Project Dissertation

On

Online Courses and Learning

Submitted By

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2K18/MBA/033

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DECLARATION

I hereby declare that this project dissertation submitted to Delhi School of Management, Delhi Technical University is a record of an official work done by me under the guidance of Mr. Dhiraj Pal, Ass. Professor. The project is submitted in the partial fulfillment of the requirements for the award of the degree of Master of Business Studies. The results embodied have not been submitted to any other University or Institute for the award of any degree or diploma.

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CERTIFICATION

This is to certify that the Project dissertation titled "Effectiveness of Online Classes" is an academic work done by **Ms Neetika Rao, Roll no. – 2K18/MBA/033** for academic year 2018-2020, submitted in the partial fulfillment of the requirement for the award of the degree of Master of Business Administration(MBA) from **Delhi School of Management, Delhi Technological University.** To the best of my knowledge and belief, the data & information presented by him/her in the report has not been submitted earlier.

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I express my sincere thanks to all people who participated and helped me in successfully preparing the Project dissertation. I am thankful to all the members who gave valuable information on the part of my Project dissertation.

Sincerely,

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EXECUTIVE SUMMARY

The number of online courses in institutions of higher education is increasing to meet the high demand of effective students. Many institutions offer graduate degrees and certificates in online courses. Therefore, more online courses are offered in addition to the traditional mode of classroom setting. The purpose of this project is to present the challenges associated with teaching an online course, and discuss approaches to enhance learning. The need for a methodology is discussed and components of this methodology are identified for designing and delivering an effective online education.

 "Online courses have become a popular tool in addition to traditional course application methods. This study emphasizes on how assessment and teaching methods employed can influence the impact of online program, as well as the strengths and concerns experienced in e-learning. This project was written to investigate the opinions and experiences of faculty and students involved in online programs. Various factors that affect the effectiveness of online programs were studied in order to provide insights on the major challenges, benefits and limitations faced" (Ebojoh, 2007). Among the findings, major problem areas were identified and suggestions were proposed on how identified problems can be minimized. The study also raised the possible future direction for e-learning.

The growth of technology has changed almost every aspect of our lives. Technology has also impacted the process of education. The face to face education has gone through a vast makeover over the previous decade. Although face to face education is still considered the norm, but acceptance of online courses is increasing in the field of management and engineering(Schrum, 2011). Some of the reasons for the exponential growth of online education is that it is instant, online, anywhere accessible, self-driven and on the go.

The major reason for the phenomenal growth in online education is MOOCs (Massive Open online courses). According to Kaplan, Andreas M.; Haenlein, Michael (2016),

MOOCs are online courses which are aimed at unlimited participation and offer open access through the web. Since its development in the year 2008 MOOCs has gained lot of note and attention. Almost all major universities have launched MOOCs in the current decade. According to report by Class Central, there were 83 million students who had registered for MOOCs by December, 2017.The list of top five MOOC provider by registered users include Coursera, edX, XuetangX, Udacity and FutureLearn(Schrum, 2011)

The government is supporting online education in India because of its potential to improve education quality and reach through the Digital India initiative; Government of India in Association with Ministry of HRD has initiated a programme named SWAYAM (Study Webs of Active –Learning for Young Aspiring Minds) that is designed to achieve the three fundamental objectives of Education Policy i.e., access, equity and quality(Schrum, 2011). The main objectives of this effort are to provide the quality teaching learning resources to all, including those who cannot afford(Schrum, 2011). This program SWAYAM seeks to provide education to those students who are not yet aware of the digital revolution taking place and are still not able to join the mainstream of the knowledge economy(Schrum, 2011).

Considering the rapid change in technology, inevitable changes in education sector are going to happen and lot of research has been taking place to understand the pros and cons of online education in comparison to face to face traditional education. In India, there are a lot of challenges and opportunities for online educations. There are certain factors which are creating a hindrance in the growth which include insufficient digital infrastructure, credibility and language used in online education, with the increase in number of internet users in India, this project also looks into what opportunities are there in future in education sector.

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1. INTRODUCTION

1.1. Background

Learning has grown from the format of traditional classroom to distanced education and now to online mode of learning. With the advancement of technology and the Internet, educational institutions are changing their learning tools and methodology to meet demands of user in providing an ideal learning environment. The use of e-learning methods involves the possibility of learning from information given through electronical means i.e. through sending, receiving emails, online courses, online discussion forums, video conferencing, CD Rom, etc (Ebojoh, 2007). "Universities, educational institutes and higher education have partnered with information training vendors to create a virtual learning experience in which a wide range of levels and disciplines of academic degrees and certificate programs are managed through a standard user interface throughout the institution. Online-only colleges and campus colleges offer some programs requiring students to attend some campus classes with orientations sessions" (Ebojoh, 2007).

Online learning method is more cost effective than traditional classroom learning but there are many issues arising within the context of self-study independent study programs from the end users perspective. There is a need to observe and analyze these situations in order to discover areas of improvement in the design delivery methods employed but these are not the focus of these study only the effectiveness of Online mode of education(Ebojoh, 2007).

Online education may seem relatively new, but years of research suggests it can be just as effective as traditional coursework, and often more so, according to Education analysis of more than 1,000 learning studies, online students tend to outperform classroom-based students across most disciplines and demographics ; while many reports list several plausible reasons students might learn more effectively online — that they have more control over their studies, or more opportunities for reflection— medium is only one of many factors that influence outcomes the common successful

online students tend to be organized self-starters who can complete their work without reporting to a traditional classroom the learning styles and preferences matter, too (*FAQs - Olives Japanese Language School*, n.d.).

Education can become transformative when teachers and students synthesize information across subjects and experiences, critically weigh significantly different perspectives, and incorporate various inquiries(Sun & Chen, 2016). Educators are able to construct such possibilities by fostering critical learning spaces, in which students are encouraged to increase their capacities of analysis, imagination, critical synthesis, creative expression, self-awareness, and intentionality(Sun & Chen, 2016). A byproduct of fostering such new approaches has been the creation of online courses developed in the worldwide at exponential speed. It is becoming increasingly common at many higher education institutions, offering fully online and/or hybrid/blended courses combining online instruction with face-to-face teaching(Sun & Chen, 2016).

As a result of the high levels of austerity, more and more universities and colleges appear to have shown increasing interest in online education we ask: How has online education evolved? Has it been successful? In what ways has it been proven effective? And what still remains to be done to achieve greater success in teaching and learning in an online environment? These questions have motivated, to conduct this study – reviewing research and studies on online education(Sun & Chen, 2016). At present, fewer studies on online education have focused on examining previous research and studies, and here I have conducted a sample review study trying to provide a platform of discussions for educators on how to develop and deliver effective online programs and this study's focus is on examining the aspects and strategies of the online learning and teaching process and how effective they have been(Sun & Chen, 2016). The goal here is to understand effect of the best practices. In doing this, it is hoped that this will stimulate an on-going discussion of effective practices that can enhance universities and faculty success in transitioning to teach online(Sun & Chen, 2016).

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challenges and opportunities for online education(Schrum, 2011). There are certain factors which are creating a hindrance in the growth which include insufficient digital infrastructure, credibility and language used in online education, with the increase in number of internet users in India, the project also looks into what opportunities are there in future in education sector(Schrum, 2011).

"Online learning has become a popular tool in addition to traditional learning methods. This study emphasizes on how assessment and delivery methods employed can influence the effectiveness of online program, as well as the benefits and constrains experienced in e-learning. This project was written to investigate the opinions and experiences of faculty and students involved in online programs. Various factors that affect the effectiveness of online programs were studied in order to provide insights on the major challenges, benefits and limitations faced. Among the findings, major problem areas were identified and suggestions were proposed on how identified problems can be minimized. The study also raised future direction for e-learning"(Ebojoh, 2007).

Types of Online Learning Programs

Despite its quick adoption, online learning is a relatively new medium. Institutions continue to experiment with new formats, then use specific terms to differentiate them. Students should become acquainted with these classifications early so that they can decipher which programs align with their learning preferences, career goals, and current levels of education. Here are some of the most common online options offered today.
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Online Degree Programs

Not all colleges and universities define online degree programs the same way: some let students complete their studies 100 percent online while others require some face-to-face work as well. The nature, number, and location of these visits can vary. Colleges might require online students to report to campus or approved partner

institutions for practical labs, on-campus intensives, orientations, and/or exams. They might also require fieldwork or internships, depending on the subject.

Blended or Hybrid Programs and Courses

There is no standard definition for blended and hybrid programs. Many schools use the terms interchangeably; others use them each in very specific ways. Nonetheless, most blended or hybrid programs and courses combine varying degrees of online and classroom-based instruction. These can include:

- Classes in which students complete coursework online and in the classroom.
- Degree programs in which students complete some of their courses on-campus and others online.
- Online degree programs that allow students to complete the majority of instruction online, but require them to come to campus periodically for face-to-face instruction.

Unless otherwise noted, OnlineEducation.com defines any program that requires three or more campus visits each year as a hybrid program.

Massive Open Online Courses (MOOCs)

MOOCs are online courses available in an open format, which means students need not apply to an institution to enroll. This makes MOOCs accessible to learners from a wide spectrum of age groups and circumstances, including international students. Although a limited number of MOOCs allow students to earn some type of verified certificate at a cost, most are free and award no college credit. Course content is usually delivered through provider organizations like Coursera, edX, and Udacity.

Competency-Based Programs

Competency-based education is a relatively new trend in online education. Unlike online degree programs that deliver most instruction online, competency-based programs offer credit for knowledge gained through life experience and other forms of self-directed learning. Students usually demonstrate key competencies through

tests or portfolios. This unique format supports military service-members, trade professionals, and other students with verifiable skills mastered outside of formal education. The majority of today's competency-based programs offer associate degrees and certificates, but a small number of online bachelor's programs are beginning to emerge"(*OnlineEducation.com - Research Accredited Online Degree Programs*, n.d.).

Instruction Methods in Online Degree Programs

"Online colleges, programs, and courses tend to use a number of different instructional methods to teach students. These methods define how an online program is structured; how and when lectures are delivered; and how students interact with classmates and instructors. The following is a list of terms online colleges use to describe instructional methods and program formats. Knowing these phrases will help students determine which online programs best meet their learning styles and objectives.

• Synchronous Instruction:
Online courses taught in a synchronous format require all students to log in at scheduled times to live-stream lectures, participate in real-time discussions, and/or engage in other types of collaborative group work. Some students prefer these types of programs because they provide an immediacy and interactivity similar to classroom-based courses.

• Asynchronous Instruction:
Asynchronous courses typically allow online students to access recorded lectures and other materials on their own time so long as they meet all course deadlines. Students may also be required to participate in forum discussions and other collaborative work. This format requires more independence and self-direction than synchronous programs, but offers much more flexibility.

- Self-Directed Programs:

"Self-directed" and "self-paced" programs give online students even more learning independence by coupling asynchronous instruction with lenient course deadlines. Students can often start and complete their studies at their own pace with minimal collaboration, though they may be asked to participate in discussion boards and mentoring activities. These students must be organized and disciplined enough to complete their work without a traditional campus structure, but that does not necessarily mean they do not have access to support. Faculty advising, peer partnerships, and student services are just some of the ways online colleges help self-directed learners stay engaged and on track.

- Cohort Programs:

Online cohort programs place students in a defined group that advances through the curriculum together. Courses are sequential and may not be offered every semester—an important consideration for students unable to complete the program straight through. For programs that only have one cohort start per year, students who miss a quarter/semester may have to wait an entire year before continuing their program. When programs are completed without interruption, this structure lets students learn and collaborate with the same peers throughout their studies. A student's cohort often becomes their professional network post-graduation. Cohort programs are more common at the graduate level and in disciplines that are interpersonal in nature, like teaching, counseling, and social work.

- Flipped Courses:

The term "flipped" is applied to hybrid and blended courses that deliver most content and materials online and use classroom time to address questions, complete assignments, and engage class-wide discussions. This means flipped classes are generally designed to complement campus-based studies rather than online degree programs.

- On-Campus Intensives:

Some online degree programs require students to attend a limited number of on-campus sessions, which are sometimes called on-campus intensives. These sessions may include hands-on practical experiences, orientations, seminars, capstone projects

and exams, and other activities that require campus attendance. They may also be used to fulfill residency requirements. The duration and frequency of intensives vary by program and by school. They could be as little as one day to several days long.

•   Field Education, Clinical Placements and Internships:

Some programs supplement online coursework with required field education, clinical placements, and internships to ensure students develop and test important skills in a professional environment. In some cases these activities are a discipline-wide requirement based on accreditation or designed to allow students to meet licensing requirements post-graduation.

Nontraditional Students

The flexibility and accessibility of online degree programs make them popular among "nontraditional" students. Though the term "nontraditional" is often used to define anything that falls outside of the perceived norm, Education Statistics uses specific characteristics to classify nontraditional students. According to its criteria, nontraditional learners fall into at least one of the following groups:

•   Full-time workers
•   Part-time students
•   Older students who delayed college or are seeking a second degree
•   Students who are financially independent
•   Parents to at least one dependent
•   Single parents

Additional Student Populations that Benefit from Online Degree Programs

Some student groups fall outside of the definition of nontraditional learners, but benefit from online degree programs just as much as those who do. These students often have unique circumstances that make traditional courses unmanageable. Here are some of them.

•   Students with disabilities:

Prospective students may have physical, emotional, or behavioral disabilities that make campus-based programs unsuitable or impossible to attend. Online learning management systems often incorporate adaptive features to support such students, such as speech-to-text and the ability to automatically adjust coursework to meet students' individual learning needs.

•   Rural and international students:

Online students are beginning to attend colleges and universities further from home than their predecessors did. In some cases, these students live outside the country. For students unable to report a campus within driving distance, online degree programs expand higher education options significantly.

•   Students who travel:

Whether they are accomplished athletes on the road, entertainers, or full-time workers, some students may live near a campus, but travel too often to attend it. Online programs with asynchronous instruction—courses not delivered in real-time—can be particularly helpful when these students have unpredictable schedules.

•   Self-directed learners:

Some students enjoy the spontaneity of a live classroom discussion; others prefer to learn alone. Online degree programs allow these students to attend college without crowded classrooms, group work, or strict learning schedules. Often students log in whenever and wherever they want to review materials and submit work. While some require students to meet firm deadlines, others allow them to advance through courses at their pace.

1.2. Problem statement

"Online learning has become a popular tool in addition to traditional learning methods. This study emphasizes on how assessment and delivery methods employed can influence the effectiveness of online program, as well as the benefits and constrains experienced in e-learning"(Ebojoh, 2007). This project was written to investigate the opinions and experiences of faculty and students involved in online

programs. Various factors that affect the effectiveness of online programs were studied in order to provide insights on the major challenges, benefits and limitations faced. Among the findings, major problem areas were identified and suggestions were proposed on how identified problems can be minimized the study also raised future direction for e-learning.

The purpose of this study is to theoretically and empirically assess how online learning can be beneficial for all involved in the process of education from the students to the Education Institutes. Especially in India which has its own unique challenges in managing and using technology.

Evaluation criteria for the data collected:

I. General Evaluation of the Course

- The course objectives were clear?
- The course procedures and assignments support course objectives?
- The amount of preparation you were asked to do was appropriate?
- The amount of writing or other class work you were asked to do was enough for this course?

II. General Evaluation of the Instructor

- Could you get clear answers to your questions from the instructor?
- Was the instructor considerate to you?
- Was the instructor effective in teaching in the course?
- Was the instructor enthusiastic about the course?

II. General Evaluation Online classes future per the perspective of the Instructor

- Would there be a major shift from the traditional classroom to online classroom very soon?
- Would there be a need for specialized instruction for teachers undertaking online classes?

- Which area of teaching should be focused on in Online teaching?
- Which tools of teaching should be focused on in Online teaching?

1.3. Objectives of the Study

This research will help be an effective tool to understand the actual effectiveness of online classes and their impact and the areas lacking where we need to focus on to better. The number of online courses in institutions of higher education is increasing to meet the high demand of effective employees in organizations and many institutions offer graduate degrees and certificates in online courses so, more online courses are offered in addition to the traditional mode of classroom setting.

The purpose of this project is to present the challenges associated with teaching an online course, and discuss approaches to enhance learning so, the need for a methodology is discussed and components of this methodology are identified for designing and delivering an effective online education(Schrum, 2011).

1.4. Scope of the Study

This project reports findings of a study that examined student attitudes towards the use of technology and consideration of student performance in a virtual (online) setting. In the online learning, the Web was used as the medium of instruction. While in offline mode the students were on campus and had access to all resources such as computers, printers, network, and the Internet, except that the online mode doesn't include receiving instruction in a face-to-face classroom environment.

The students are enrolled in online course they are required to complete it. The course content covered several subjects, the course also required the students do a research project or give presentations or sit for an end term exam. Instructional styles included both group collaboration and individual work. Most of the instructional time however was used to integrate the new technology skills in teaching and learning. Students completed assignments as per given due dates that involved such activities as

creating PowerPoint presentations. Web sites, and multimedia, and were required to incorporate each activity into their respective content areas.

During the time of this study, the instructor has conducted the beginning of session with learning objectives were presented and ground work of how course will go was laid down . In the middle of the sessions, the class carried out their assignments and online test. At the end of the session/course, classroom meeting to wee held to complete online classes, exams and evaluations; students are to complete an online final exam.

The growth of technology has brought tremendous change in life of all humans. Technology has also impacted the process of education. The face to face education has experienced a remarkable change in the last 10 years now. Although face to face education is still considered the norm, but acceptance of online courses is increasing in the field of management and engineering. Some of the reasons for the exponential growth of online education is that it is instant, online, anywhere accessible, self-driven and on the go.

The major reason for the phenomenal growth in online education is MOOCs (Massive Open online courses). According to Kaplan, Andreas M.; Haenlein, Michael (2016), MOOCs are online courses which are aimed at unlimited participation and offer open access through the web, The list of top five MOOC provider by registered users include Coursera, edX, XuetangX, Udacity and FutureLearn(Schrum, 2011).

The government is supporting online education in India because of its potential to improve education quality and reach through the Digital India initiative therefore, the Government of India in Association with Ministry of HRD has initiated a programme named SWAYAM (Study Webs of Active –Learning for Young Aspiring Minds) that is designed to achieve the three fundamental objectives of Education Policy i.e., access, equity and quality(Schrum, 2011). The main objectives of this effort are to take the quality teaching learning resources to all, including those who cannot afford, this program SWAYAM seeks to provide education to those students who are not yet aware of the digital revolution taking place and are still not able to join the mainstream of the knowledge economy.

The online learning was administered using google hangout and other related apps. Google Hangouts etc. is a unified communications service that allows members to initiate and participate in text, voice or video chats, either one-on-one or in a group. Hangouts are built into Google+ and Gmail, and mobile Hangouts apps are available for iOS and Android devices. Google hangout for this contest is used to present a traditional classroom in a virtual environment. In this study, "traditional classroom" is used to describe conventional face-to-face classroom learning. Google hangout and other apps was used to supplement and not replace the long established classroom teaching and learning styles. It is divided into different sections that include course content (e.g., course documents, book listings, course information, assignments), communication tools (e.g., e-mail, virtual chat, discussion forum, document transfer, and calendar), assessment (online assessment, grade book) and administrative control for instructor (add and remove students, management groups).

While classroom students were lectured, content was presented to online students using presentation software like Prezi, file documents, and video. Traditional physical discussion in the classroom were replaced by virtual online discussions using chat, forums, and e-mail. While classroom students used files to submit their assignments, online students used google digital drop box and PDFs.

2. LITERATURE REVIEW

In analyzing the relevant literature I looked for studies that showed how students performed based on online learning. If possible, I wanted studies that compared the results of online and traditional classroom learning, taught by an instructor.

The term "e-learning" is defined by as "any learning that involves using internet or intranet." It was more simplified by stating that it is "anything delivered, enabled, or mediated by electronic technology for explicit purpose of learning" the "e" stands for evolving, enhanced, everywhere, every time and everybody." In fact, it shows most of the advantages of e-learning for learners and instructors.

Although the e-learning term and tools do exist for over 2 decades, the educational research field has given enough attention to the study of effectiveness of e-learning: has grown in significance as an educational tool just like technology has developed and progressed over the years(Samir Abou El-Seoud et al., 2014). Interestingly, there have been more efforts at advancing technology than on attempting to understand the needs and learning styles of individual learners and instructional design the 21st century has seen rapid progress with such things as the Internet and online learning(Samir Abou El-Seoud et al., 2014).

The increased use of e-learning among educational institutions has led to a change in higher education. One of the main reasons for this is it gives students' greater access to education in comparison to traditional methods of teaching as students can undertake their study from anywhere and at any time as well as being given the option to study part-time or full-time(Samir Abou El-Seoud et al., 2014). E-learning has transformed the educational sector by enabling students to share information and data in a relatively easy way(Samir Abou El-Seoud et al., 2014).

The growth of technology has brought mammoth change in life of all humans. Technology has also impacted the process of education, the face to face education has experienced a remarkable change in the last 10 years, Although face to face education is still considered the norm, but acceptance of online courses is increasing in the field of management and engineering(Schrum, 2011). Some of the reasons for the

exponential growth of online education is that it is instant, online, anywhere accessible, self-driven and on the go.

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Motivation

Incorporating technology in the learning process does not necessarily guarantee Effective learning for the students. In fact, online instruction has resulted in the student

teacher relationship becoming less personal. Teachers are required to turn the classroom into an online environment, the question is what exactly is required of teachers to motivate students in an online environment? It is essential for teachers to understand their students' motivations(Samir Abou El-Seoud et al., 2014).

(Samir Abou El-Seoud et al., 2014) Although students take online courses with the intention of successfully completing them, they tend to fail for a number of reasons. The success or failure of online instruction is perhaps related to student motivation so, to stimulate students, teachers should:

1. Keep in mind that motivation must be natured in students.
2. Explain to their students how the online environment may be used.
3. Encourage interaction and collaboration among their students.
4. Build study groups so that students will no longer be studying in isolation.
5. Help students to make friends by meeting fellow students in the online environment.
6. Interact with their students by monitoring the online presence of them and supplying them with continuous feedback.
7. Construct their learning materials and environment to target their students.
8. Facilitate the students' interaction with the online material by explaining the goal behind designated tasks.
9. To be aware of students' frightened, worries and nervousness because such anxiety may have a negative effect on their accessibility and motivation.

All of these approaches could be crucial tools to develop new strategic teaching plans that might assist lecturers to influence learners' level of motivation. Many studies also show that the success of E learning methods in higher education can only be measured according to the effectiveness of delivery therefore, the adoption of e-learning initiatives falls considerably on the training of staff which is really a major challenge(Samir Abou El-Seoud et al., 2014). It has been acknowledged that many faculty members are reluctant in accepting aspects of technology in the teaching process.

Unfortunately, some teachers may not be well trained to face difficulties in application use. Moreover, in order for success to occur lecturers in higher educational institutions must accept, implement and adopt technological advancements offered by e-learning and such new educational approaches are imperative in order to maintain the quality of courses(Samir Abou El-Seoud et al., 2014). Having said that, training lecturers on how to use e-learning to enhance teaching practices should not focus primarily on how to use the hardware and software, but rather on how to be adaptable to both formal and less formal teaching methods and techniques(Samir Abou El-Seoud et al., 2014).

(Samir Abou El-Seoud et al., 2014) as per this paper the instructor prepares the course material via a number of educational strategies to suit the different learning styles of students. Lecturers can use a number of strategies to highlight the goals of an assessment:

1. Explain to students why the task is important and interesting to them. It may be useful to link the task to practices that the students may use in their professional life.
2. Define the learning objective of the task. Such objectives will identify the performance standards that a student needs to meet to reach the desired goal.
3. Give advice in relation to the time required to complete the activity.
4. Provide preliminary exercises that the student can practice, thereby building their confidence and boosting their motivation.

All these elements should help students to understand online exercise goals which in turn might increase their motivation; so, assessments can be formative, i.e. taken throughout the duration of the course or summative, at the end of the course. The most appropriate method of obtaining the student's awareness is through a summative assessment, which is carried out towards the end of the course(Samir Abou El-Seoud et al., 2014). The student's performance, or achievement, may be apparent throughout the course in the form of "homework, tests, and class discussions," but in many classroom activities learning "is fugitive, recordable only at great cost and inconvenience". However, e-learning tools can make module assessment more simplified by changing a difficult task into a more achievable one, by enabling an

interactive approach to course assessment the cost of delivering online learning has to be minimal(Samir Abou El-Seoud et al., 2014).

What technical skills do online students need?

Online learning platforms are typically designed to be as user-friendly as possible: intuitive controls, clear instructions, and tutorials guide students through new tasks. However, students still need basic computer skills to access and navigate these programs. These skills include: using a keyboard and a mouse; running computer programs; using the Internet; sending and receiving email; using word processing programs; and using forums and other collaborative tools so most online programs publish such requirements on their websites.

Students who do not meet a program's basic technical skills requirements are not without recourse as online colleges frequently offer classes and simulations that help students establish computer literacy before beginning their studies.

Creating an Online Course

A methodology for developing an online course would have many components in common with other types of online courses, Many of the activities involved in any online course such as tests on content, discussion groups and submission of work products would be the same for a traditional course(Samir Abou El-Seoud et al., 2014). Since the course content involves soft skills, fruitful discussion forums can be created around the various topic areas allowing students to post comments, short essays and links to papers or articles on the web. The online platform provided by much course management software today, such as "Blackboard" allows for the creation of a learning community centered in the knowledge areas. In many ways, an online course platform provides a useful learning area, whether the course is online or offline, acting as a virtual "war room" in which the students and professor can interact(Samir Abou El-Seoud et al., 2014).

Palloff and Pratt (1999) in their research provide a number of suggestions for managing an online course that will create a community of learners. A major point in the book is that interaction via the web is different from classroom interaction; it draws on different skills from both students and professor than face-to-face meetings in a classroom. An online course has a way of democratizing the class experience by emphasizing written communication skills as the primary vehicle of expression and by eliminating many social cues such as dress, physical appearance and body language, An online course also introduces delay in the communication process, a delay between when something is posted, when it is read, and when a response is posted(Samir Abou El-Seoud et al., 2014).

The major form of establishing that a communication has been heard is to post a response and if the discussion groups are not being updated several times a day with postings from students and the professor, there is a tendency for students to drop out of the conversation(Samir Abou El-Seoud et al., 2014). The richness of face-to-face conversation has to be replaced with a rich version of a written conversation. Borich (2004) identified five classroom teaching strategies, namely direct instruction, indirect instruction, questioning strategies, self-directed learning and cooperative learning. These strategies can be adopted for online courses (Borich, 2004; Glass, 2006).

Table 1 show these classroom teaching strategies with appropriate IT technology for possible use in an online teaching environment.(Schrum, 2011)

Table 1. Teaching Strategies for Online Courses(Schrum, 2011)

How we learn...	Instructional Strategies	Online instructional tools
We learn by listening.	Direct Instruction and Self-directed Instruction	Online audio clips, audio PowerPoint, online conferences
We learn by seeing.	Direct instruction and Self-directed Instruction	PowerPoint Slides, online video clips, tutorials
We learn by asking.	Questioning Strategies and Cooperative Learning	Mentoring in Chat / E-mail / Threaded discussion among students, and between students and instructors and tutors.

We learn by exploring, modeling, researching, and practicing.	Experiential Learning	Case study, simulations, computer-based activities, hands-on activities, reflection assignments
We learn by reading.	Direct Instruction	Instructor's lectures in notes, PowerPoint, Word or PDF document format; articles, web resources, textbook

The first component of an online course development methodology to consider is the environment (Coppola et al., 2000). In the online environment the "same time same place" meeting and work environment of the classroom is replaced by either a "different time different place", completely asynchronous, or a "same time different place", synchronous environment using web based collaborative presentation software possibly including online video or audio conferencing this technology is also provided by many course management software applications(Schrum, 2011). The preference of students and instructors on this issue are important.

The question of the effectiveness of teaching a traditional course in a completely "asynchronous" environment is important. Courses that are mainly focused on "content" (terms, definitions, concepts and theory) are usually more suitable for this "asynchronous" environment, if the objective is also interaction among students and between students and professor to develop good interpersonal skills in communication, dialogue, leadership, management, and project teamwork, an "asynchronous" environment may not well support some types of activities such as presentations, meetings, interviews and questioning of team members about work status(Schrum, 2011). Thus, different technologies were experimented to simulate "synchronous" environment in online courses including television technologies(Schrum, 2011).

In the proposed methodology "virtual" teamwork is recommended to replace the group and team projects normally assigned in a traditional offline classes. The interactions of students between themselves and their instructor are necessary in a traditional class and are no less essential, although more difficult to accomplish, in an online environment and students should be given an opportunity in an online course to gain

valuable experience working with real virtual teams solving realistic problems(Schrum, 2011).

"An important issue for the methodology is how to package and deliver the course content. The content of a course can be partitioned into major topics along the lines of the Body of Knowledge (BOK) provided by a certified institute like NCERT. Each module can cover a major topic from the BOK with the various topics linked together with various activities into a cohesive whole. The guidelines for design and development of an online courses start with prior research on best practices in teaching and learning, including some resent research on how to make the online learning environment more effective. The best practices in teaching include the following suggested by Frye, 2009. Engage students in active learning experiences; Set high, meaningful expectations; Provide, receive, and use regular, timely and specific feedback; Become aware of values, beliefs, preconceptions and unlearn, if necessary; Recognize and stretch student styles and developmental levels; Seek and present real-world applications; Understand and value criteria and methods for student assessment; Create opportunities for student-faculty interactions; Create opportunities for student-student interactions (critical questions and discussion groups) ; Promote student involvement through engaged time and quality effort"(Schrum, 2011).

Drivers of online education growth in India

Popularity of online education in India is growing due to the following factors:

1. **Internet penetration in India:** According to a report by IAMAI and Kantar IMRB, there were 481 million users of internet in India and this is growing at the rate of 11.34%. Also internet penetration in urban India was 64.84% while in rural India it was 20.26% till December, 2017. The main reason for the growth of internet users in India is the increase in number of smart phone users. According to a report by e-Marketer, the US-based market research firm, there were nearly 291.6 million smart phone users in India by the December, 2017. They are expecting that this number will grow by 15.6% to reach 337 million by the end of 2018. The key factors behind this growth are the upsurge in smart phone usage and availability of more affordable smart

phones. Availability of internet at fast speed and at very affordable price is the reason for growth in mobile internet user. Because of internet, world class education becomes easily accessible to urban and rural population.

2. **Online education saves money and time:** As online education is through internet, so it can be easily accessed anywhere, anytime. You can access the content early morning, late evening, at home, in cafeteria, or on the train. As the content is generally preloaded, so you can download the lectures / videos and watch them at your convenience time and again. Also cost of online education is very low in comparison to face to face education. Also there is a great savings on hostel and transportation fees. Since all the content is available online, so you need not buy books also.

3. **Ease of doing courses for working professionals**: Online education offers great opportunity for working professionals as they cannot leave their jobs to pursue higher education. Online education offers them a variety of courses to choose from and this can help in finding new career options for them. This is also supported by the report from Google and KPMG which states that reskilling and online certification is the biggest sector in online education. Another online platform 'upgrade' is offering online courses on Big Data and are also providing jobs in this area.

4. **Initiative by Government of India**: Government of India is also taking initiatives to promote online education. They have started Swayam through which they are offering free education and certification courses to all. Main objective of this initiative is to provide quality education for which they have tied up with IITs, IIMs and NPTEL. They are also tying up with universities by which student can earn credit though online courses. In order to establish digital infrastructure in India, the government has also launched National Optical Fiber Network. The main objective of this initiative is to increase broadband connectivity and create a fast network. Government has started online National Digital Library in which 17 million digital books & journals are available. There are 32 lakhs registered users are accessing NDL free of cost. Government has provided Wi-Fi facility to all the central universities.

5. **Gaining recognition among employers**: Today most of the universities in US are offering at least one online course. In India also many of the prestigious institutions are offering online courses where otherwise admission is very difficult and costly. Online courses done from well-respected universities/ institutions are accepted by employers. Employers also understand that online education requires self-discipline, drive and other skills that they are looking for in a candidate. So proper care should be taken in selecting the university from where you are doing course. Also there are hundreds of options to choose from. Right selection from right educational institute can help you make right career growth.

6. **Bridge the gap between education level and industry expectations:** According to a report in The World Employment and Social Outlook – Trends, there were 18.3 million Indians unemployed in 2017 and it is projected to increase by 18.9 million by the year 2019(Schrum, 2011). According to a report, India's working age population is increasing and is expected to reach 64% of the population by 2021. Do you think it is because of sufficient job opportunities are not available in India?

So online education is one of the alternatives to bridge the gap between what industries expect and what the educational institutes are delivering. Online education offers an opportunity to enhance skills through advance courses available in different domains.

Challenges in Online education.

There are a lot of challenges faced by people in online education in India. Some of these challenges which need to be overcome are:

1. **Insufficient digital infrastructure:** Although Government of India is taking initiative to develop digital infrastructure but a lot need to be done in this direction. High speed internet and stable power supply are the biggest problem. India stands 89th worldwide on internet speed and stability.

According to the report of World Economic Forum, only 15 percent of the households have access to the Internet, and mobile broadband remains accessible to very few i.e. only 5.5 subscriptions for every 100 people. Further, currently reach of broadband is just about 600 corridors, largely in and around the top 50 to 100 Indian cities, leaving rural areas with poor connectivity. 5G networks technology is the requirement of today's which will increase the speed of downloading the data.

2. **Limited Social interaction:** Since online education can be accessed at home or any other convenient place, there is very limited direct interaction with the teacher and other people doing the course. Especially those courses which are self-paced, there is very less discussion among the peers. Most of the discussion takes place through e mail, chat room or discussion groups. There isn't any campus atmosphere to improve social interaction. So you are not able to develop any social links which do help in the career growth.

3. **Questionable credibility of degrees**: Although industry has started recognizing online degrees, there are still a lot of fraudulent and non-accredited degrees being offered online. The number of scam operators is rising who are offering fake certificated which does not have any credentials. These scams not only losses the credibility of the online certificates but also the faith of prospective employer in online programs.

4. **Motivation:** Some students need the push to get to the class. In case of self-paced online programmers, student may procrastinate. The dropout rate in online education is very high. Self-motivation and discipline is required to complete the assignments and upload them timely. If you have difficulty working independently, staying organized and meeting deadlines, you might struggle in an online program.

5. **Language of the Course:** India is a multi-linguistic country, and a vast majority of the population comes from rural areas. The content offered by most of the online courses is in English. Hence, those students who are not able to speak English struggle with the availability of language content.

Hence, it is the duty of computer professionals, educators, administrators, language content creators, and content disseminators, to sit together and give a viable framework and standard solution to the learners knowing only Indian languages" (*Pramana Research Journal ISSN NO: 2249-2976*, 2019).

Opportunities in Online Education

Change in technology is offering many opportunities for all stakeholders in the online education sector which includes entrepreneurs, education providers and learners. Some of the factors offering different opportunities in this domain include:

1. **Mobile Learning:** According to a report in Stastia (2018), in the year 2017 there were 320.57 million people who accessed the internet through their mobile phone. This figure is projected to increase to 462.26 million by the year 2021. The surge in users is credited to availability of 4G internet and smart phones at very low price. Going forward, IAMAI hopes that the National Telecom Policy (NTP) 2018, which is focusing on new technologies like 5G, will promote better quality data services at more affordable prices and help address the digital divides that will promote internet penetration in the rural areas through mobile internet. According to report by Zenith, mobile devices will account for 73 per cent of time spent using the internet in 2018. So the vast majority of students in future will have access to e-learning through mobile phones.

2. **Investor's Interest:** A large number of entrepreneurs are venturing into online education as this is expected to see an uptrend in the next 5 years thanks to the Digital India campaign, the cultural importance given to education and falling mobile data prices. The Chang Zuckerberg Initiative has invested $50 million in Byju's, Bertelsmann India has invested $8.2 million in Eruditus, and Kaizen Management Advisors and DeVry Inc. have put in $10 million in EduPristine. Khan Academy is a nonprofit organization which receives financial support from philanthropic organizations like The Bill and

Melinda Gates Foundation, Google and Netflix founder Reed Hastings. Online learning platform Unacademy also raised $11.5 million of funding led by Sequoia India and SAIF Partners; and Eruditus Executive Education, a provider of executive education programmes, had raised $8 million funding from Bertelsmann India Investments. So, the online education sector will continue to spark more interest among entrepreneurs, investors and attract more funding.

3. **Blended Model**: There will be convergence of the offline education and online education in future. This concept of blended learning combines online digital media with traditional classroom methods. It requires the physical presence of both teacher and student, but student has some control over time, place, path, or pace. This model will take advantage of both face-to-face classroom practices combined with computer-mediated activities. In future, there will be virtual classrooms where face to face offline pedagogy will be aided by digital courses on practical knowledge and soft skills.

4. **New Courses**: Today the most popular courses in online education are related to IT which includes subjects like big data, cloud computing, and digital marketing. But in future demand for different types of courses in unexpected subjects such as culinary management, photography, personality development, forensic science, cyber law, etc. will increase.

Online education can change the whole future scenario in education if it can be implemented in joint collaboration with industry, universities and government. Drastic changes in course curriculum are required to bridge the gap so that students are industry ready after passing out. Education process needs to be changed by making it more practical with the use of technology. Also course should be designed in different language to increase their reach and more opportunities for youth of rural India"(*Pramana Research Journal ISSN NO: 2249-2976*, 2019).

3. RESEARCH METHODOLOGY

For purposes of this study, online education is operationally defined as a format used in learning when learners do not need to be in bricks-and-mortar classrooms. The terms online learning, online teaching, online education, online instruction, and online courses are used interchangeably throughout the article. Selection Criteria and Sources of Data The primary literature sources was a questionnaire survey of students and teachers.

Methods of Achieving Validity and Reliability

1. **Content validity:** the data collected was obtained from individual who had experiences in the area been studied. It involves assessing people's experience in several areas e.g. studying students with experiences in online program. Feedback from others: The research is examined by various tools in order to examine proper analysis and interpretation of data.

2. **Participant validation:** Conclusions drawn at the end will be discussed if the conclusions drawn are relevant based on their experience.

3. **Interrater reliability:** the participants from a single college yielded similar responses on the evaluation of the effectiveness of online programs.

The goal of the study is to investigate several situations that affect the effectiveness of online programs. Certain facts concerning the sub problems are categorized and arranged in a chronological order, Detailed description of the data collected is analyzed and categorized into several common and meaningful themes then the college examined had similar characteristics offered by each college for online and offline classes, similar communication and assessment tools.The major differences can be observed in the communication tools and delivery methods employed by the instructors and the college make use of either or both synchronous and asynchronous delivery method(Ebojoh, 2007).

All the participants were certified teachers educating students and the course were one of the core courses in the teacher education program, designed to introduce students to required area of their interest.

The various subjects had similar benefits and assessment tools but the major issue observed was in communication and delivery methods employed. The assessment tools enabled students acquire the necessary skills offered by the program. The delivery method issues differ in relation to the colleges since it is dependent on the course description of the program. A good delivery method involves the layout, presentation and release of the course materials between student and instructor. Students receive study guide and book supplementary readings and send assignments via email to instructor; examples of poor delivery method involve mailing of assignments to instructor which could take days to weeks.

It is noted that education is about teaching and learning and it is also true what is effective in teaching might be equally applicable in learning, Because of the unique nature of online education, we intended to propose to pose research questions in a way that both students' and teachers' perspectives on the effectiveness of online education can be addressed and emphasized.

3.1 Instrument used

A survey questionnaire was utilized to investigate student attitude towards the use of technology in classroom and online learning environments, to measure the students evaluation of course and their performance. Overall certain basis where considered in choosing questions. They are;

1. Is there any significant difference between students' performance in online and classroom learning?
2. What are students' attitude towards use of information technology in teaching and learning?
3. What are teachers' attitude towards the use of information technology in teaching and learning?

4. Is there any significant difference in student's attitudes towards the use of technology in classroom and online environments?

3.2 Data Collection

The data collected in this study can also be used to figure out incites to some more questions that can be applied on a wider scale like:

1. To recognize trends – Class survey questions when used in this project can help the organizations to understand the trends and address issues before they become more complex.

2. To create a good reputation – Class survey questions can give you information which can be used as testimonials from students, which in turn results in marketing the class/course and hence create a good reputation for the class.

3. To create an effective class – Effectiveness of a class depends on what the students understand from the teachings. All students are unique and hence special methods have to be used to create an effective learning experience. Receiving feedback directly from the students can enable organizations to modify the methods and activities accordingly to get optimum results.

4. To evaluate instructors – Instructors that provide the learning experience to students need to be evaluated to create effective courses. Feedback from students on points such as instructor's knowledge, his teaching methodologies, communication is important factors that should be evaluated regularly. This practice enables institutes to continuously improve their classes and hence provide an effective learning experience.

The questionnaire used in this studied have been created from pre-existing sources as the main aim of this project is to study the impact of online courses and learning in educational institutes in India. For the educator's perspective In-depth Interview were conducted.

3.3 Data Analysis

The primary purpose of this study was to analyze the performance of first time students in online classes. Google hangout was used to supplement classroom learning online. A test survey was administered to the students.

The purpose of the study was to evaluate and compare attitudes of students towards the use of online education platforms.

3.4 Limitations

This dissertation takes on the discussion of effectiveness of E-Learning. The scope of the topic and the concrete applications are too numerous to be covered here. I have presented a representative small rea of study to discuss. Motivating students and effective teaching strategy are vaguely mentioned. I acknowledge the existence of different perspectives on the main theme of the thesis as well as within parts of the thesis from researchers in different industries.
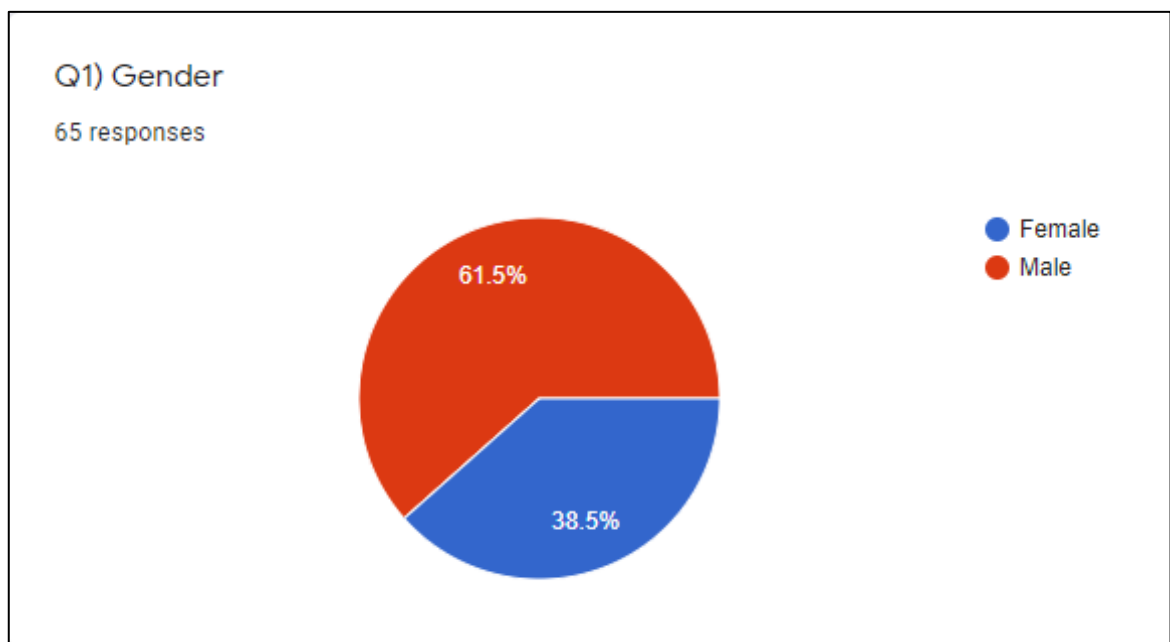
Limitations exist in the data collection procedure as well. Data and college chosen have been solely selected based on convenience sampling and mainly willingness to provide data and assistance. This has lowered our flexibility of choosing on versatile population sample who would better suit our profile giving more national relevance on the research project and on the other side receiving more detailed data.

Limitations of time and resources are classical constraints in research work and this thesis is not an exception. Having the ability for example to selectively present a greater number of companies would give the research project more gravity and relevance.
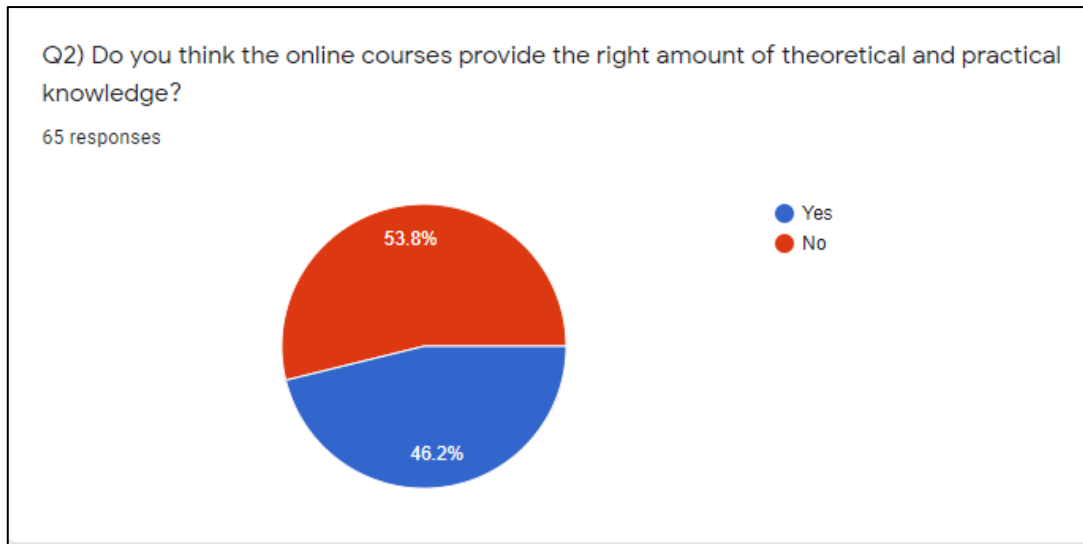
4. DATA ANALYSIS AND FINDING

For the purpose of this study/dissertation I decided to collect the perspective of not only students but also of the teachers about their experience of online courses learning and teaching.

In case of the students survey in total I received 64 responses which serve as a sample of Indian students who fall between the study's criteria. From the response I received, they led to the following results.
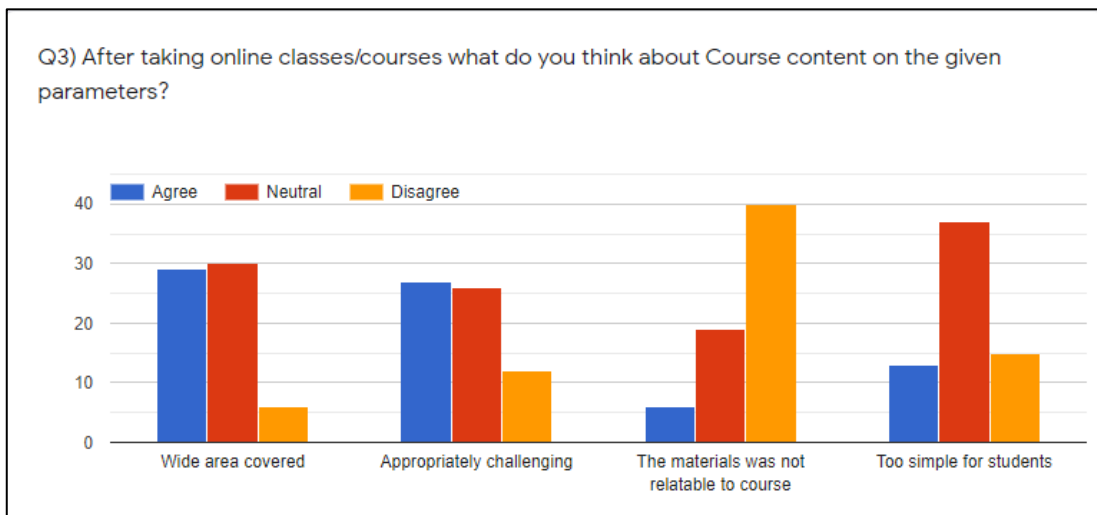

The gender ratio of sample is 61.5% to 38.5% male to female.

Q2) Do you think the online courses provide the right amount of theoretical and practical knowledge?
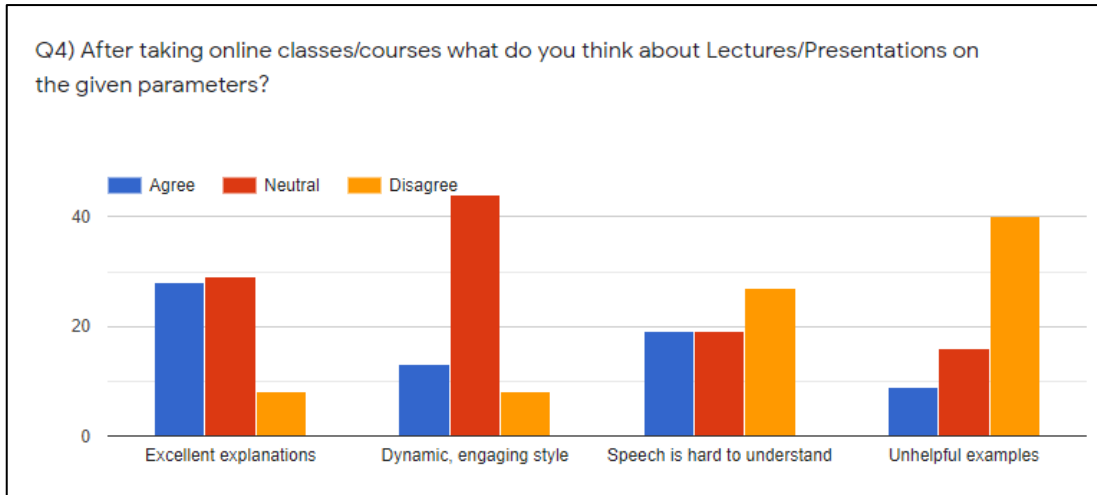
65 responses

● Yes
● No

53.8%

46.2%

About 53.8% of responses stated that the classes they have taken gave them viable education which properly distributed knowledge into practical and theoretical aspects. Which is just a little over the half of responses.
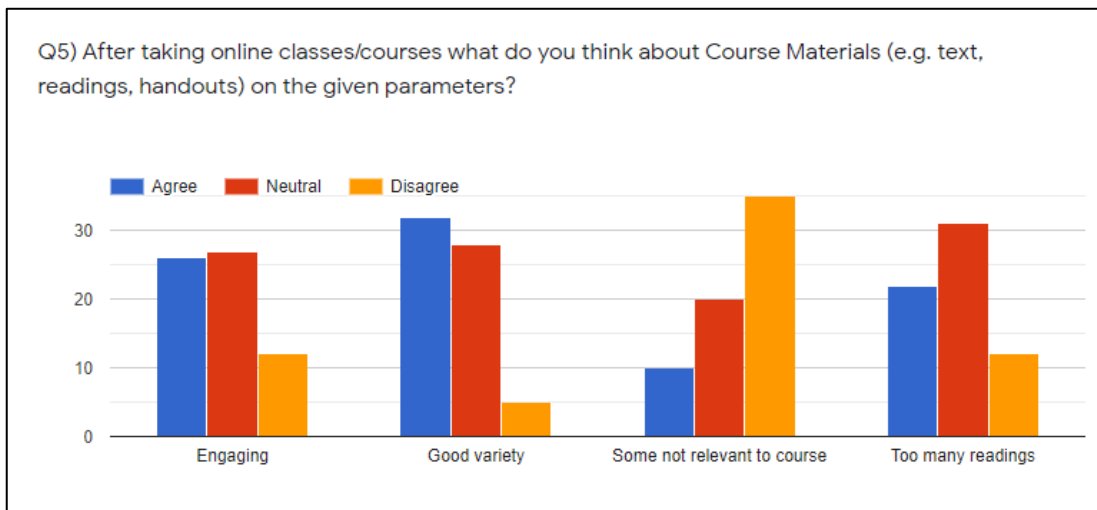
It can be argued that instead, vast majority haven't found how to properly balance the two aspects of courses. It is a challenge for us to overcome.

Q3) After taking online classes/courses what do you think about Course content on the given parameters?

■ Agree ■ Neutral ■ Disagree

Overall the course content for online classes where considered to be favorable which covered a wide area, was appropriately challenging and relatable material was provided. Bu in case of simplicity level for students, as there was no prior experience for them to compare their choice with, is neutral for majority.
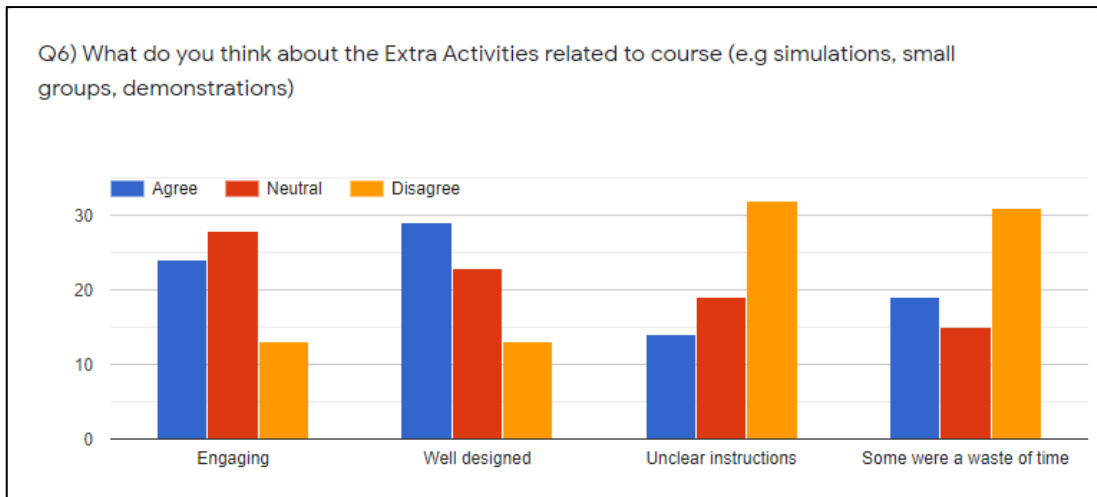
Q4) After taking online classes/courses what do you think about Lectures/Presentations on the given parameters?

In case of presentations and lectures given by the instructor explanations where mostly well-articulated, with area of improvement needed to be worked upon to turn the view of students of neutral category to agree category. In area of engaging the area needs to be worked upon the most. While a lot of students found it hard to understand without proper body language queues to make sense of everything. But examples given were vastly helpful.

Q5) After taking online classes/courses what do you think about Course Materials (e.g. text, readings, handouts) on the given parameters?

The course material given was by large favorably engaging with a good variety. Also relevant to the course. But too many readings were given which were an hassle for the students to go through timely.

Q6) What do you think about the Extra Activities related to course (e.g simulations, small groups, demonstrations)

About the extra activities given about course they were again engaging, well designed with clear instructions. Hence a proper use of time and for class.

Q7) How to you feel about Assignments/Tests given to you in online classes?
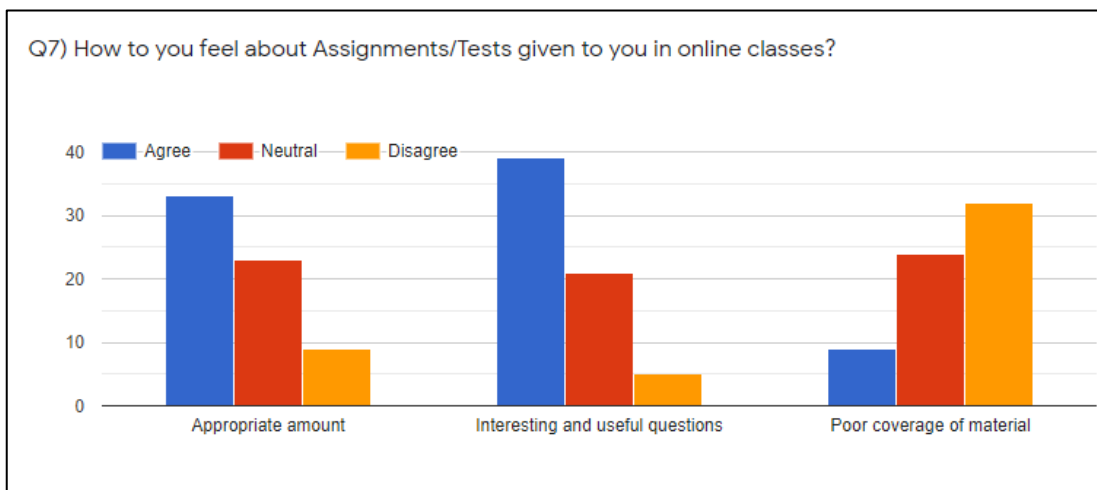
Assignments given were of appropriate amount, they were interesting and useful with fairly good coverage of materials.

Q8) How heavy/light is the workload for online course compared with offline classes/courses?
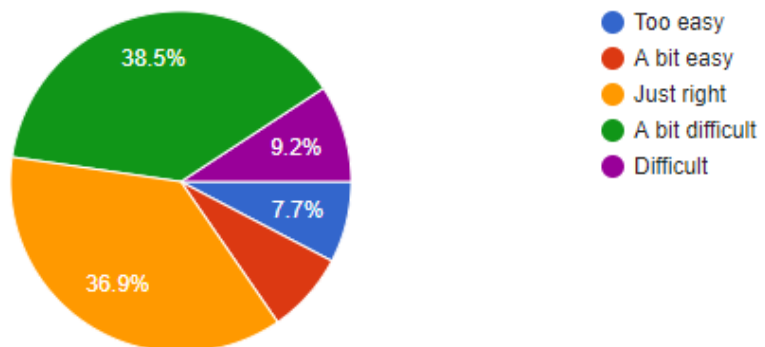
65 responses

- Much lighter
- Lighter
- Same
- Heavy
- Much heavier

29.2%
33.8%
12.3%
21.5%
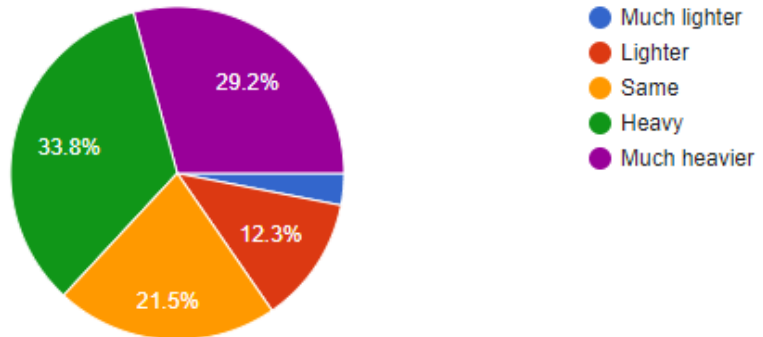
Majority can be found in side of Heavy for the workload as compared to traditional classes.


Q9) How challenging do you find the online courses?

65 responses

- Too easy
- A bit easy
- Just right
- A bit difficult
- Difficult

38.5%
9.2%
7.7%
36.9%

In case of challenging nature of the course the results are mostly favorable as they lay majorly in side of being just right with a little bit of difficulty thrown in.

**Q10) How much do you think you have learned through online courses compared to offline classes/courses?**

65 responses

- Almost nothing
- Little
- A fair amount
- Much
- A great deal

49.2%
18.5%
24.6%
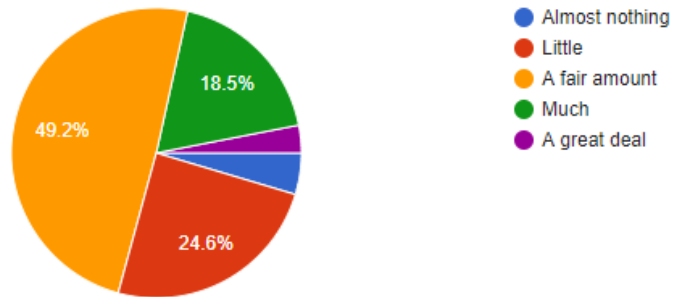
Compared to offline classes a lot was learned y the students as almost half found online classes to very helpful.

Q11) How well has the online courses met your expectations?

65 responses

- Not at all
- Not very well
- Adequately
- Well
- Very well

26.2%
27.7%
10.8%
32.3%
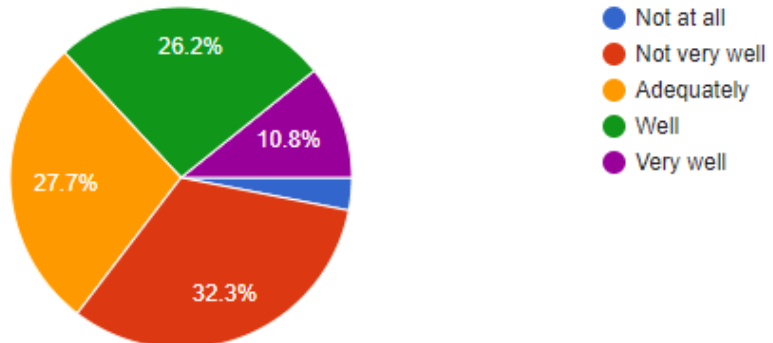
In case of expectations meet. Majority felt by 32.3% that the online course did not very well meet the actual needs of the students. But still seeing that the second majority lie with it being "adequate" followed by "well", it seems certain minor improvements are the way to go.

5. FINDINGS, RECOMMENDATION AND CONCLUSION

Student's perspective.

1. There was no significant difference in students' perceptions about technology use in teaching and learning. Although students recognized the potential of technology, particularly the Internet, they expressed mixed opinions about the significance of technology in learning.

2. The online use had demonstrated decreased comfort level in using technology and this can be attributed to the first time use and technical problems they experienced in using online medium, such as downloading documents, submitting assignments and using the virtual communication features.

3. Students' positive attitudes toward technology reveal that technology plays a role in students' learning, albeit a secondary role. Although students recognized the potential and significant role of technology in teaching and learning, the recognition is limited to the use of technology as an instructional medium, and not a key determinant of learning.

4. The Web is an important instructional delivery medium that can rival, but not replace, classroom learning. Nevertheless, the use of the Web as a supplement to classroom learning and as a long distance instructional medium is an ideal way to improve learning and increase access to education.

5. Overall, the students seem to like the increased flexibility of online courses, but they do think they are at a disadvantage because of their first time use of such medium and the lack of face-to-face interaction with the professor and other students. Hence, most were neutral in answering various questions.

6. The design and preparation for an online course is much more challenging and time consuming based on experience. It is not easier to prepare and

teach an online course compared with a traditional course. On top of actual learn from it.

7. Also, more research is needed toward development of a methodology to effectively offer an online course. More components of this methodology should be identified in addition to the components presented in this research. The methodology and its components should be tested.

8. Encouraging and challenging students should increase their involvement and participation which consequently should result in more learning.

9. Based on the analyzed data and literature review it is obvious that there is still a gap in design delivery methods employed in online programs which needs to be examined. The findings from the in depth interview with instructors reveals that majority of the respondent are satisfied with the assessment tools in place and encounter similar communication and design delivery issues.

10. Communication issue was a major source of frustration faced by users. Designers of online programs need to tackle the various communication problems. The use of discussion board, charts and interactive technology enhances communication between users and faculty. The various education institutes require both good assessment tools and appropriate delivery methods as the essential ingredients to enable the effectiveness of online program.

Instructor / Educator's perspective.

1. Key factors as per the In-depth interview that are keeping educational institutions, from starting or expanding into online learning programs are Concerns about course quality, Concerns about faculty workload, and Lack of perceived need.

2. Online teaching compare to traditional (face-to-face) instruction in terms of course quality and student outcomes today is considered to have inferior course quality which can be an aspect of first time use and lack of engaging quality of work.

3. During the next few years, the factors that will most significantly affect the success of the online programs offered by different education institutions are considered to be; Improvements in online technologies and Marketing to generate interest plus curiosity by focusing on unique value added benefit of online learning.

4. In future the area that needs to be focused on to better the online teaching experience are considered to be Creation and use of reusable content, Fostering interaction and collaboration and Supports for conducting E learning.

5. As per the estimate of future the direction in which online teaching and learning will move, from educator's end, during the next 5-10 years; more international collaboration, use of interactive simulations or games for learning and more use of 2-way video conferencing.

6. During the next few years, the following uses of online instruction that will grow the most as per educators are Online activity or instruction as supplement to face-to-face classes, and Online course as the only option (there are no face-to-face course options or meetings).

7. The following instructional approaches or strategies are considered will become more widely used in online teaching ; group problem solving and collaborative, Problem-based learning, simulations or role play , and student-generated content.

8. The quality of online learning be most effectively measured by educational institutes through Student course evaluations, Course completion rates, and Course interactivity ratings and evaluations. Which also sets the tone of change in focus of education from theory knowledge to actual skills.

9. It should be noted that more technology does not necessarily lead to better learning outcomes. Instructors who taught the participants of the study should be again interviewed in future to get feedback in order to evaluate e-learning from a teacher's perspective as a posttest study. focusing on evaluating e-learning and the implications for enhancing the quality of learning and teaching through e-learning.

Conclusion

1. The rapid growth of technology has changed the education sector into integrating its aspects and has opened new avenues of leaning for the students all over the world. It is expected that improvements in Internet technology (i.e. greater bandwidth and wireless Internet connection) are likely to increase the use of multimedia in education. Moreover, it is expected that technology would most influence the delivery of online learning. It is planned to use other Multimedia tools of the e-learning in future studies.

2. There is an increasing number of entries into higher education of non-traditional students whose life circumstances and current opportunities for learning with the increase in social support for them, lead them to demand the flexibility and convenience of online courses and programs.

3. The increasing popularity of virtual classes and schools in education has led to the belief that for teachers to be effective in teaching in virtual environments they need to have experience with learning in them during their professional preparation.

4. Too often teacher education programs cling to an outdated, historically flawed vision of teacher education that is at odds with a society remade by economic, demographic, technological, and global change.

5. No instruction mandate has yet not been set on how the teachers themselves need to be trained in learning to conduct online courses. Which is a major area initiating change.

6. The educational institutes have all majorly upgraded to electronic means of educating through E-boards(tier 1 cities) and use of online course management software(but only in personal use not mandated by the authorities) which has led to ease in transaction of acceptance of online learning but these are major implemented as a eco-friendly mediums of teaching.

7. The delivery method can have either a positive or negative effect on the benefits and constraint of the effectiveness of online courses. The delivery method needs to be identified, examined and applied successfully in order for online program to be effective. If the design delivery is not satisfactory it

affects the benefits and constraints observed by students. For example if the students partake in an online program that had ineffective delivery method. The students would draw more constraints than benefits on the effectiveness of online program.

8. Each of these variable have either a positive or a negative effect on the design delivery and the effectiveness of online learning, while the design delivery plays a major role in the evaluation of the effectiveness of online programs. Communication issues can be minimized by users having access to help desk or units which would provide immediate assistance. More thorough design should be employed during the development stage of online course and program design.

9. The design delivery can be improved by upgrading or enhancing the technology used in communication e.g. video conferencing, electronic portfolio, discussion forum and also by developing an effective plan for the quality of course materials, course workload and schedule of the program.

10. In addition there is need for more research on the role of self-disciple on the effectiveness on online program.

11. Another area for future research studies involves studying various samples, technologies and course contents to highlight more areas of difficulties encountered. Additional research would enable academicians to make better decision on how E-learning can be used more effectively under several circumstances and on a large scaled survey.

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APPENDICES

Student's Survey Questionnaire

Effectiveness of Online Courses and learning

Hello, You are invited to participate in my Project dissertation Survey. The purpose of this questionnaire is to get your feedback regarding the overall experience you ever had at with online classes. Your answers will remain confidential and they will be only used in finding ways to understand our educational services in the future.

Please, take some time to reflect on each question addressed and try to be as sincere as possible. Thank you for your cooperation! * Required

1.   Q1) Gender *

   Mark only one oval.

   ⬭ Female

   ⬭ Male

2.   Q2) Do you think the online courses provide the right amount of theoretical and practical knowledge? *

   Mark only one oval.

   ⬭ Yes

   ⬭ No

3.   Q3) After taking online classes/courses what do you think about Course content on the given parameters? *
   Mark only one oval per row.

	Agree	Neutral	Disagree
Wide area covered	⬭	⬭	⬭
Appropriately challenging	⬭	⬭	⬭
The materials was not relatable to course	⬭	⬭	⬭
Too simple for students	⬭	⬭	⬭

4.   Q4) After taking online classes/courses what do you think about Lectures/Presentations on the given parameters? *
   Mark only one oval per row.

	Agree	Neutral	Disagree
Excellent explanations	⬭	⬭	⬭
Dynamic, engaging style	⬭	⬭	⬭
Speech is hard to understand	⬭	⬭	⬭
Unhelpful examples	⬭	⬭	⬭

5.　Q5) After taking online classes/courses what do you think about Course Materials (e.g. text, readings, handouts) on the given parameters? *

Mark only one oval per row.

	Agree	Neutral	Disagree
Engaging	◯	◯	◯
Good variety	◯	◯	◯
Some not relevant to course	◯	◯	◯
Too many readings	◯	◯	◯

6.　Q6) What do you think about the Extra Activities related to course (e.g simulations, small groups, demonstrations) *

Mark only one oval per row.

	Agree	Neutral	Disagree
Engaging	◯	◯	◯
Well designed	◯	◯	◯
Unclear instructions	◯	◯	◯
Some were a waste of time	◯	◯	◯

7.　Q7) How to you feel about Assignments/Tests given to you in online classes? *

Mark only one oval per row.

	Agree	Neutral	Disagree
Appropriate amount	◯	◯	◯
Interesting and useful questions	◯	◯	◯
Poor coverage of material	◯	◯	◯

8.　Q8) How heavy/light is the workload for online course compared with offline classes/courses? *

Mark only one oval.

◯ Much lighter

◯ Lighter

◯ Same

◯ Heavy

◯ Much heavier

9.　Q9) How challenging do you find the online courses? *

Mark only one oval.

◯ Too easy

◯ A bit easy

◯ Just right

◯ A bit difficult

◯ Difficult

10. Q10) How much do you think you have learned through online courses compared to offline classes/courses? *

Mark only one oval. 44

◯ Almost nothing

◯ Little

◯ fair amount

◯ Much

◯ A great deal

11. Q11) How well has the online courses met your expectations? *

Mark only one oval.

◯ Not at all

◯ Not very well

◯ Adequately

◯ Well

◯ Very well

Google Forms