# Comparison between Online and Offline Teaching Effectiveness: An Empirical Study in the Context of H igher education

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## Abstract

This study entails a qualitative content analysis approach to review many published research work on online teaching and learning with a primary focus on how various theories and practices apply to the online teaching-learning environment. It primarily focuses on comparing learning outcomes in distance

or online education and offline or face-to-face teaching. Several findings have concluded that online teaching as compared to offline teaching education have almost the same level of effectiveness and learning outcomes. (Pei & Wu, 2019) In various ways, online learning is undergoing tremendous changes and shall continue to grow at a faster pace in the coming days. There is an indication that online teaching is as effective as conventional classroom teaching-learning sessions, and it surely helps many students learn more effectively. Studies also confirm, if a higher education institution uses online learning to achieve optimization of cost, it can boost the learning efficiency. Therefore, the study lays forth a view for achieving cost-effectiveness in online education in terms of funding, time, and efforts. The number of 191 respondents as a sample was taken in respondents were considered and surveyed by a "structured questionnaire" created on five-point interval scale.

**Key Words**: Online, Offline, education, teaching, learning, Higher education, Covid-19, technology.

## Introduction

The present era demands agility and education industry is one such big area which has seen explicit changes in terms of online teaching and learning. Traditional and conventional mode of education is now shifting towards an online platform where students have the privilege to study their choice of subjects whenever and wherever they want.

Schools and colleges can now provide effective classroom teachings via the online medium in this current scenario and age of technological advancement. This shift in pedagogical medium is compelling academic institutions to reconsider how they shall deliver course content. The use of online education methods has grown at a rapid rate, especially in higher education during past few years (Nabi *et al.*, 2017). Apart from the simplicity of delivering education, institutions or educational organizations have turned to online education programs as cost-effective growth centers because of their ability to attract new students.

The rapid-growing field of online education is basically the Master's-level programming, where business and education are seen as the most popular subjects, though many more subjects and courses are being added to the list. An evident result is that institutions which are profit oriented and offer complete online learning programs are advertised and positioned in a better way to develop than the other government universities. These neither have the willingness nor the ability to develop rapidly into a full-fledged online education medium, because of the faculty resistance and the desire to take advantage of the campus.

A fresh sense of purpose and practicality with respect to the online education seems to be involved in today's university dialogues, which seem to rectify the lessons learnt from past mistakes (Brookfield, 2015). For instance, the authors have identified ten key trends that shall continue to shape up the online teaching in colleges and universities. This includes increasing more number of enrolments, making education industry lucrative by providing online education, changing the existing organizations to include online classes, and an attention to better quality metrics to assess the teaching practices in a distance education medium as opposed to offline teaching. E-learning, according to Nagel, is rapidly growing at an unparalleled rate and shall continue to do so for the foreseeable future. Many students perceive that higher education is undergoing a profound shift (Tierney & Lanford, 2018). There are only a few public institutions of higher learning that haven't given up on traditional mode of education, but those that want to keep up with the pace of rapidly changing group of profitable institutions need to adapt to the changes quickly, so that they are able to understand the convenience of the student community and introduce hybrid classes instead of just having a traditional teaching-learning practice.

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## Literature Review

Online education's functioning is changing rapidly. As a result of various factors such as availability of time and unprecedented scenarios remote education has become the need for the hour for people everywhere. In today's world, even while it still takes time and money for a university to create a course, as reproduction costs have become very less because of technology (Connell, 2019). As a result of this transformation, teachers who are teaching online can play a vital role in imparting education to a large number of people universally. Universities or institutions can make their content available to millions of people for little or no expense. Students around the world would benefit largely from this content in a huge way.

Educational institutions as well as students can collaborate on various projects around the clock by utilizing a variety of communication methods in an online learning environment that would allow them to exchange innovative ideas and information and collaborate on virtual platforms (Kokotsaki, *et al.*, 2016). Online learning has many advantages and is an important resource in the present era. However, one needs to figure out multiple teaching styles that could be used most effectively. Teaching strategies are most operational when they are tailored to match specific learning objectives, just as they are in the traditional classroom.

Students are mostly benefitted by this when they understand the potential of internet to accommodate numerous methods of communication, such as any number of students and teachers as well as others can communicate on a single platform to collaborate for specific projects, classes, assignments and so on. Using the number of available resources and proficiencies of virtual medium, the faculties can bring about powerful and effective courses to help students achieve the required learning outcomes by incorporating the diverse learning methods of the students and providing ample opportunities for collective learning (Fedynich *et al.*, 2015).

The universities and its students, are trying to experiment with strategies to finish with their assigned syllabus within the stipulated time specified by the academic schedule while schools and colleges are closed due to the novel covid-19 pandemic. It is evident that these online classes have resulted in some amount of problems, but they have also brought up certain examples of innovative techniques in teaching. In the academic institutions that continue to use traditional lecture-based teaching methods, these virtual means of providing education has come out as a silver lining in this covid-19 pandemic situation.

With the advent of technological advancements, one can design online content in a variety of ways (Palvia *et al.,* 2018). For providing an effective and productive learning, it is important to consider the convenience level of students while designing the online courses. The student's convenience would be related to his or her readiness or interest to participate in learning together, as well as the factors influencing the willingness for online learning. (Muthuprasad *et al.,* 2021).

A concept of "readiness for online learning" was first introduced by in the "Australian Vocational Education and Training Sector". Student's preference for online classrooms over traditional classroom teaching, confidence of the students in using electronic media for learning, including the trust developed by students within them to use the Internet and computer-based communication, the ability of the students to engage in self-directed learning and last but not the least is motivation level of students. These are few factors associated to the readiness of students for pursuing online classes (Hung, 2016).

In previous studies of online learning, researchers found that these tools were not much effective as compared to traditional classroom teaching. If online teaching is different than conventional teaching

with respect to the results obtained by students, policymakers of the country mentioned, online mode of education efforts is only advantageous when it can optimize the cost associated to the same and also the inaccessibility of face-to-face education or training. Therefore, the students must have access to remote education in such cases (Aliyyah *et al.,* 2020).

The functioning of higher education in the coming years is going to shift towards numerous innovative ways of online learning. The authors write in reaction to these changing demographics. They say it is evident that students are increasingly interested and in need of a hybrid education pattern consisting of both online and offline classes which shall cater to the needs of the student community. A rise in online enrolment across almost all disciplines has been reported as a result of this requirement. This continues to expand as more universities begin to offer online courses. An estimated global market for distance learning in higher education is two billion people.

The educational institutions providing higher education must create an effective course development process backing it up with tools that would boost efficiency. With the online approach, large investments are made in different courses hoping that extremely huge strength of students shall enroll in those courses at some point of time.

As the number of students are growing, government funding for education drops, and tuition fee rises. People are trying to switch to online learning because this provides a huge scope for cost savings, especially when students in their higher education, want to pursue different courses to improve their skills. All of these demands, according to the author, somehow intensify higher education's productivity issues.

Many institutions are struggling to meet these demands. However, due to limited physical space they aren’t able to cope with the situation as demand for higher education grows at record rates. The added advantage of online learning as opposed to traditional learning is that extra students can be served without investing in the space provided for classrooms. Constraints related to funds also have an impact on a variety of resources, such as faculties and staffs, materials, classroom space, and labs. The universities have found that well-functioning online learning systems allow them to serve more number of students with only a few resources during the lean period

The effectiveness of online classes depends on institutes’ capacity to manage costs while simultaneously providing accessible and good-quality education at the same time (Shen *et al.*, 2013). While purchasing and implementing technology is costly, several schools are discovering that the ROI can be substantial. According to a report released by the “American Association of State Colleges and Universities”, “more than half of the institutions surveyed, rely on contingent faculty and online learning strategies to cut operating costs, such as those developed through the National Centre for Academic Transformation's technology enabled course redesign”.

Student loans are increasing at higher rates, and both parents and students are feeling the adverse effects of it. As university and college classrooms are filled up with students paying inflated tuition fee, the idea of free online classes are booming as well.

Only traditional institutions and colleges that do not accept online learning could be disrupted by or outperformed by it (Demuyakor, 2020). Institutions that try to copy the elite schools' strategies of providing scholarships and graduate programs. However, they do not invest in online teaching methods for the undergraduate children, could be at a potential risk.

There has been a surge in the research of techniques for its successful application in colleges and universities as online learning continues to develop rapidly. In addition, there are case studies which

illustrates efficient strategies for developing online programs, funding them, and maintaining them. On the other hand, there are researches being done to check the feasibility of online education and the advantages of it as opposed to offline education for improving learning. Researchers have emphasized throughout their work the need for educators to use online education strategically ensure that teachers are properly trained for its effective way of designing and delivering.

With the continued growth of online learning, there has to be a greater emphasis on courses, virtual workshops and other degree programs that teach moderating and mentoring the online learning program. Teachers and students expect their institutions to provide training and support to prepare them for online education. Universities and colleges must strategize their responses. A lack of support and training for the faculties who would be teaching online could jeopardize an institution's reputation in current education industry. It would also dissatisfy students who have very high expectations for their online education experiences.

Dr. Bates wraps off his study by explaining a number of important prospects for distance or online learning growth and development. Course redesign, methods to involve greater student mobility, the development and growth of open educational contributions, the increased presence of virtual multimedia resources in the learning analytics in online courses, in order to advance the teaching methods, and the growth of different techniques and shared services as a cost-cutting measure are among them.

It is mandatory to keep in mind the students' receptiveness of online lectures. All the efforts made for improving the effectiveness of online education must be directed towards students' convenience. Students' views of online courses have been documented in studies, both positively and negatively. Several studies have found that the teachers' communication with the students has a significant effect on students' perceptions of online education.

Course design uniformity, interaction with instructors' critical thinking ability and data processing online interactivity, the importance of learning through collaboration, and flexibility of the education environment are all factors to consider.

**Objectives**

1. To know the learning efficiency between online and offline learning.
2. To compare the effectiveness between offline and online teaching.

**Methodology**

The nature of the study is exploratory. The data was collected from teachers as well as students. To obtain responses from the respondents, structured questionnaire used. The total sample size was 191 respondents. Statistical techniques such as Mean and t-test were applied. The sampling method used was convenience sampling.

**Findings of Study**

Table 1 shows number of number of respondents based on their gender, male respondents are 53.93% and female respondents are 46.07%. Regarding the residential environment of the respondents, those who live in rural areas are 47.65% and those in urban areas are 52.35%. With reference to the age, respondent between the age of 18 and 22 years are 36.13%, respondents between the age group of 22 to 26 years are 25.65%, and those who are 26 years & above are 38.22%. Looking at the educational qualification of respondents, Bachelor are 50.78% and Master are 49.22%.

**Table1 Basic details of the respondent**

| Variables | Number of respondent | %age |
|---|---|---|
| **Gender** | | |
| Male | 103 | 53.93% |
| Female | 88 | 46.07% |
| **Total** | **191** | **100%** |
| **Residential Environment** | | |
| Rural | 91 | 47.65% |
| Urban | 100 | 52.35% |
| **Total** | **191** | **100%** |
| **Age** | | |
| 18 to 22 years | 69 | 36.13% |
| 22 to 26 years | 49 | 25.65% |
| 26 years & above | 73 | 38.22% |
| **Total** | **191** | **100%** |
| **Educational Level** | | |
| Bachelor | 97 | 50.78% |
| Master | 94 | 49.22% |
| **Total** | **191** | **100%** |

**Table 2. Comparison of teaching effectiveness between offline and online learning**

| Sr. No. | Statements | Mean Score | t Value | Sig |
|---|---|---|---|---|
| 1. | Online education has improved the current educational structure | 4.10 | 16.52 | 0.000 |

| | | | | |
|---|---|---|---|---|
| 2. | In offline learning, every student get equal attention from teachers | 4.02 | 12.70 | 0.000 |
| 3. | Online learning making students learn more about advanced technology | 3.89 | 12.51 | 0.000 |
| 4. | In online learning students face technical and network issues | 4.22 | 16.34 | 0.000 |
| 5. | Many students cannot afford expensive devices for online learning in rural areas | 4.01 | 12.23 | 0.000 |
| 6. | Online learning also enhances computer skills | 3.99 | 14.87 | 0.000 |
| 7. | Online learning is possible at any time and at any place | 4.00 | 12.45 | 0.000 |
| 8. | Concentration level of students is high in offline learning | 4.30 | 18.28 | 0.000 |
| 9. | In classroom study, there was more interaction between teachers and students | 4.19 | 15.94 | 0.000 |
| 10. | In online learning, students find it difficult to focus on the topic | 4.25 | 15.14 | 0.000 |

Table 2 shows Mean value for statements on research done on “Comparison of teaching effectiveness between offline and online learning,” the statement “Concentration level of students is high in offline learning” records the highest mean value as 4.30. The second highest mean score of 4.25 is received by statement “In online learning, students find it difficult to focus on the topic.” The statement “In online learning students face technical and network issues” has recorded the third highest score of 4.22; statement “In classroom study, there was more interaction between teachers and students” has mean score of 4.19. Statement “Online education has improved the current educational structure” records score of 4.10” “In offline learning, every student get equal attention from teachers” is with the mean score of 4.02. Statement “Many students cannot afford expensive devices for online learning in rural areas” has the mean value of 4.01, Statement “Online learning is possible at any time and at any place” has the mean score of 4.00 statement “Online learning also enhances computer skills” has the mean value of 3.99. The last statement “Online learning making students learn more about advanced technology” has the mean score of 3.89. T-value of all the above statements with reference to the Comparison of teaching effectiveness between offline and online learning are found significant, as t-value for all statements are positive and significance value is less than 0.05.

## Conclusion

People’s approach to learning new skills have changed because of technological advancements. Those willing to expand their knowledge and skills now have a plethora of options on the internet. If used properly, online education in higher education can significantly improve teaching effectiveness, but it cannot replace the traditional classroom setting entirely. It is pertinent to support and motivate

collaborative learning in the classroom. Collective learning makes the students more aware of their own learning styles and enables them to learn more readily. It helps them become enthusiastic learners both inside and outside of the classroom. However, online as well as offline education helps the students enhance their critical thinking skills. Online teaching shall become more prevalent in the future. Therefore, institutions providing higher education could adopt a new mode of combining the online and offline methods of teaching. "Mean" and "t-test" been applied to compare the teaching effectiveness between offline and online learning.

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