

## Exploring the Critical Challenges and Potent Effects of E-Learning

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Submitted: 02/11/2022

Accepted: 01/02/2023

**Abstract:** Corona Virus has affected the lives of all the people. The main purpose of this paper is to produce a survey which evaluates the increase of learning that has occurred in the usage of the online learning platforms. It even took several months for both the instructor and the students to finally adapt to the situation. Due to the pandemic, there has been a drastic change in the advancement of online learning platforms. Many students prefer learning on online platforms since it has been very convenient and very time consuming. Data Visualization provides an easy solution for this study. It helps in understanding and analysing the data given based on the results produced in the survey. This paper will help us understand the reasons for the increase and decrease of using online learning platforms and the various reasons behind each of them. We first split the entire concept into three different observations. Based on the research conducted in the first survey, the accuracy result from the first survey depicts that most of the students prefer using Great Learning since it provides the students with multiple free courses. In the second part of the research, almost the majority of the students have not completed (48.4%) the enrolled course. Few of the students have come at least halfway (14.5%) in the completion of the course. And the rest of the students (37.1%) responsibly completed the enrolled course. In the third part of the research, almost half the students who haven't completed the course prefer that the main barrier faced among the students is the lack of interaction (36.7%).

**Keywords:** Virus, Visualization, accuracy, enrolled, interaction

### 1. Introduction

Education has taken a lot of twists and turns during its entire growth period. After the entry of technology in the educational field, things have taken a far reaching growth which has proven to be a success. But, the outbreak of a deadly virus, COVID 19 has brought devastating changes and has caused a serious downfall in the field of education. Based on the reports from the UNESCO, almost 1.5 million school and college students were completely affected due to the closure of institutions due to the outbreak of the coronavirus. This completely shattered the plans of the government which led to a complete lockdown of all schools and colleges and the cancellation of all possible offline examinations. And the lockdown eventually led to the rise of online learning platforms. The usage of online learning platforms has increased. Online Learning is a method where you use the internet to educate yourself. There are several learning platforms such as Coursera, Udemy, Great Learning and so on. Institutions preferred a way to educate students at the comfort of their own homes. Ever since, things have been exceptionally different since all types of learning had switched virtually. All of this has made students use technology to improve their skills and any other aspects of knowledge and it has also been very

time consuming. In spite of the fact that the usage of online learning platforms has been helpful, people have been having a hard time adjusting to this way of living. Both the students and the instructors faced several challenges in adjusting to the digital teachings (Zakaryia Almahasees et.al). All the early indications of the training in the digital platform and the encouragement helped in the growth of online learning (OECD 2020). Researchers have agreed upon taking a greater number of surveys based on the potent effects of the working of online learning platforms. Many people preferred online learning to be very fruitful, but few resisted the idea and felt it as a drawback. So there are people who really support the idea of getting enrolled in online learning platforms and some simply resist the same idea.

### 2. Literature Review

Technology has become one of the most important upgrades in the field of education. Ever since the pandemic, students have been fairly using the services of multiple online learning platforms. And in many such related studies, coping up with learning during the pandemic has been such a huge challenge and all of them have produced entirely different results based on the type and extent (Jessie S. Barrot, Ian I. Llenares, and Leo S. del Rosario). The predicted method to deal with the education under the pandemic circumstances were entirely different and a potential survey helped sort out the identification of the perception of every individual (Zakaryia Almahasees, Khaled Mohsen and Mohammad

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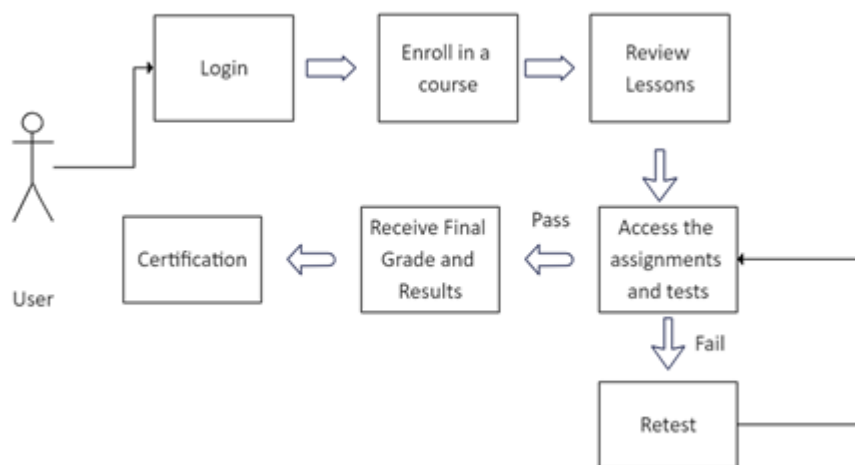
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Omar Amin). Many studies have proven the effects caused by the online education that had changed the course of living during the pandemic. It has been a valuable asset to people since it has proven to have abundant benefits among it. This is mostly classified by the effectiveness of using an online platform and about what makes it more effective. (Signe Schack Noesgaard and Rikke Ørngreen). Evaluation of the online activities performed is also checked based on the behaviour and interactions done by the students. This evaluation is carried out with the help of the recurrent neural network with LSTM cells. (Maria-Dorinela Dascalu, Stefan Ruseti , Mihai Dascalu , Danielle S. McNamara , Mihai Carabas , Traian Rebedea , Stefan Trausan-Matu). Researchers have proven that the growth of online learning platforms have started blooming before the coronavirus pandemic took place. Disasters both natural and man-made is yet another issue which brings problems in the livelihood of the people. The evolution of software later started online learning platforms in order to make the people feel comfortable in educating themselves even when there is a sudden uncertainty affecting the environment (Kofi Ayebi-Arthur).

The outbreak of this pandemic has caused the closure of many institutions and has launched a way to interact

easily using online learning platforms and distance education. All of these convenient measures did help in the improvement of education. (Mohammed Audah (Audi), Maja Capek, Aishwarya Patil). Even though all the facilities are being provided, students should have the enthusiasm to take up and complete a particular course they are interested in. Interactions with the online instructor is a must since everything will be carried out virtually. (Regina Bento, Barry Brownstein, Edward Kemery, Susan Rawson Zacur). Facing the advancement of online learning can be different to many people at start but then carrying out the process as a collaborative group will definitely help in a very effective process (Jane E. Brindley, Christine Walti, Lisa M. Blaschke) . Many adults have started using the online learning platforms which have its own limitations and they do increase a few of our skills in undertaking the course sessions. It also provides several opportunities for students to explore in several fields. (Secretary-General of the OECD). There are several free online courses which are mostly available for people to use. This category provides massive open online courses which help the students when it comes to resources, participants, and etc. (Olga Pilli, Wilfried Admiraal).

## Architecture Diagram



**Fig. 1:** Architecture Diagram

Figure1 clearly depicts the working of the online learning platforms. E-Learning works in a way where the instructor and the learner will not meet face to face. Everything happens in a virtual environment. At first, the user chooses the necessary online learning platform and logs in. Based on the interest of the user, you enrol yourself into a course. Each course will be provided with as many videos which will help you understand the

concepts of the specific course. Once the review of the lessons are done, the user will be provided with a list of assignments and tests to check the ability of how far they have understood the concepts that were conveyed. You will also be given a retest option if you failed in the test attempt. And once the test process is complete, the user receives the respective grade based on their performance and the final certificate will be offered.

## Participants

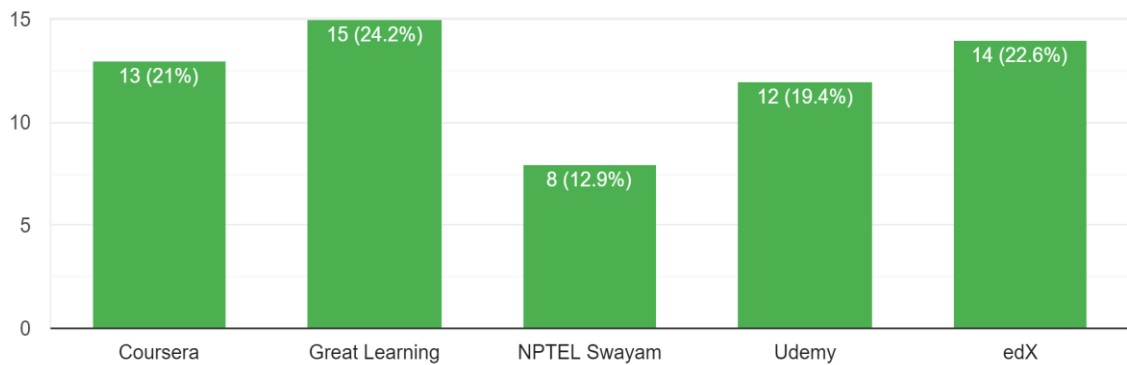
This research study focuses on producing a survey which classifies the increase that has occurred in the usage of the online learning platforms. The participants in this research study will be 62 students. The participants included 31 females and 31 male. All of these students are in the department of the Masters of Computer Applications and we have shortlisted students from both the First and Second Years from Hindustan Institute of Technology and Science. This study hosted three different surveys which were created and was forwarded to the students.

## Enrolment in Online Learning Platform

In figure 2, the preference and the enrolment of students in the respective online learning platforms took place. In this survey, the students were asked to choose a platform which was at best and was at comfort for each of them. Most of the students preferred learning platforms such as Great Learning at first and then edX and so on. Each online learning platform contains a unique approach in motivating the students in the completion of the course.

### Name of the Online Learning Platform:

62 responses



**Fig. 2:** Number of Enrolled Students in Online E-learning Platforms

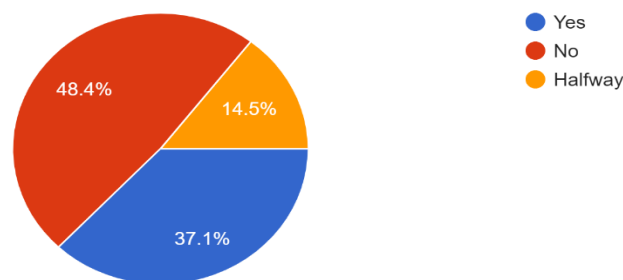
## Completion of the Enrolled Course

In figure 3, it describes all the students who have enrolled themselves in several courses were asked to acknowledge whether they have completed the respective course or not. Almost the majority of the

students have not completed (48.4%) the enrolled course. The least number of students have come at least halfway (14.5%) in the completion of the course. And the rest of the students (37.1%) responsibly completed the enrolled course.

### Have you completed the selected course?

62 responses



**Fig. 3:** Comparison of students completed, not completed and half completed course

### Obstacles Faced in the Completion of the Enrolled Course

In figure 4, all the students who chose NO in the previous review were asked to mention a reason for not completing the enrolled course. Students generally face several issues when it comes to the completion of a task.

The students can seek additional support to face the obstacle. But, the majority of the students prefer that the main barrier faced is the lack of interaction (36.7%). So, the barriers faced by the students will be taken into account and it will later be rectified in the upcoming sessions.

Obstacles faced in the participation of Online Learning

30 responses

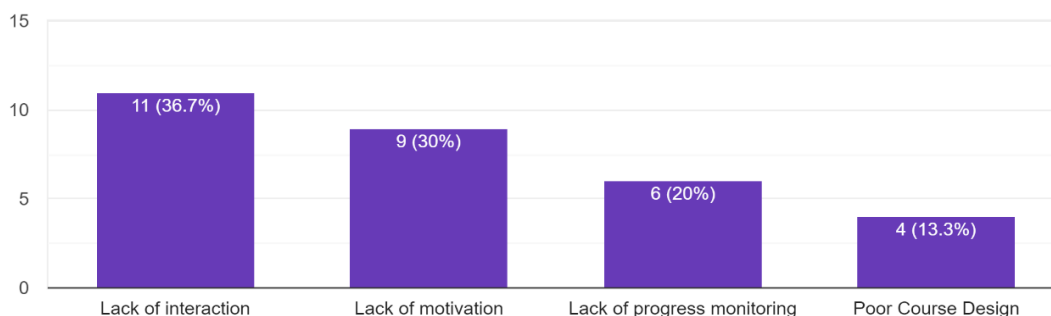


Fig. 4: Reason for Not Enrolling the Course

### 3. Conclusion and Future Work

The study showed that even though online learning has helped in the advancement of educational technology. Before the pandemic, students who have great interest in gaining extra knowledge, utilized all learning platforms. But after the rise in the pandemic, many students were pushed to try all sorts of online learning platforms. But even all of that has its own limitations. And, after careful and thorough examination, the survey depicts that even if the online learning platforms provides such good learning methods, few of the students are not being able to adapt to it due to the lack of interaction, motivation, progress monitoring between the instructor and the students and it also provides a poor course design which did not deepen the interest of students in the course. It is necessary that all classes that are conducted should not only be at the convenience of the instructors, but it should be adaptable to the student's needs.

But we cannot be sure as to how long the phase of online learning will remain. If that phase continues, we must make sure that a consistent amount of research is done on the effects and in the up gradation of the online learning platforms. Since, this research study is on finding the effects of E-learning, the subsequent work may be related to the measures in improving the effects of E-learning platforms.

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