Active Presenter was able to meet two requirements on the video side. It recorded the faculty members' slides and recorded the faculty's face so that the students had all the information needed on the PowerPoint Presentation and a friendly face that kept them engaged throughout the video presentation.

While most of the faculty members were being trained, another set of faculty members were chosen who were well-versed in using computers to assist their department faculty members when they needed assistance. These Facilitators were trained to troubleshoot at departmental levels and were advised to relay issues that could not be handled at their end to the coordinator. While this worked out very well, the facilitators were also asked to keep a constant tab on faculty members to ensure they were not lagging back due to a lack of guidance.

Once the training was over, it was decided to create modules uploaded to Google Classroom and share the same with the students. These modules would have all study materials which students could access at their convenience. Keeping in mind the difficulties

students could face with the lack of infrastructure at various places, this was planned. Each module represented one week of classes, and each of these modules was designed to accumulate all the four quadrants suggested by the UGC. The modules had to account for total hours of classroom activities per week, with at least one live class using Google Meet made mandatory.

Report generation was promoted to keep the faculty members motivated to complete the tasks at hand and make sure there was some accountability since Teachers and Students did not meet face to face regularly. Each Departmental Facilitator compiled the reports from the faculty members in the department and made them available to the coordinator, who in turn compiled them and created a master sheet.

Positive Sides of Online Teaching-Learning

Sheela Chacko states five positives can be identified from online teaching-learning, namely “(1) Flexibility, (2) Teachers are designers using a variety of options, (3) Gaining new knowledge, (4) Active motivation in learning and (5) Time saver” (Chacko, 2021).

Firstly, the most frequently mentioned advantage of online teaching, according to teachers' experiences at the selected university, was flexibility. Since students came from diverse socio-economic backgrounds, access to mobile devices and internet connectivity was not a given constant. Hence, recorded lectures allowed students to engage and learn at their convenience. Students could also watch the recorded lectures repeatedly as needed, which might not have been possible in a traditional classroom (Zhang et al., 2006).

Secondly, teachers were also enthusiastic about the newly available tools and resources for teaching that were previously absent in a traditional classroom setting. One instructor described how web tools had provided access to existing video content, exercises, and animations that supplement a teacher's resources (Chacko, 2021).

Thirdly, to the obvious nature of online teaching-learning, students may be guided to a variety of resources available online, improving learner engagement. (Zhang et al., 2006). Teachers indicated that students' access to additional content inspired the creation of new scenarios and applications in real-world contexts (Chacko, 2021).

Fourth, whereas traditional classrooms can easily become teacher-centric, online classrooms encourage students to experiment with self-learning by providing them with a wealth of resources.

Lastly, teachers may initially spend a significant amount of time preparing for online classes, but they will ultimately reduce instructional time owing to improved classroom management resulting in efficiency (Méndez-Coca & Slisko, 2013).

Future Ahead for Online Teaching

Education is inextricably tied to head (cognitive), hands (psychomotor), and heart (affective) aspects of learning. Educators are of the opinion that online learning can never completely replace contact classrooms. (Chacko, 2021). Online learning can supplement traditional instructional practices, but it may not be suitable for the complete cohort. (Cooper and Higgins, 2015).

It would be easy to take sides right now, claiming that online learning is the way forward or dismissing it as a passing fad. But the truth is that online learning is a tale that is unfolding; what follows next is up to those who are present (Nguyen, 2015).

The Implication of the Study

The traditional classroom has been flipped around, and suddenly, the entire world has taken upon the online class model due to the need of the hour. This has happened not because we wanted to have it that way but because we were forced to go that route to keep everyone safe from the pandemic while imparting education to the students. While this has been challenging and has brought a sudden change to the teaching method, a lot could be done with planning and implementing ideas and lessons learned while experimenting with online education.

Academic institutions can take advantage of the knowledge they have gained through online education and use it to their benefit. Specific courses could still be offered as certificate courses or diploma courses to enhance student learning while engaging them on offline and online venues.

Since this could be a new normal, academicians must develop policies to help students gain the most from the knowledge base. Policies such as creating modules with the much-needed course materials that would cover video lectures, class notes or study notes, assignments, quizzes, and discussions are necessary to have adequate knowledge at the end of the course. Minimum and maximum class materials also need to be stated so that students are neither under coached nor overexerted.

Very little information is present to test the stress levels of students who attend online classes and teachers who create study material for these classes. Since there is a learning curve and adaptability to technological changes and the opportunity of teachers to learn new skills that were not needed as much before the pandemic, studies could be conducted to find out which age group had a better time to cope with these much-needed skills.

Some might argue that desperate times call for desperate measures. Many educational institutions were unprepared for the shift in teaching-learning processes caused by the pandemic. However, we see each institution adapting to changing needs and integrating online teaching-learning to meet their specific requirements. Some people found the transition easier than others, while others continue to face significant challenges and barriers.

In the hands of its user, technology is a tool to be used for the benefit of humanity. This would be valid for online teaching-learning as well. The key facilitator of learning in any given classroom is the instructor, and it is her responsibility to motivate and captivate pupils for them to learn (Talesra et al., 2005). How she does that is a matter of both art and science.

Sahasrabudhe (2020) opines that there is great flexibility for both teacher and student in teaching-learning and assessment. Exams may be administered online when students are prepared, and they can be taken from anywhere and at any time.

Online teaching-learning directly contributes to the production of resources, study materials, and recordings that add to the wealth of knowledge already available on the internet. Engineers at Google estimate that billions of web pages are added to the internet every day. This might be linked to what society can do collaboratively when information and knowledge are developed as a consequence of teaching-learning experiences (Wilmath, 2010).

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