A

PROJECT REPORT

ON

"*A study on Awareness and Preferences for Online Education for Courses with Reference to- MAHARASHTRA"*

SUBMITTED

To

CENTRE FOR ONLINE LEARNING

Dr. D.Y. PATIL VIDYAPEETH, PUNE

IN PARTIAL FULFILMENT OF DEGREEOF

MASTER OF BUSINESS ADMINISTRATION

BY

MISS. RUTUJA GORAKH BORATE

PRN: 2205023640

BATCH 2022-2024

Dr. D.Y. Patil Vidyapeeth's
CENTRE FOR ONLINE LEARNING,
Sant TukaramNagar,Pune.

CERTIFICATE

This is to certify that Mr./Ms. Rutuja Gorakh Borate

PRN - 2205023640

has completed his/her internship at Talent serve Organization Pvt. Ltd

starting from to 02/05/2024 to 30/06/2024.

His / Her project work was a part of the MBA (ONLINE LEARNING)

The project is on "A Study on Awareness and

Preferences for Online Education for Courses with Reference to-MAHARASHTRA"

Which includes research as well as industry practices. He/She was very sincere and committed in all tasks.

Course Coordinator

Mr. Kiran Marwade

Date – 1 July 2024

COMPANY LETTER

TalentServe

CERTIFICATE

OF COMPLETION

THIS CERTIFICATE IS PROUDLY PRESENTED TO:

Rutuja Gorakh Borate

FROM D. Y. PATIL VIDYAPEETH , PUNE
HAS SUCCESSFULLY COMPLETED 60 DAYS INTERNSHIP PROCRAMME OF BUSINESS DEVELOPMENT
WITH US FORA PER OD Of 2nd MAY 2024 TO 30th JUNE, 2024.

Meghna Virwani

GROUP CEO

DECLARATION BY LEARNER

This is to declare that I have carried out this project work myself in part fulfillment of the M.B.A Program of Centre for Online Learning of Dr. D. Y. Patil Vidyapeeth's, Pune – 411018

The work is original, has not been copied from anywhere else, and has not been submitted to any other University / Institute for an award of any degree / diploma.

Date: -1 Jul 2024

Signature: - R.G.Borate .

Place: Pune

Name: **Rutuja Gorakh Borate**

ACKNOWLEDGEMENT

To list who all have helped me is difficult because they are so numerous and the depth is so enormous. I would like to acknowledge the following as being idealistic channels and fresh dimensions in the completion of this project.

I take this opportunity to thank my project guide, **Mr. Kiran Marwade** for his moral support and guidance. I also express my sincere gratitude towards our mentor **Mr. Abhishek Pawar** whose guidance and care made the project successful.

I also take this opportunity to express a deep sense of gratitude to industrial guide **Mr. SANDIP ADSUL** for his/her cordial support, valuable information and guidance which helped me in completing this project through various stages.

I take this opportunity to thank Dr. D.Y. Patil Vidyapeeth Pune for giving me chance to do this project.

Lastly, I would like to thank each person who directly or indirectly helped me in the completion of the project especially my family who have always stood by me and provided me strength throughout this project.

Table of content

Executive Summary

This project investigates the awareness and preferences of students in Maharashtra regarding online education. The study aims to understand the behavior and decision-making processes of students when choosing virtual learning platforms for various courses.

overview of a study on the use of the Internet in teaching and learning, specifically targeting postsecondary instructors with experience in using the Web as a teaching resource. Key points from the summary include:

- The study surveyed college instructors who had used the Web for teaching, aiming to understand their experiences, tools used, and the obstacles they faced.
- Findings revealed that many instructors had extensive online teaching experience and shared strong opinions on how to improve online education.
- The study explored the pedagogical tools needed for effective online teaching and how to transition from courseware that merely registers students to tools that engage them interactively and collaboratively.
- Common challenges identified included the need for better training and reward structures, clear ownership policies for course materials, and adequate technical and pedagogical support from institutions.
- The survey participants were mainly from public institutions and had significant teaching experience, with a substantial proportion holding doctoral degrees.
- Many respondents had undergraduate teaching experience and had shared resources online for professional growth and collaboration.
- Attitudes toward online learning varied, with concerns about the quality and accreditation of online education.
- Most instructors believed that online teaching required more time and effort compared to traditional teaching and highlighted higher dropout rates in fully online courses.
- Access to the Internet was widespread among respondents, and most institutions provided Web-based platforms for online teaching.
- Looking ahead, many instructors anticipated an increase in their online teaching load and expressed interest in freelance or adjunct online instruction.
- Institutional motives for online education included increasing access to education, improving teaching and research efficiency, and providing distance education.
- Useful online tools identified by respondents included posting syllabi online, online cases, file uploading and downloading, and online lecture notes. There was also a demand for more collaborative tools.

The summary concludes that while there is significant interest and potential in online teaching, it requires appropriate support and resources to be effective and widely accepted.

This project delves into the awareness and preferences of students in Maharashtra regarding online education, aiming to understand their behaviour and decision-making processes when selecting virtual learning platforms for various courses. The study primarily targets postsecondary instructors experienced in using the Internet as a teaching resource, surveying their experiences, tools used, and challenges faced.

The survey included college instructors who have integrated the Web into their teaching methods. These educators shared their extensive online teaching experiences and provided insights on improving online education. The study examined the pedagogical tools necessary for effective online teaching, emphasizing the transition from merely registering students to engaging them interactively and collaboratively.

Key Findings:

Experience and Improvement: Many instructors had significant online teaching experience and expressed strong opinions on enhancing online education. They highlighted the need for tools that facilitate interactive and collaborative learning.

Challenges: Common challenges identified included the necessity for better training and reward structures, clear ownership policies for course materials, and sufficient technical and pedagogical support from institutions.

Participant Demographics: The survey participants were predominantly from public institutions, with significant teaching experience. A substantial proportion held doctoral degrees and had undergraduate teaching experience. Many had shared resources online for professional growth and collaboration.

Attitudes Toward Online Learning: Instructors' attitudes varied, with concerns about the quality and accreditation of online education. Many believed online teaching demanded more time and effort compared to traditional methods and noted higher dropout rates in fully online courses.

Access and Tools: Access to the Internet was widespread among respondents, and most institutions provided Web-based platforms for online teaching. Useful online tools included posting syllabi, online cases, file uploading and downloading, and online lecture notes. There was also a demand for more collaborative tools.

Future Outlook: Looking ahead, many instructors anticipated an increase in their online teaching load and showed interest in freelance or adjunct online instruction. Institutional motives for online education included increasing access, improving teaching and research efficiency, and providing distance education.

The study concludes that while there is significant interest and potential in online teaching, it requires appropriate support and resources to be effective and widely accepted.

Highlights of Online Education in India:

Growth: India's online education market is set to grow to USD 1.96 billion and around 9.6 million users by 2021, from USD 247 million and 1.6 million users in 2016.

Categories: Reskilling and online certifications are the largest category, and primary and secondary supplemental education will be the largest by 2021, growing at a CAGR of 60%.

Student Preferences: Convenience, flexibility, variety of study material, and quality of course content are key motivational factors. Laptops are preferred over mobile phones for accessing course content.

The report highlights the rapid growth and evolving landscape of online education in India, driven by demand, supply, and macroeconomic factors. The growth trajectory indicates a substantial increase in the paid user base for online education, expected to reach 9.5 million users by 2021 at a CAGR of 44%. This growth will be supported by improved internet connectivity and the adoption of digital payment options, making online education more accessible and widely accepted.

Highlights Of Online Education In India

Figure 1Online Education

India's online education market is set to grow to USD 1.96 billion and around 9.6 million users by 2021 from USD 247 million and around 1.6 million users in 2016

Industry overview:

- Reskilling and online certifications is the largest category today at USD 93 million
- Primary & secondary supplemental education will be the largest category by 2021 at USD 773 million, growing at a CAGR of 60%
- Test preparation will be the fastest growing category in 2021, growing at a CAGR of 64%

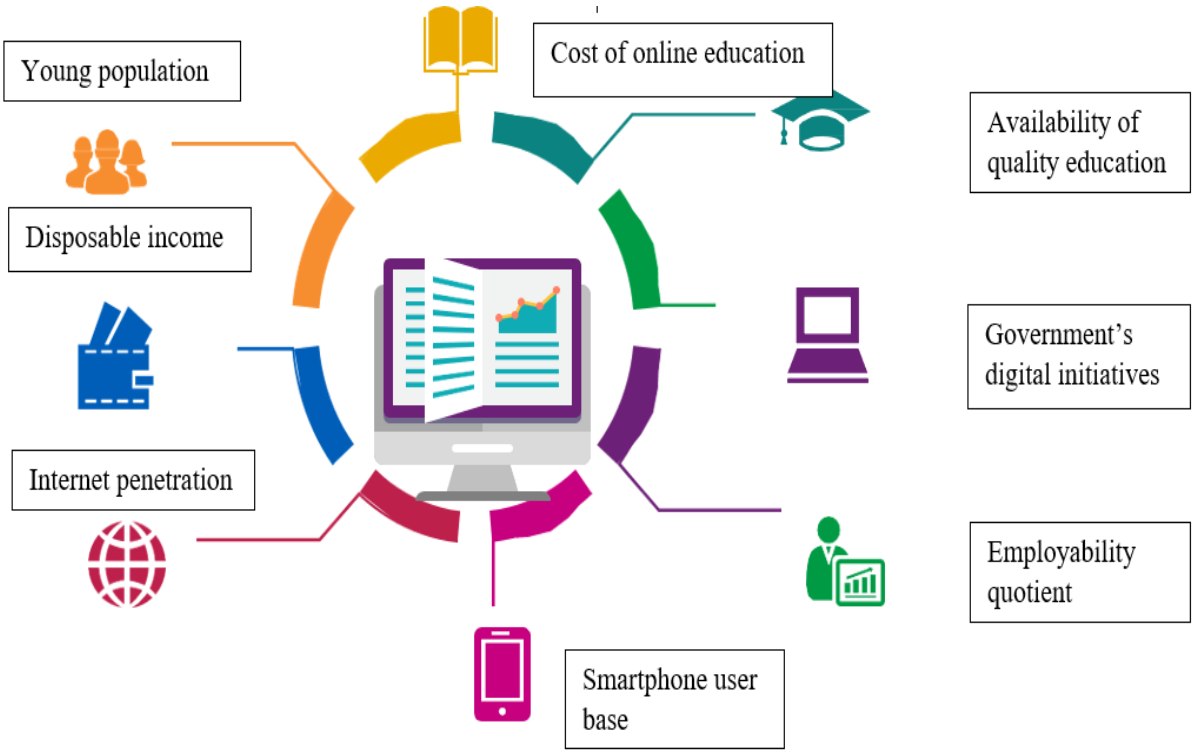
India's online students:

- Perceive convenience, flexibility with commencement dates and variety of study material are key motivational factors to adopt online channel

- Cite peers and internet search as the top two sources of brand awareness
- Indicate quality of course content as the top reason for selecting a specific brand
- Prefer laptops over mobile phones for accessing the course content

The online education market in India currently stands at USD 247 million and is estimated to witness an 8x growth over the next 5 years to reach the USD 1.96 billion mark in 2021. This growth will be backed by a phenomenal rise in the paid user base for online education in India, which is expected to grow from the current base of 1.57 million users to 9.5 million users in 2021 at a CAGR of 44%.

The growth of online education in India will be driven by a combination of demand, supply and macroeconomic drivers as indicated below.


Young population
Disposable income
Internet penetration
Cost of online education
Availability of quality education
Government's digital initiatives
Employability quotient
Smartphone user base

Chapter 1

INTRODUCTION

1.1 Current Indian Scenario

My topic for the summer project was " A study on Awareness and Preferences for Online Education for Courses with Reference to- MAHARASHTRA”

"This study provides an opportunity to understand the educational position of the students and his behavior while selecting the virtual learning for courses. I have selected this topic because I want to understand the student’s behavior when they are making their decisions. preference set towards salaried class investors. These camps are organized through Talentserve Organization Pvt. Ltd. Online teaching–learning methods have been followed by world-class universities for more than a decade to cater to the needs of students who stay far away from universities/colleges. But during the COVID-19 pandemic period, online teaching–learning helped almost all universities, colleges, and affiliated students. An attempt is made to find the effectiveness of online teaching–learning methods for university and college students by conducting an online survey. A questionnaire has been specially designed and deployed among university and college students. About 100 students from various universities, engineering colleges, medical colleges in South India have taken part in the survey and submitted responses. It was found that the following methods promote effective online learning: animations, digital collaborations with peers, video lectures delivered by faculty handling the subject, online quiz having multiple-choice questions,

availability of student version software, a conducive environment at home, interactions by the faculty during lectures and online materials provided by the faculty. Moreover, online classes are more effective because they provide PPTs in front of every student, lectures are heard by all students at the sound level of their choice, and walking/travel to reach classes is eliminated.

1.2 Online Education

The importance of online education has been emphasized in the new education policy. Therefore education readiness will be ensured by taking into the recommendation made to promote holistic onlineeducation and digital education.in the current epidemic; it is not possible to teach individually in thetraditional way, so alternative to quality education have been explored. The ministry of HRD will setup digital infrastructure for school and higher education.

The people's life style changed. Everyone ideology, practical, education and mental nature has changed. One of the most importance changes in online education. In our country, education has been given in different ways for many years. But after the independence of the country, revolution change took place in the field of Indian education. Traditional education in the country has taken a modern form. Nowadays e- education has become popular all over the world including India. Online learning is a system in which teacher can use the internet to teach students in any corner of the country or the world.

What is online education?

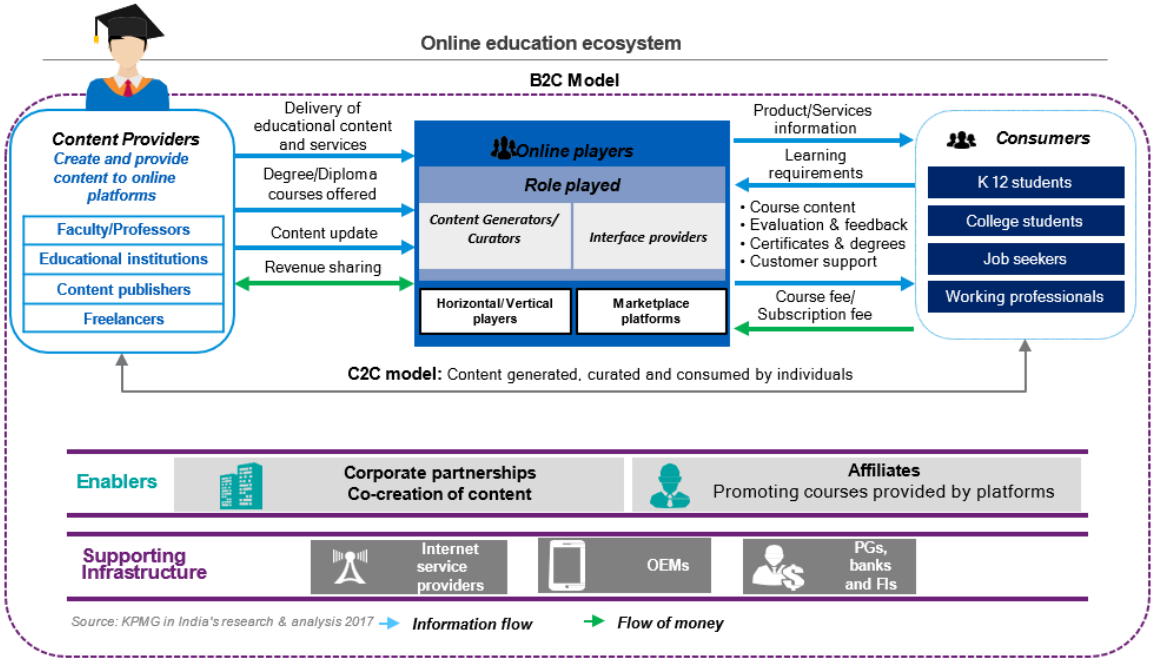
Today the epidemic civid 19 is causing many problems in the world. Lockdown and janta curfew have made it difficult to get an education outside at home. It was during this period that teachers from various school and college in the country started teaching student online. Skype, what Sapp zoom video, etc. are some of the popular mobile apps that provide online education In this, students can get education with the help of laptop or mobile while sitting in their study table at home.

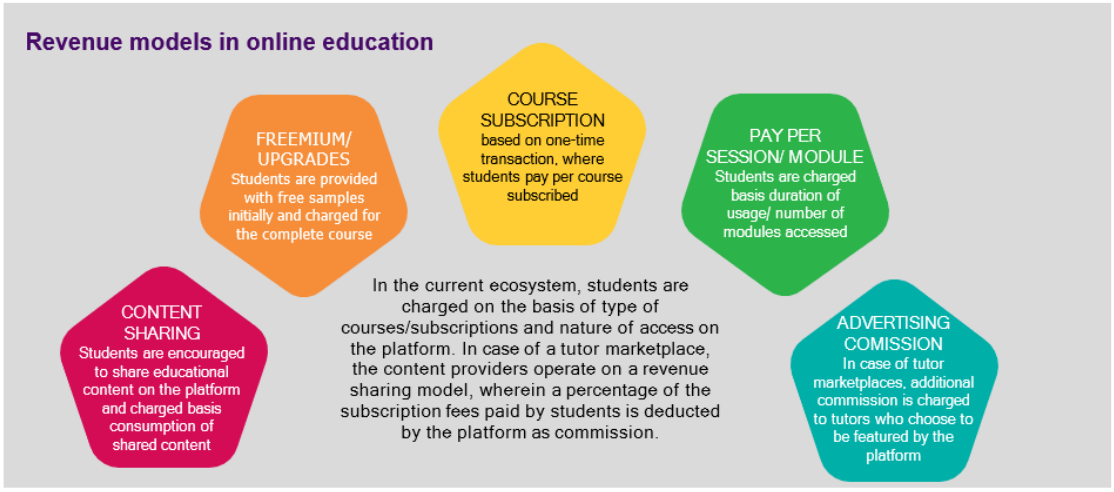
Overview of the online education ecosystem in India

The online platform providers play a pivotal role in the online education ecosystem. Initially, the platform served as enablers by connecting prospective students and content providers. In recent times, the platform providers have increasingly played the role of content providers and curators.

Online education in India has a mix of dedicated online only and offline players with an online presence. C2C business models have also emerged where the platform connects prospective teachers and students. B2B offerings are prevalent in higher education, where institutions offer degree/diploma courses to students through their own platforms or third party aggregators.

Corporate tie-ups assist in co-creation of industry certified content, which enhances overall acceptance of online education amongst the target user base. Improved internet connectivity and adoption of digital payment options have significantly aided in the growth of online education in India.





Source: KPMG in India research & analysis 2017

1.3 Elements of Education:

There are generally three major components to education. The teaching process is implemented for the

three components of teaching, learning and evaluation. Let us now see how these three elements will

take shape in this new online method.

- **Teaching**: What the teacher teaches in the classroom is teaching. This includes the teacher's personal skills, rhetoric, the art of presenting and explaining the subject.

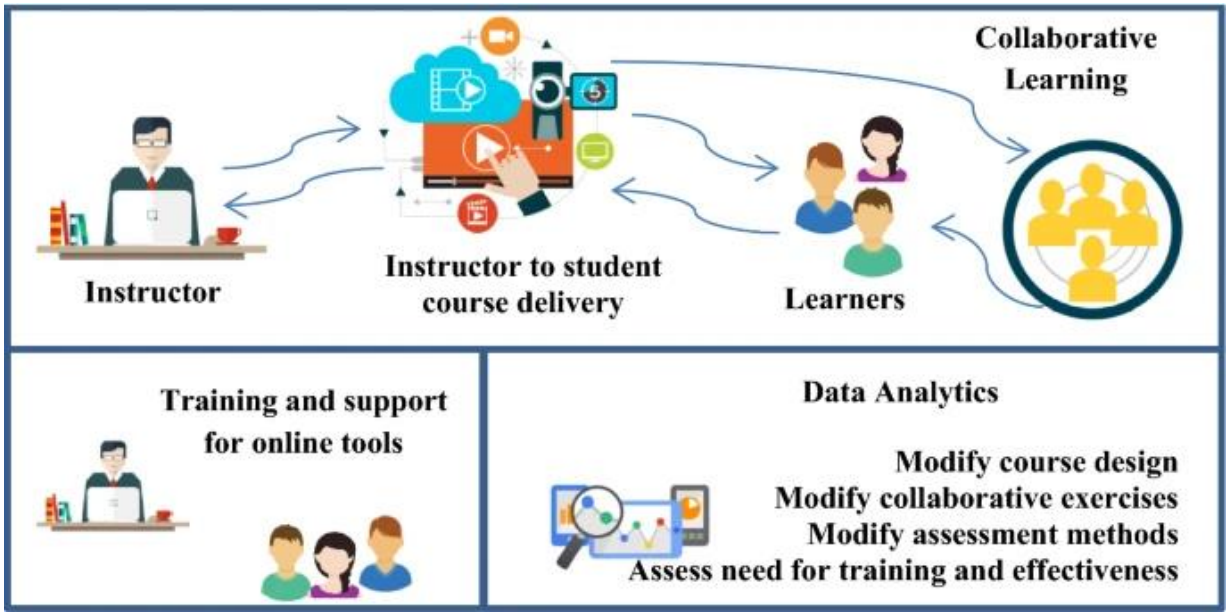
- **Learning**: What students learn through their own efforts and perceptions. This includes reading the study material given by the teacher, seeing / experiencing the relevant learning resources, doing the given homework / assignments.

- **Evaluation**: Evaluation is the process of verifying how much a student has learned through teaching and learning. This includes checking homework, taking component tests, and taking exams.

1.4 Online Teaching and Learning Tools

The four essential parts of online teaching are virtual classrooms, individual activities, assessments in real-time, and collaborative group work. Online teaching tools are used to facilitate faculty-student interaction as well as student–student collaborations. The ease of use, the satisfaction level, the usefulness, and the confidence level of the instructor is crucial in motivating the instructor to use online teaching tools. Higher education institutes recognize the need to accommodate wide diverse learners and Hilliard points out that technical support and awareness to both faculty and student is essential in the age of blended learning. Data analytics tool coupled with the LMS is essential to enhance the quality of teaching and improve the course design. The effective usage of online tools is depicted in Fig. 1 comprising of an instructor to student delivery, collaboration among students, training for the tools, and data analytics for constant improvement of course and assessment methods.

Figure 2 The various components of effective usage of online tools



Online Teaching Tools

A plethora of online teaching tools are available and this poses a challenge for decision-makers to choose the tools that best suits the needs of the course. The need for the tools, the cost, usability, and features determine which tools are adopted by various learners and institutions. Many universities have offered online classes for students. These are taken up by students opting for part-time courses. This offers them flexibility in timing and eliminates the need for travel to campus. The pandemic situation in 2019 has forced many if not all

institutions to completely shift classes online. LMS tools are packaged as Software as a Service (SaaS) and the pricing generally falls into 4 categories:

(i) per learner, per month
(ii) per learner, per use
(iii) per course
(iv) licensing fee for on-premise installation .

Online Learning Tools

Online teaching/learning as part of the ongoing semester is typically part of a classroom management tool. GSuite for education and Microsoft Teams are both widely adopted by schools and colleges during the COVID-19 pandemic to effectively shift regular classes online. Other popular learning management systems that have been adopted as part of blended learning are Edmodo, Blackboard, and MoodleCloud. Davis et al. point out advantages and obstacles for both students and instructors about online teaching shown in Table 1.

A. Initiatives taken by government of India under

National Mission of Education through Information and

Technology examined in the study are as follows:

i. National Program on Technology Enhanced

Learning (NPTEL)

Seven Indian Institutes of Technology (Bombay, Delhi,

Kanpur, Kharagpur, Madras, Guwahati and Roorkee) along

with the Indian Institute of Science, Bangalore initiated this

program in 2003. In this Phase-I, online courses covered

five core disciplines of engineering, namely, civil

engineering, computer science and engineering, electrical

engineering, electronics and communication engineering

and mechanical engineering and developed 235 courses in

web/video format. In Phase-II (2009-14), an additional 600

web and video courses were developed in all major

branches of engineering, physical sciences at undergraduate

and postgraduate levels and management courses at the postgraduate level. The students can enroll to these courses as per their requirement and fulfillment of eligibility criteria for the selected course.

ii. Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM)

This is a program, launched by Human Resource Development Ministry (MHRD), government of India in 2017 under Digital India. It works on providing access, equity and quality of education to all. It covers the courses taught from class 9th to postgraduation. These courses are available free of cost to any learner. It provides video lectures, reading material, self-assessment tests and online discussion forum for clearing doubts.

iii. e-Pathshala:

It is an initiative jointly taken by the MHRD, Central Institute of Education Technology (CIET), New Delhi and The National Council of Educational Research and Training (NCERT). This was launched in November 2015. It provides learning material for class 1 to 12 in various forms such as textbooks, audio-visual resources, periodicals, supplements etc. which can be accessed by students, teachers, parents or any user.

iv. e-PG Pathshala

It is an initiative taken by MHRD under NME-ICT which is executed by University Grant Commission (UGC). It provides e-content of various subjects covering all

disciplines of social sciences, arts, fine arts and humanities,

natural and mathematical sciences etc.

Best online learning platforms

1. **Thinkific**
   Pros -
   Learn to create courses for free
   Flexible, intuitive system to create your own courses
   Plenty of customer support for course creators
   Cons –
   No library of courses to discover

THINKIFIC

2. **Coursera**
   Pros
   More than 1,500 courses are free
   A variety of subjects, from arts to computer science
   Official certificates recognized by many employers

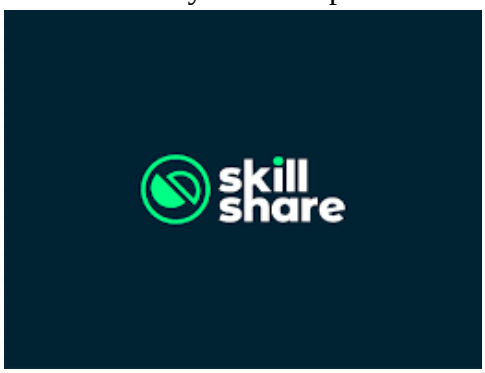
   Cons
   Free courses don’t come with certificates
   Some courses have time limits

3. **LinkedIn Learning**
   Pros
   17,000+ courses available

Detailed how-tos for the most popular software
Easily add new certifications to your LinkedIn profile
Cons
Need a LinkedIn profile to access learning

4. **Skillshare**

Pros
More than 35,000 courses available
A mobile app for on-the-go learning
Learning from “real” people rather than organizations
Cons
Courses rarely go in-depth
Instructors may not have professional training



5. **edX**

Pros
A large library of high-quality courses
Earn a bachelor’s or a master’s degree
Works with Ivy League schools
Cons
Not as many courses in creative fields

6. **OpenLearning**

Pros

Use credentials toward university degrees

Supportive community

Platform powered by AI

Cons

Courses can be expensive

7. **Udemy**

Pros

The largest selection of courses

30-day money-back guarantee

No subscription

No deadlines

Cons

Some courses can be low quality

No credits for higher education

8. **Treehouse**

   Pros

   High-quality progressive courses

   A built-in text editor for assignments

   Affordable

   Cons

   Not many options besides programming

9. **MasterClass**

   Pros

   Celebrity instructors

   High-quality videos and unique content

   Cons

   Introductory knowledge in most courses

   No ability to measure progression

   Smaller content creators cannot freely publish courses

10. Khan Academy

Pros

Free courses

A variety of topics

Supports a charity initiative

Cons

Focused on K-12 students

1.5 PROFILE OF COMPANY

NAME, ESTABLISHMENT AND LOCATION OF COMPANY:

1. Talent serve organization Pvt. Ltd. Mumbai, Maharashtra:

Name	Talent Serve organization Pvt. Ltd. Mumbai
Date of Establishment	**25 Mar, 2004**.
Location	C-103,1st Floor Shree Sai Tower CHSL, Sodawala Ln, near Sterling Hospital, Borivali, W, Maharashtra 400091
E-Mail	hello@talentserve.org

Website	https://www.talentserve.org

Our Mission

- With one convenient visit here, we give you a one stop solution for all your Career needs.
- To help students, working professionals and Jobseekers find a right career path which can shape their talent across.
- aims at finding out the nature of students towards education system.
- To know the preferred education system of the individual.
- To understand the difference between the offline and online learning method evaluate that which is beneficial.

I work in Talentserve organization pvt. Ltd. is go to college to college arranging the educational Wellbeing Camps. Aware to the students and job seekers also learner.

1.5.1 Industry Scenario

We are an IIT, IIM and Symbiosis alumni, engaging with Millions of Students around the world to give a 360-degree solution to all the Career, Education, Work and Corporate needs.

TALENTSERVE ORGANIZATIONS Pvt. Ltd.

Address 1 :

C-103,1ST FLOOR,

SHREE SAI TOWER CHSL, SODAWALA LANE,

NEAR STERLING HOSPITAL, BORAVALI WEST

MUMBAI-400092

Phone: +91 7774025234

Email: hello@talentserve.org

1.5.2 Specific Information

- The relationship between a physical and digital environment is referred to as ‘physical.' The student physical experience combines the traditional on-campus physical experience with a digital, online, technology-driven environment. The use of emerging technology to develop new and better student experiences is becoming increasingly relevant for academic leaders.

- It has pushed the boundaries of what we thought was possible in the ed-tech space. The shift to physical learning is more visible now than ever before, as schools and colleges are almost forced to embrace technology. Employers have also begun to develop online skill labs and courses to better prepare graduates and college students for tomorrow's job challenges.

- Taking charge of their learning, prioritizing exploration, and incorporating digital literacy into their daily routine will shape the attitudes of tomorrow's workforce. As students have more freedom in the digital space, self-regulation will become an important consideration for schools.

- Today's students and tomorrow's workforce do not need to be wary of technology or be forced to use it in a certain way in order for it to retain its value.

- Changing our viewpoint on how students learn and how working relationships between staff and students are formed will alter the shape of education delivery and what a campus should look like (physical or digital).

1.6 Objectives of the project:

1. To reveal the various forms of online teaching-learning modes adopted during COVID-19 pandemic.

2. To study the perceptions of teachers and students on online teaching- learning during COVID-19 pandemic.

3. To examine the challenges faced by the teachers and students in adapting to the online teaching-learning process during COVID-19 pandemic.

4. To ascertain the factors motivated towards student's preferences set towards with respect to Talentserve Organization PVT.LTD.

5. To measure the student's level of satisfaction towards different virtual mode of studies.

6. To know the preferred different virtual mode of studies.

7. To analyze the student's behavior while learning in different courses mode.

WHY-

8. To improve the skills and knowledge of the learners to perform the assigned knowledge.

1.7 Limitations of the Study:

1) This study is limited time and cost factors.
2) (This study is limited to college students and people working in different industries whoever want to gaining knowledge in virtual mode.
3) The time duration is only 60 days.
4) The sample size I have taken is only 100 respondents.
5) Respondents have not given all financial information.
6) Generally, the respondents were busy in their work and were less interested in responding correctly.

1.8 Scope Of The Project:

1) This project is confined to analysis of student's behavior of salaried class individual only
2) The researcher has taken into account only limited sample of 100 respondents who work in different industries.
3) The researcher has considered only limited respondent options.
4) The project is based on the educational information supplied by the learners.

Chapter 2

Literature Review on Online Education Awareness and Preferences

Introduction

Online education has become an essential component of the educational landscape, especially accelerated by the COVID-19 pandemic. This literature review explores various aspects of online education, focusing on awareness, preferences, challenges, and benefits, with a specific reference to the state of Maharashtra, India. The review is based on the project report titled "A Study on Awareness and Preferences for Online Education for Courses with Reference to Maharashtra" by Rutuja Gorakh Borate, which provides insights into students' behavior and preferences towards online learning.

Historical Context and Evolution

Online education has evolved significantly over the past decades, with world-class universities adopting digital platforms to reach students globally. The transition from traditional face-to-face education to online learning was catalyzed by technological advancements and necessitated by the COVID-19 pandemic, which forced educational institutions to adapt quickly to online methods to ensure continuity in learning.

Current Scenario in India

In India, the shift to online education has been particularly pronounced during the COVID-19 pandemic. The sudden closure of educational institutions necessitated the adoption of online teaching methods to continue academic activities. The Ministry of Human Resource Development (MHRD) recommended online classes to mitigate the disruption caused by the pandemic, highlighting the urgent need for digital literacy and access to technology among students and educators

Objectives of Online Education Studies

The primary objectives of studying online education include:

Understanding various online teaching-learning modes adopted during the pandemic.

Analyzing perceptions of teachers and students towards online learning.

Identifying challenges faced in adapting to online education.

Measuring student satisfaction with different virtual learning modes.

Exploring students' behavior and preferences in online courses.

Benefits of Online Education

Several benefits of online education have been identified:

Flexibility and convenience for students who can learn at their own pace and schedule.

Accessibility for students in remote areas who might otherwise have limited access to quality education.

Cost-effectiveness by reducing travel and accommodation expenses.

Enhanced learning through multimedia resources, online quizzes, and interactive sessions.

Challenges of Online Education

Despite its benefits, online education faces several challenges:

Lack of adequate digital infrastructure and internet connectivity, especially in rural areas.

Limited digital literacy among students and teachers.

Difficulty in maintaining student engagement and motivation in a virtual environment.

Challenges in assessing students' performance and providing personalized feedback.

Research Methodology

The study conducted by Rutuja Gorakh Borate employed a web-based survey targeting students and faculty from various higher education institutions. The survey aimed to gather data on the effectiveness of online teaching methods, the availability of technological resources, and the overall satisfaction of students with online learning during the COVID-19 pandemic.

Unqualified of online pedagogy

There are many benefits to learning online, but there is also side effect. But it is not unreasonable to

say that during the lockdown, the same education helped in education of students. There is a need

to improve the online education system today. Apart from this, this teaching method is suitable for

those who live far away as well as adult students who are self-disciplined. But it is more appropriate

for children and adolescents to go to school in the traditional way. Using both these same method of

learning, the student can increase his knowledge and achieve success in life.

Data Analysis and Interpretation

Data analysis in the study revealed mixed reactions towards online education:

While some students appreciated the flexibility and accessibility, others struggled with technical issues and lack of direct interaction with teachers.

The effectiveness of online learning was found to be influenced by factors such as the quality of digital content, interactive tools, and the overall learning environment at home.

Conclusion

The shift to online education has brought about significant changes in the educational landscape, offering both opportunities and challenges. The findings from the study underscore the need for improving digital infrastructure, enhancing digital literacy, and developing more effective online teaching methods to ensure that online education can be a viable and sustainable mode of learning in the future.

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Chapter 3

Research Design and Methodology

METHODOLOGY

A web-based survey has been conducted through the set of 'questionaries' from the various higher education institutions composed of both students and faculties. The acquired knowledge and technical aspects of online teaching is often difficult to correlate with the quality of the learning experience A paradigm shift from traditional in-class face-to-face education to online teaching during COVID 19 has determined lack of availability of internet facilities and technical support. The Outbreak of CORONA Virus in India was officially confirmed in the month of January and the higher education institutes have already started their curriculum and the seriousness of COVID-19 was reported in the early month of March. The cluster of few cases of COVID-19, which results in closure of lower education institutions and their activities in the third week of March.

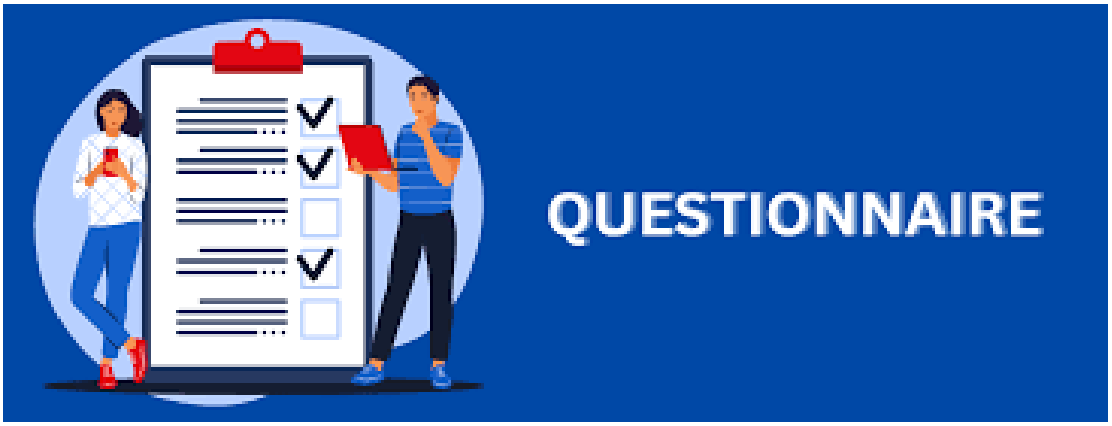
Higher education authorities in consultation with health department has instructed to close the academic activities to control the COVID 19 disease through set of measures. The Prime minister of India has taken a decision in view of CORONA disease to maintain Quarantine Lockdown to cover the whole regions of India. Ministry of Human Resource and Development (MHRD) recommended the

universities of higher education to conduct online classes for uninterrupted learning. World-wide transition change takes place in education sector to conduct classes online, which has faced several difficulties to achieve effective teaching/learning. Prior to online teaching, the faculty must be cleared regarding the effectiveness of technological software's adopted by premier institutions for online learning during this emergency COVID-19 pandemic. One

should understand that this online learning/teaching is a momentary teaching aid and an alternative mode to combat the situation of COVID-19 crisis. Note that, online learning has made more disproportion problems that may cause students mental ability to learn more effectively, and be fruitful. Attentive, methodical and regular concentration will be necessary to change the mind-set to shift to the online teaching/learnings from traditional method. There are chances that many students may not be having access to the network or internet facilities. Especially, in India many rural places it's often difficult to reach out to the internet or any other technical equipment's. Time management, teaching styles, paradigm shift from traditional chalk and talk to online, content development and effective delivery through the integration of multimedia is a challenging task for faculty members. Planning to have a systematic meaningful learning's is a challenge for both the faculties and students. Communication is the key factor particularly to understand the one behaviors through online education system, irrespective of pros and cons. It's being much difficult for a faculty to address and clear the doubts of a student through effective communication. In this emergency crisis, paradigm shift of Indian traditional chalk and talk method to online teaching still remains a big challenge. To achieve a clarity and the reality answers to these areas, all stake holders starting from parents to administrator to teachers to educationalists are responsible.

The online education systems are separated each other (student and the faculty) and the education administration mandated to learn online for students and teach by faculties. It's also a challenge and the indenture amongst the faculty and the student.

Questionnaire method



3.1 Introduction

This chapter presents a description of the methodology that is employed in the study. It spells out the techniques and methods of sampling, data collection, processing, analysis, and the area in which the study is carried out. The chapter also highlights the limitations and problems encountered while collecting data.

3.2 Research Design

There are different types of research methods that could be used when doing research. The methods include: qualitative research, quantitative research, and a mixture of both qualitative and quantitative research.

1) Descriptive Method

2) Qualitative Method

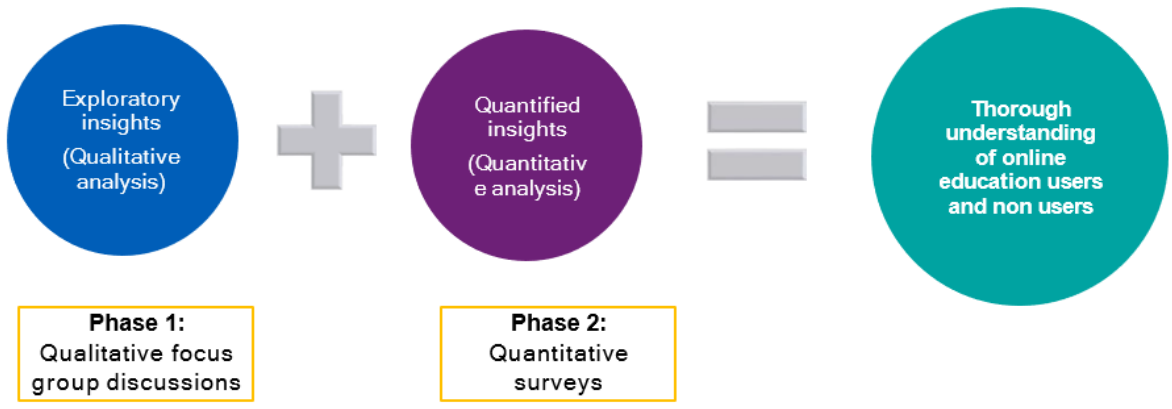
3) Quantitative Method

4) Experimental Method Experimental Method

The experimental method is a systematic and scientific approach to research in

which the researcher manipulates one or more variables, and controls and

measures any change in other variables



Structure of questionnaires:

1.Type of research: Descritive.

2.Sampling area: Maharashtra.

3.Sampling size: 100

4.Sampling method: convenience sampling.

5.Data collection method: used for the study.

6.Primary data: collected directly from the respondent with the help of questionnaires.

7.Secondary data: journal, conference proceedings (already published data collected

from authentic sources)

8.Tools used for analysis: percentage analysis, bar chart, pie chart.

Higher Education

People in India face great difficulty to reach the higher levels in the current education system. As per National Sample Survey Organization data, in the FY 2007-08, the unemployment rate was 18.10% for youth with education up to secondary level. Whereas unemployment rate for youth with education up to primary level was only 11.60%. The government should take emphasis on allocation of higher education and improve the students.

3.3 Education in Maharashtra:

Maharashtra –The land of Shivaji, is located in the western part of the country with Mumbai as its capital. It has a very rich historic and cultural past – the remains of which are even visible today. Mumbai is the financial capital of the country and also the greatest business hub.

As per 2011 census the population of Maharashtra was 112.37 million, of which the male population was 58.24 million and female population was 54.13 million. The literacy rate of Maharashtra was 82.34%, of which the male literacy is 88.38% and female literacy is 69.87%. The sex ratio of Maharashtra was 929 females per 1000 males, which is slightly below the national average of 940.

Maharashtra has always been a pioneer in the field of education. Pune is popularly known as the "Oxford of the East". In Maharashtra as of 20100-11 there were 97,256 Elementary schools of which of which 49,085 were Primary schools, 48,171 were Upper Primary schools and 5,595 were Secondary and Higher Secondary schools.

Maharashtra is at the forefront in the matter of higher education in India and offers a number of graduate and post-graduate courses in the disciplines of arts, science and commerce. The colleges also offer professional courses such as medicine,

engineering and management. There are specialized courses in subjects like Pharmacy, Veterinary Science, Unani, Law, Hotel Management, Homeopathy, Mass Communication, Fine Arts and many more.

3.4 OUTLINE OF THE PROBLEM/ TASK UDERTAKEN

Need of the study:

This study has been undertaken to analysis the problem faced by the students while virtual study themselves. The different factors or the parameters which affects the student's skillset are also been studied. The reason behind this study is to also study the various factors like digital literacy among students, technical skills, network related issues, educational qualification & online knowledge gaining related issues that students may face during Covid-19 pandemic.

This study mainly focuses on the students faced the problems while study at virtual mode as well as in their day-to-day life.

Statement of the problem:

The particular topic is mainly selected to analysis "Problem faced by students while study at virtual mode of various courses in Department of Technology at SPPU". This analysis is carried out to give more knowledge and broader view to the students in India. As the students of the country are not familiar and are also not well educated about the various technical and non-technical skillset in which they can study in their school and college life and they also lack the knowledge about the latest technology and their use. Their attitude towards learning these current trending courses guided by so many external factors and once they decide to start learning, the major problem starts with the lack of proper knowledge about these courses and eligibility criteria also the lack of digital literacy.

Hence it is very important that the students get the knowledge about the system handling, online banking related services and problem-solving skills. The students in India need to be digitally literate in these digital worlds thus gaining knowledge.

3.5 E-Learning: -

E-learning incorporates any form of learning which is electronic in nature; this includes audio, video and resource sharing. According to Allen (2003), e-learning:

 Allows a student to individualize the pace at which he/she covers the material

 Allows active participation, because e-learners are continuously active, as opposed to working in a classroom where they may participate only on occasion

 Is independent of time and location.

According to McCrea et al. (2000), e-learning addresses specific needs found in industry as well as in academia. These needs include:

 The need for organizational competency, as it provides employees with competency roadmaps

 The need to distribute latent knowledge

 The need to align the business objectives and learning outcomes

 The need to provide on-demand resources and training services

 The need to access these resources and services globally

E-learning has been significant in Information and Communications Technology (ICT). It delivers knowledge to developing countries and it integrates many ICT capabilities in a noble cause. E-learning could dramatically increase access to education. It improves quality of education by accessing global academic resources and by offering training to academics. It also helps learners take an active role, work with their colleagues/instructors from a variety of locations.

E-learning is believed to take a competitive advantage over the conventional methods due to the speed and efficiency of the Internet, especially in making announcements. Moreover, e-learning could be the dream for people with work or family commitments; due to the high flexibility in time and place it offers. E-Learning creates an interactive environment for teachers and students, as well as the opportunity for discussion and clarification of class content. It also enables educational institutions to target learners who are unable to participate in traditional-learning environments. The Internet provides a rich source of information with different perspectives in research, high speed and countless resources to improve student work. Students can undertake group work through the collaborative groupware. E-learning also enables participants to choose the course scope, appropriate time, access up-to-date content and even customize it.

E-learning could be globally implemented owing to the increasing availability of the internet in most homes and businesses. Improvement in bandwidth and better e-learning platforms

make it increasingly more attractive and feasible. A rapidly growing number of organization worldwide are currently using the internet to train and educate their staff and students. According to Capper (2002), there are an estimated ten million online courses available from over 700 e-learning companies. The Massachusetts Institute of Technology (MIT) already makes its syllabi for all its courses available online for anyone enrolled in the course to use. The Virtual University in Monterey provides a year-long course for in-service teachers through the use of satellite television or the internet, and has been delivering online courses since 1989.

According to Leem & Lim (2007), of the large national public schools, 95.2% are implementing e-learning, and 75% of these universities offer support for cyber classes, which allows students at university level to attend lecturers online.

E-learning In Context: -

E-learning has moved through a number of distinct phases – from Computer Based Training through to Learning Management Systems and Courseware Management Systems to now encompass an increasingly broad scope of applications and activity. There are a number of factors worth noting in terms of mapping the evolving e-learning landscape, including the following:

 Ongoing development in dedicated e-learning software applications, commonly known as learning management systems (LMS) or managed learning environments (MLE) has evolved where many of the early LMS vendors now offer their LMS as one application within a suite of products.

 Basic „units of learning" or „units of instruction" are beginning to shift away from the traditional course model (courseware) to typically smaller, more targeted, modules (learning ware).

 Portals are widely adopted in e-learning.

 Publishers are now offering value added services to the e-learning market – examples include McGraw-Hill who are offering a free Course Management System (Page Out) and Thomson Learning"s Text Choice provides easy access to digital content from which teachers can create custom learning materials

 "M-learning", or mobile learning, has become established as a significant area of research and development (e.g., through the European MOBILearn project).

 Acquisition and distribution of learning resources which metadata

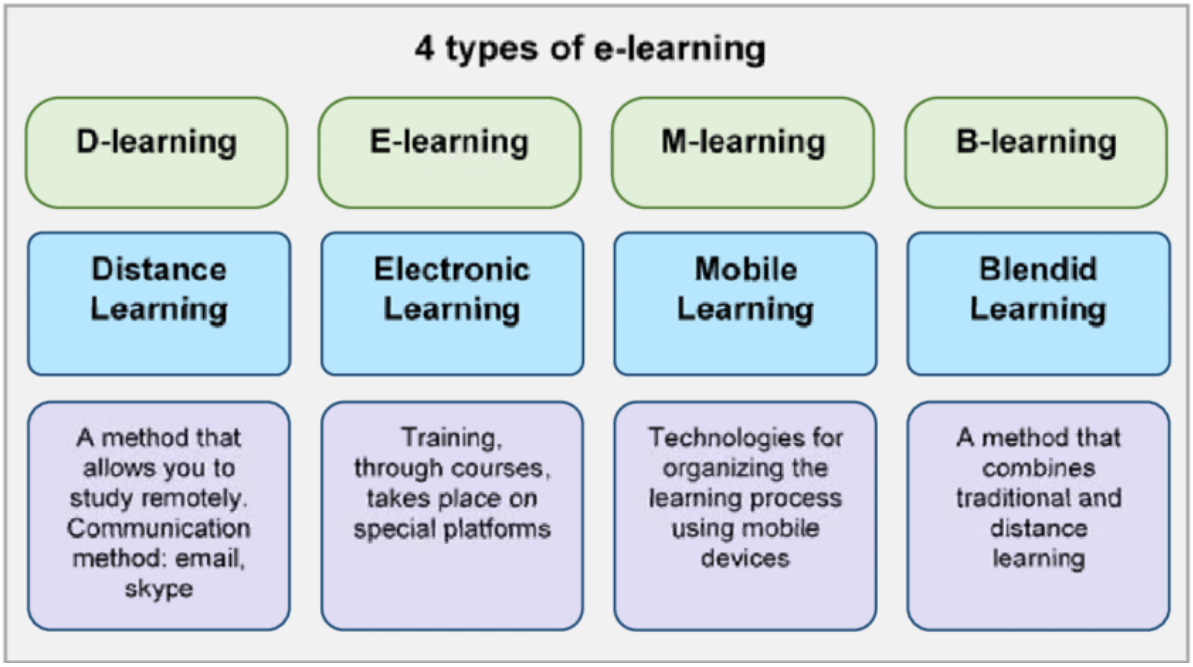
and content is shared among multiple repositories.

 Applications supporting the flexible use of and reuse of activitybased learning are now appearing in the market.

 Mind-mapping software (e.g., 3MRT) is being increasingly marketed to educational stakeholders for organizing ideas and information. Objects created from such software can be easily shared.

 Innovative query interfaces for learning object discovery are starting to appear.

 There are individuals and small groups in the learning, education and training communities developing innovative teaching applications. Many of these teaching applications are developed in isolation from institutional infrastructure and without regard to standards. These applications tend to be small-scale specialized fit for purpose applications but with limited potential for integration with the e-learning enterprise and broader reuse.



Roles of Teachers & Students: -

Current literature around learning and pedagogy 2.0 and university 2.0 (Lee& McLoughlin, 2010) portrays different roles for both students and teachers. Current transmissive pedagogy is being challenged so that learners become more active participants and learning is a participatory, social process supporting life goals and needs. Teachers are expected to provide mentorship and guidance to create an environment for communication, creativity, collaboration, connectivity with peers and the outside world while also co-creating dynamic online units of study that are customized and personalized.

Chapter 4

DATA ANALYSIS & INTERPRETATION

Data analysis helps in structuring the findings from different sources of data. Data analysis is very helpful in breaking a macro problem into micro parts.

Data analysis acts like a filter when it comes to acquiring meaningful insights out of huge data set.

Data analysis helps in keeping human bias away from the research conclusion with the help of proper statistical treatment.

a. Primary Data

Primary data means original data that has been collected specially for the purpose in mind. It means someone collected the data from the original source first hand. Data collected this way is called primary data. Primary data has not been published yet and is more reliable, authentic and objective. Primary data is not changed or altered by human beings therefore its validity is

greater than secondary data. In this study Questionnaire is used as the primary source of data which is used to draw conclusions based on the responses provided by the respondents.

b. Secondary Data

Secondary data is the data that has been already collected by and readily available from other sources. When we use Statistical Methods with Primary Data from another purpose for our purpose we refer to it as Secondary Data. It means that one purpose Primary Data is another purposes Secondary Data. So that secondary data is data that is being reused. Such data are more quickly obtainable than the primary data.

c. Tools of Data Collection

Data collection tools are methodologies employed to gather data from a targeted, select group of people to assess pre-defined parameters by analyzing the data and gaining rich insights about the same. Data collection tools have fundamentally

changed the way business's function. It helps to understand customers better and meet & exceed their expectations.

d. Analytical Tools of Data Analysis

Data collection and analysis tools are defined as a series of charts, maps, and diagrams designed to collect, interpret, and present data for a wide range of applications and industries. Various programs and methodologies have been developed for use in nearly any industry, ranging from manufacturing and quality assurance to research groups and data collection companies.

e. Statistical Tools of Data Analysis

Statistical methods involved in carrying out a study include planning, designing, collecting data, analyzing, drawing meaningful interpretation and reporting of the research findings. The statistical analysis gives meaning to the meaningless numbers, thereby breathing life into a lifeless data. The results and inferences are precise only if proper statistical tests are used

Introduction and Importance

Data analytics is a relatively new term for many people. It essentially refers to all the processes and tools required to process a set of data and interpret important insights from them. Analytics is a broader term that includes the various tools and processes used for analyzing the data.

Analytics tools can either qualitative such as quality of life surveys in the medical field or quantitative such as statistical tools or software. They extract, and bifurcate useful data from unnecessary information and analysis them to come up with patterns and numerical data that can help in making a profitable change.

Data analytics is an integral component of making strategies in all major organizations as it helps them predict customer trends and behaviors, increase business productivity, and make evidence-backed decisions.

Data Analysis

Data analysis is the most crucial part of any research. Data analysis summarizes collected data. It involves the interpretation gathered through the use of analytical and logical reasoning to determine patterns, relationships or trends.

technical Courses and 5.9% from basic science courses, 2.2% from medicine related courses, 2% responded from arts/commerce related courses and rest with other degree courses as discussed above as shown in

In many developing countries including India the land area is divided into many provinces. To have control over administration, the provinces are sub-divided to rural, urban, taluk headquarters, district headquarters, metropolitan city etc., based on the area and population. The facilities, in particular high-speed internet access required for online teaching vary from place to another. In the survey form, a questioner has been framed to understand the efficacy of online teaching for various people due to COVID-19 lockdown at their native place. The respondents

were locked down at these various areas and it is observed that 49.3% are from rural, 31.7% are of urban, 7.8% are from district headquarters,6.6% are from Taluka head-quarters and around 4.6% are from metropolitan city as referred in . The geographic location of the respondent is of paramount importance to study the accessibility and comfort of technical issues such as internet networks, content delivery methods by faculty members to outreach every student, possible fruitful discussions as and when the doubts raises are the major issues in the online leanings. These new techniques and online studies empower the student to learn whenever and wherever they can. In addition, the sessions can be viewed multiple times if stored in online platform and understand. It is clear that majority of the respondents are students from rural areas, facing badly with fast internet access, power problems followed by

limited internet data (maximum of 2 GB data per day is not sufficient to attend 3 hours continuous lectures) attend online classes conducted by the faculties. This clearly indicates the technical difficulties faced by students to ensure quality learning experience at rural areas. Although other areas do not have power problems, but insufficient internet data package and low speed internet access possess technical difficulties. In addition, understanding the mathematical and analytical subjects through online teaching often identified as major drawbacks. The rural background people also find it difficult to have accessibility to high-cost learning aids (i.e., computers/laptops, smartphones) which are the essential requirements of online learning.

India accounts for 30% of the world's total illiterate population and around 70% of these illiterates are women. As per 2001 Census data, women constitute 48% of the total population in India, but around 46% of women are still found to be illiterate. Problems of gender disparity and discrimination begin with access to schooling to higher education. While gender inequalities intensify with poverty, caste inequalities and geographical location (particularly in underdeveloped rural areas), particular gender-differentiated ideologies cut across all social groups, explaining why in all social groups, girls lag behind boys in access to and participation in education. In the present survey, to overcome with these gender-discrimination, it is been included along with transgender too in the other category. Among the respondents

there was 634 male participants, and 240 female participants were involved in the survey that accounts to 72.5% of Male and 27.5% were female participants. The number includes all the participants from various streams Basic science, engg, medical, agriculture.

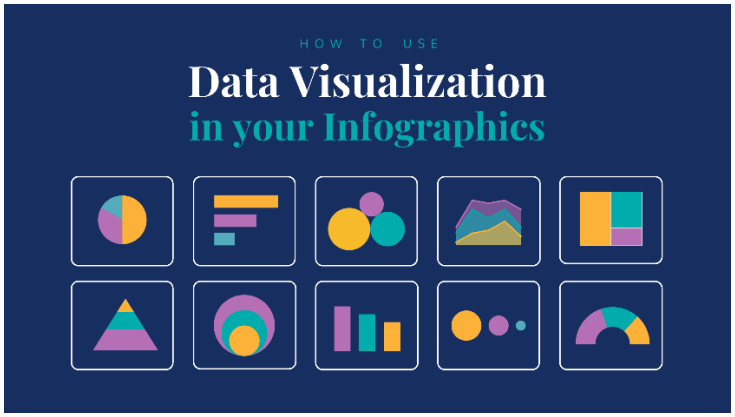
Technology Used For Data Analysis

- **MS EXCEL**

- **R STUDIO**

- TABLEU

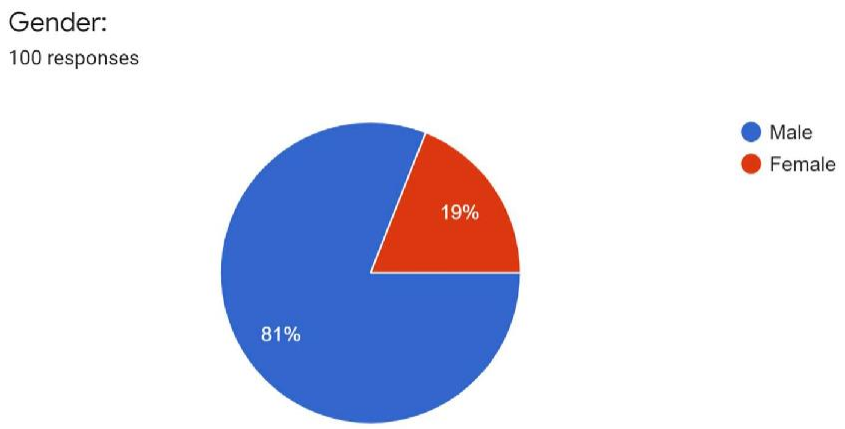
- **DATA VISUALIZATION :**



Data analysis

1.

Gender	*No. of respondents*	*Percentage*
Male	*81*	*81*
Female	*19*	*19*
Total	*100*	*100*

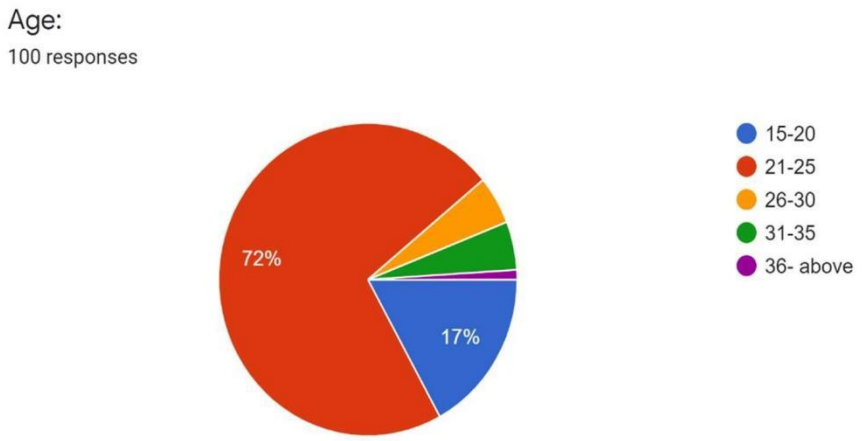


Interpretation

From the above table it is very evident that majority of the respondents are male. The male respondents are 81 and female are 19. From the given chart it can be stated that the male respondents are greater in number than the female respondents.

2.

Category	*No of respondents*	*Percentage*
15-20	*17*	*17*
21-25	*72*	*72*
26-30	*5*	*5*
31-35	*5*	*5*
35- above	*1*	*1*
Total	*100*	*100*



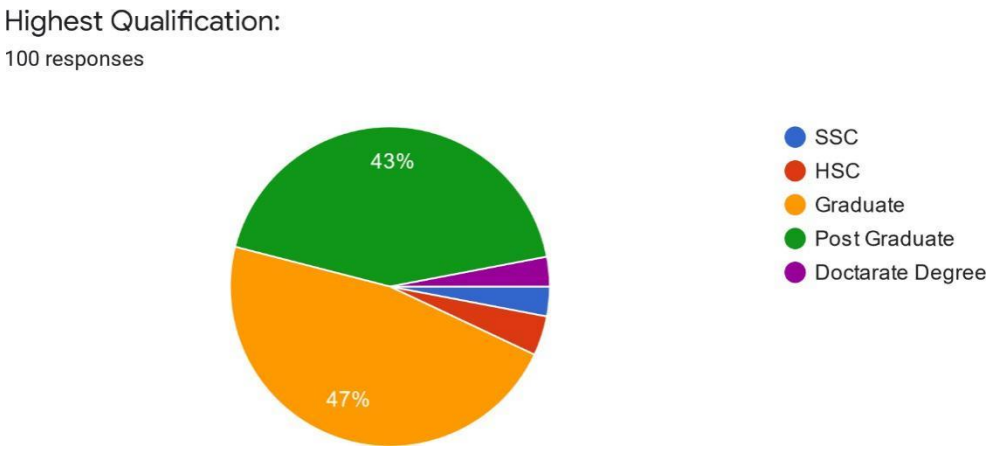
Interpretation

The above table indicates that the majority of the respondents belong to the age group of 21-25 Groups. Out of the total number of respondents, 72 of them belong to the age group of 21-25 years, 17 of the respondents belong to the age group of 15-20. The no of respondents belonging to the age group between 26-30 and 31-35 are only 5 respondents. But only 1 of the respondent belong to the age group of above 36 years.

So, it is very clear that most of the respondents belong to the age group of 21-25 years.

3.

Qualification	*Percentage*
SSC	*3*
HSC	*4*
GRADUATIONS	*47*
POST GRADUTIONS	*43*
DOCTORATE /PhD	*3*
Total	*10* *0*

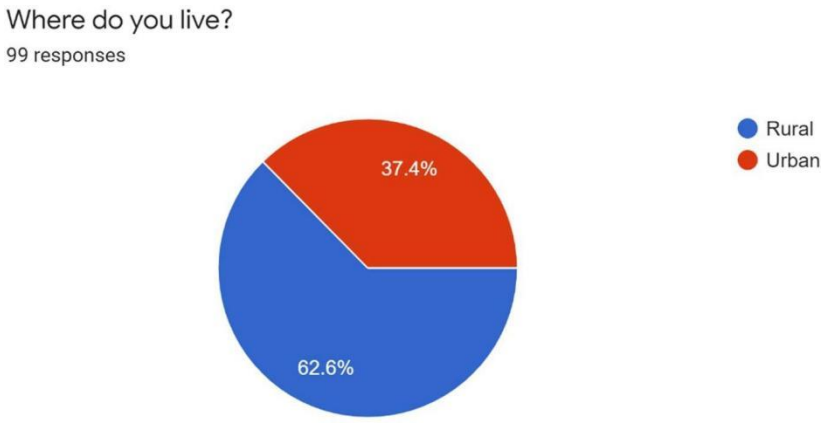


Interpretation

The above table indicates that the majority of the respondent's qualification is graduations students. Out of the total number of respondents, 47% of them belongs to degree. 43 % of them belong to post graduate. 4 % of them belongs to HSC. But only 3% of the respondent belongs to SSC and PhD holders also have less interested in virtual study that is 3% only.

4.

Where do you live?	*No. of respondents*	*Percenta ge*
Rural	*62*	*62.6*
Urban	*37*	*37.4*
Total	*99*	*100*



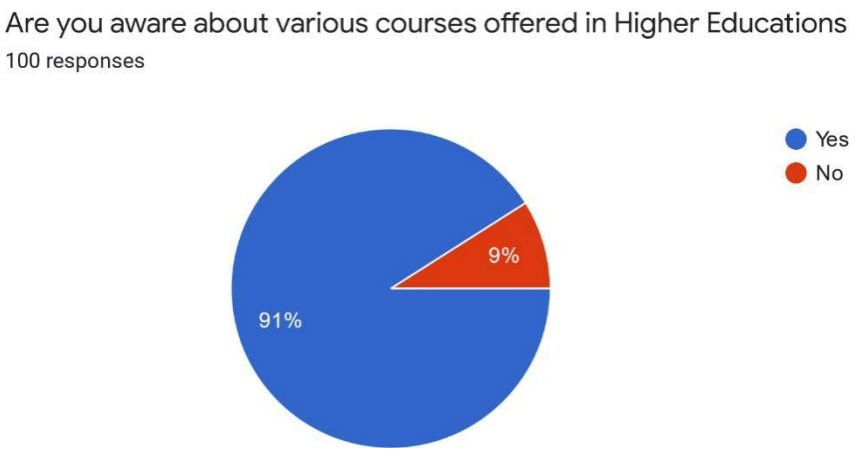
Interpretation

Out of the 100%, 62.6% respondents are from the Rural area and 37.4 % respondents are from the Urban area.

Therefore, from the above table indicates that most of respondents are from the Rural area.

5.

Are you aware about various courses offered in Higher Educations?



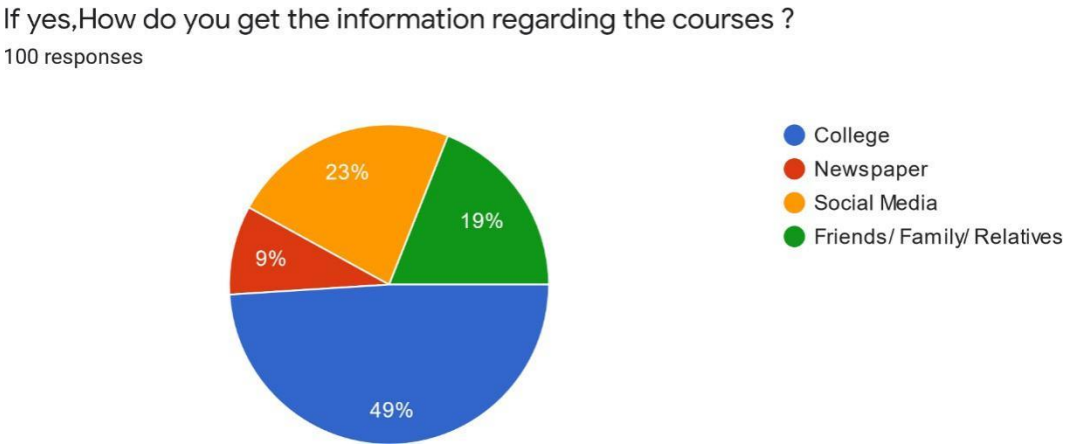
Interpretation

Out of the 100%, 91% respondents are aware of online courses and 9 % respondents are less known or even not an aware.

Therefore, from the above table indicates that most of respondents are well aware.

6.

Particulars	*Percentage*
College	*49*
Newspapers/magazines	*9*
Social Media	*23*
Friends / Relatives/ Family	*19*
Total	*100*



INTERPRETATION

The respondents were asked about their source of information regarding the courses and they were given five options to choose from and they were College, Newspapers/magazines, Advertisements, social media, Friends / Relatives/ Family. Table indicates that out of the total number of respondents, most of the respondents have their source of information is social media. i.e., respondents and

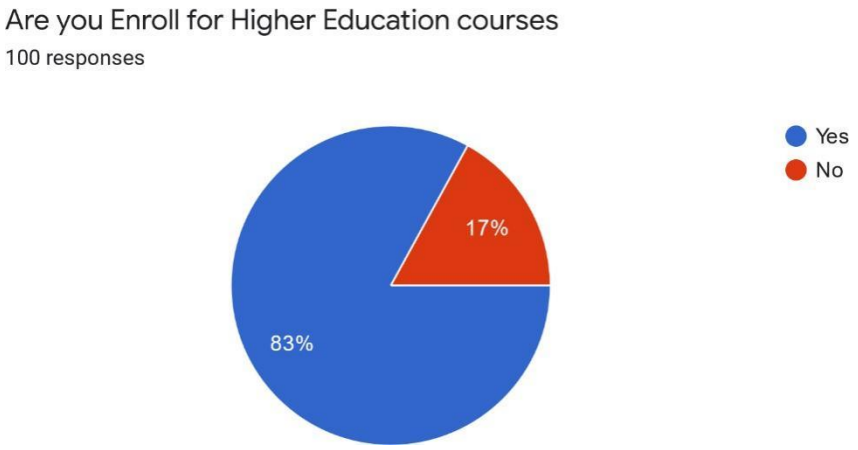
the lowest number of 9% respondents has the source of newspapers/magazines.

So, it is clear that most of the respondents are get connected to social media pages and also the Department of Technology,Talentserve had reached maximum number of students registration through social media.

7.

Particulars	*Percentage*
Interested in Enroll	*83*
Not Interested in Enroll	*17*
Total	*100*

Are you Enroll for Higher Education courses



INTERPRETATION

The respondents were asked to select How they Interested in Enroll to virtual courses .

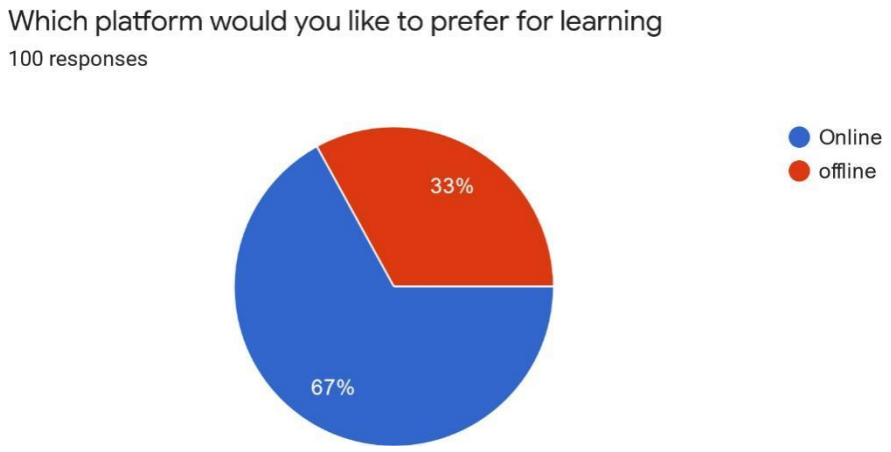
Out of the 100 respondents, 83 of them had Interested in Enroll and 17 of the respondents had filled Not Interested in Enroll

So, it is clear that, most of the respondents had filled Interested in Enroll for virtual study.

8.

Particulars	*No. of respondents*	*Percenta ge*
online	*67*	*67*
offline	*33*	*33*
Total	*100*	*100*

Which platform would you like to prefer for learning100 responses



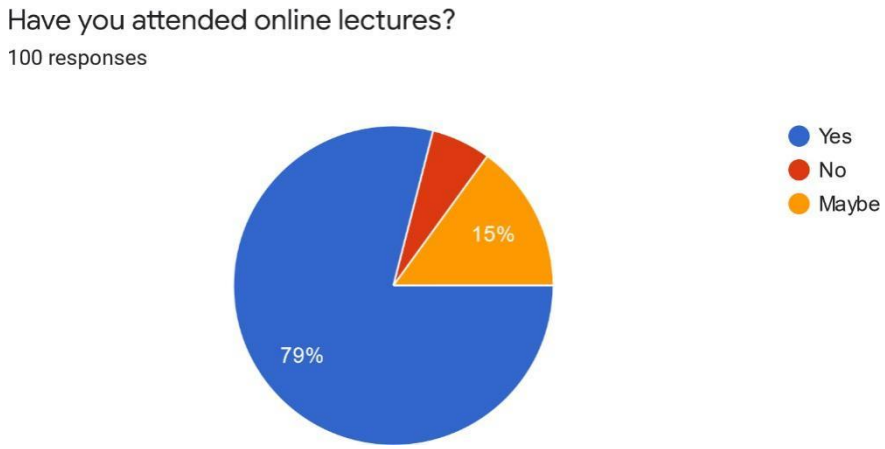
INTERPRETATION

The respondents were asked to awareness about Which platform would you like to prefer for learning. The respondents were given two options: online and offline mode.

Out of the total number of respondents, 67% of the respondents had the online mode and form filling procedure and other respondents which is 33% offline mode procedure.

9.

Particulars	*No. of respondents*	*Percenta ge*
Yes	*79*	*79*
No	*6*	*6*
maybe	*15*	*15*
Total	*100*	*100*



INTERPRETATION

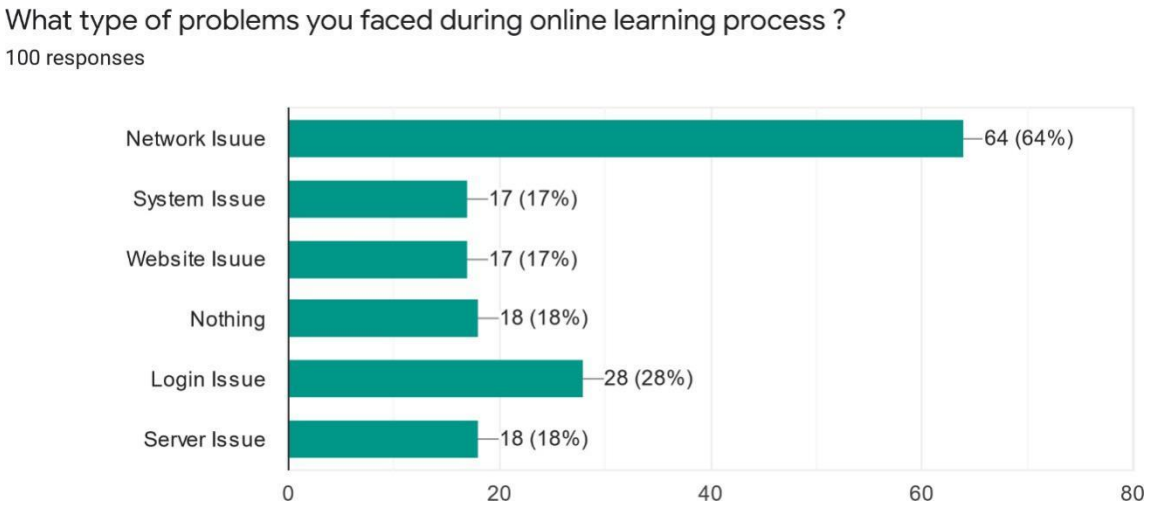
The above pie chart understands the issue faced by the students while attending online lectures.

Out of the 100 respondents79 of the respondents had attended lectures and 15 of the respondents had choose maybe option and very less of that is 6 % of not attending lectures

From the above chart it is very clear that most of the attending lectures this issue may be in the form of technical and non-technical issues.

10.

Name of the Issue:	*percentage*
Network Related	*64*
System Related	*17*
Website Related	*17*
login Related	*28*
server Related	*18*
No Issue Faced	*18*



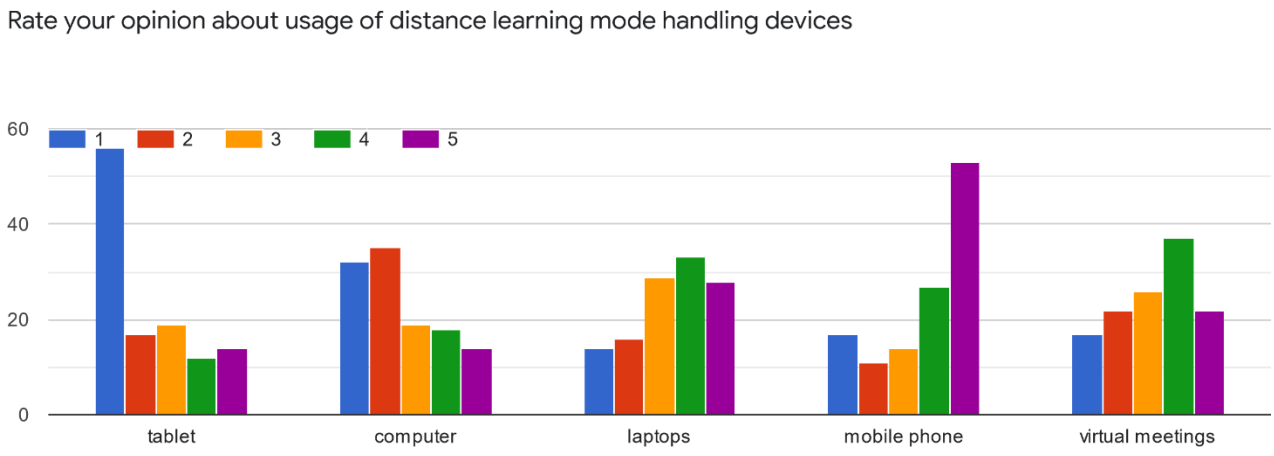
INTERPRETATION

The respondents were asked about the type of issue which they faced virtual mode of studies and they were given six options, Network Related, Website Related, System Related, server Related, login issues and No Issue Faced.

Out of the total respondents, most of the respondents had faced the network related issue followed by network and system related issues. Also, the login related issues the students faced they stared or join the sessions. It is very clear from the above chart that most of the students had faced Network related problem.

11.

Device used for internet facility	*No. of respondents*	*Per cent*
Mobile	*39*	*39*
Desktop	*12*	*12*
Laptop	*47*	*47*
Tab	*2*	*2*
Virtual platform		
Total	*100*	*100*



INTERPRETATION

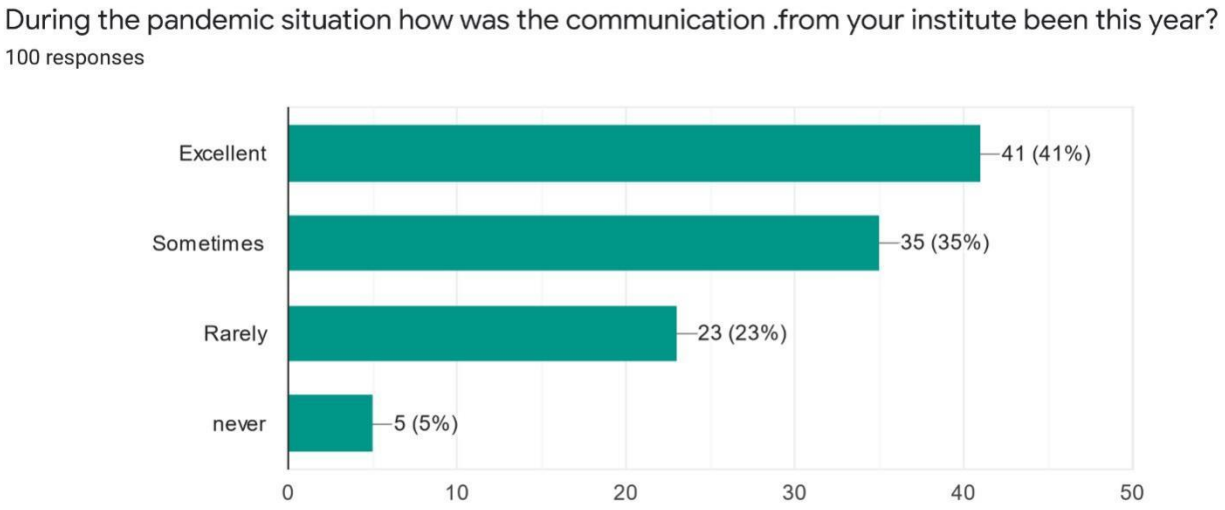
The above graph indicates that the majority of the respondent's used internet facility on laptop.

Out of 100 respondents, 47 of the respondents prefer internet service on laptop, 39 and 12 of them prefer internet service on mobile and desktop respectively. Only 2 of the respondents used internet facility on Tab.

From the above chart it is very clear that the most of the respondents prefer to used internet service on laptop. i.e., it is concluded that majority of the students have the knowledge of handling laptop followed by mobile and desktop respectively.

12.

communications connectivity availability	*No. of respondents*	*Per cent*
Excellent	*41*	*41*
Sometimes	*35*	*35*
Rarely	*23*	*23*
Never	*5*	*5*
Total	*100*	*100*



INTERPRETATION

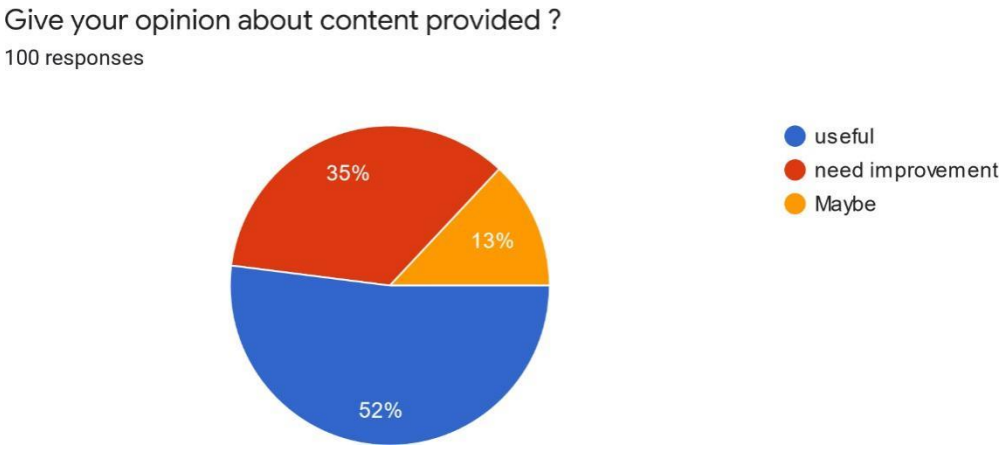
The respondents were asked about rate their communications from respective institutions connectivity available in the and they were given four rating scale.

Out of the respondents, 41 of the respondents rate their excellent connectivity is 5 which is best.

Other than35. respondents i.e., 23 respondents had rarely connected issues.5% of never communicated. So, it is cleared that, majority of the students had excellent connectivity or sometimes communicate

13.

Content provided in virtual mode	*percentage*
useful	*52*
Need improvement	*35*
May be	*13*



INTERPRETATION

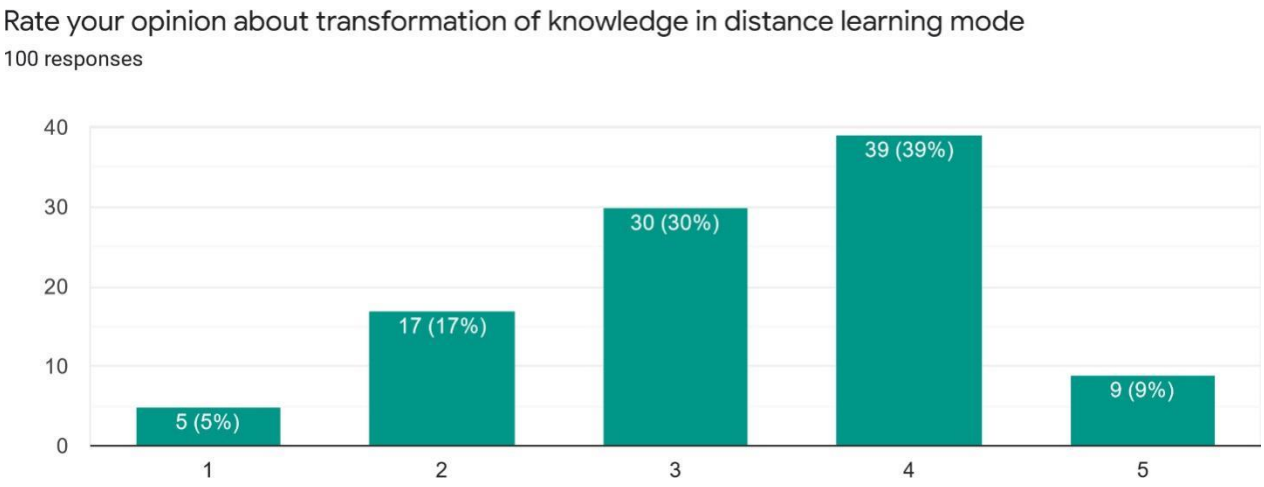
The respondents were asked to select the contain provide by institution during their courses and they were given multiple options are useful or not relevant. Out of the respondents, most of the respondents select useful option in 52 % respondent. others said that they need more improvement i.e. 35% in given data

.and remain are may be or may not.

So, it is cleared that, majority of the students are good with data or study material provided.

14.

Transformation of knowledge in low to high numbers	*counts*
1	*5*
2	*17*
3	*30*
4	*39*
5	*9*



INTERPRETATION

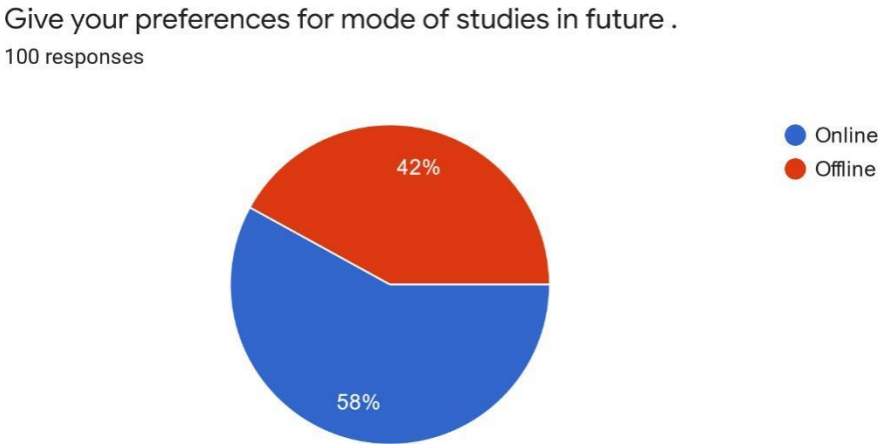
The respondents were asked to select whether they have transformation of knowledge through virtual mode and they were given two options in the form of scale 1 to 5 ratings.

Out of the 100 respondents, 39 of the respondents have satisfied knowledge of by virtual mode at no.4 rating and only 30 of the respondents satisfied with rating at no.3 .

From the above chart it is very clear that most of the respondents have not fully satisfied with transformation of a knowledge others only 9 respondents are well satisfied which is very less amount.

15.

Preferences for studies	*No. of respondents*	*Per cent*
Online	*58*	*58*
Offline	*42*	*42*
Total	*100*	*100*

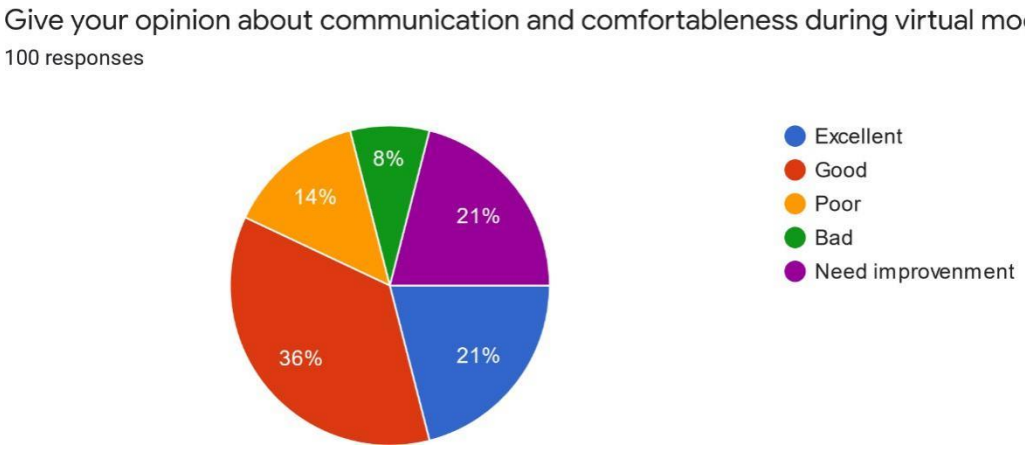


INTERPRETATION

The above graph indicates that 58 of the respondent's used preferences online for future studies. And 42% respondents prefer offline studies in future mostly included degree and post graduate students in that.

16.

Comfortableness with virtual mode	*Per cent*
Excellent	*21*
Good	*36*
Poor	*14*
Bad	*8*
Need improvements	*21*
Total	*100*

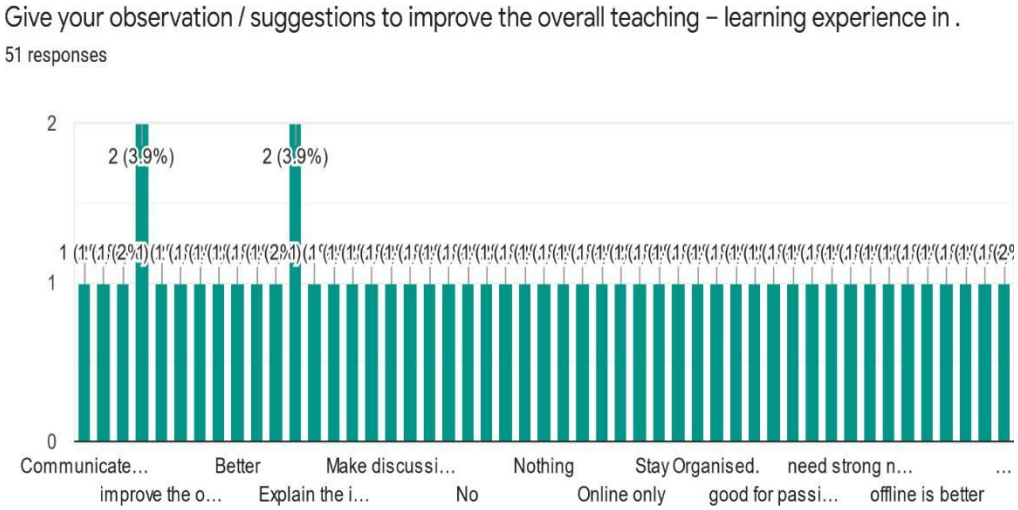


INTERPRETATION

The respondents were asked to select how your opinion about communication and comfortableness issues can be solved and they were given five options

Out of the 100 respondents,21 respondents had called excellent at their point. 36 respondents prefer to go with good to be.14 respondents solved the issues at poor quality. 8 respondents prefer to Bad experience and 21 respondent need improvement at communicate with problem solving.

17.



INTERPRETATION

The respondents were asked about rate their opinion about virtual studies and suggestions they were given five rating scale, 1, 2, 3, 4 and 5…

Out of the respondents, 64 of the respondents rate their opinion good, no need, better experience, good organized etc.

So, it is cleared that, majority of the students are happy towards virtual studies in current and future.

Chapter 5

FINDINGS

- It has been found that 80% of the LEARNERS degree holders.
- 20% are post graduate or still studying .
- All of the respondent were graduate.
- It was found that 60% is below 25 ages, 25% is under 25-35age, only 15% is under 45- 55 ages they looking for PhD.
- It has been found that most of the learners give preference for online studies in covid 19.
- The post graduates most respondent on the on-offline mode method.
- Maximum number of learners strongly agree, that there is a need of offline mode for the practices.
- All of the Respondents strongly agree that, Training and Development is adequately important for a future goals.
- All of the respondents have responded that institutions help them out for study material and transformation of knowledge.
- It has been found that there is induction training given to new students who not aware of virtual mode for studies.
- All respondent has strongly agree for capabilities of staff through training who give them proper guidance and various kind of knowledge.
- It has been found that learners are strongly agree for training and development program increase their knowledge about courses which are they chosen.
- All respondents are agree for virtual studies or courses helps them in developing their career and skill sets.
- All respondents are satisfied with the virtual studying method.
- As a Analyst, I found one thing that there is lack of training and development process given to the teaching staff.

SUGGESTIONS

- Lack of resources
- Lack of teaching staff
- System of training is not good
- A very good training and development process for students who not aware of digital platform.
- As it is start up many things to do other than recruitment, induction orientation
- Had great impact on communication skill
- Got to know finance management and excellent overall exposure of industry

System of training is not good

Lack of resources

Contribution to the organization

- Strategic training and Development affecting studies.
- Help to develop various learners to their skills with online courses availabilities.
- Help to whoever wants learn help them out, there is no limits.

Chapter 6

Conclusion

India's higher education system is the world's third largest in terms of students, next to China and the United States. India's Higher Education sector has witnessed a tremendous increase in the number of Universities/University level Institutions & Colleges since independence. The COVID-19 pandemic has severely affected the economic and educational health of India. The first decision, the Central government took in the field of education was to close schools and colleges, including higher education universities. The government and higher educational institutions quickly announced that online classes will be conducted by the institutions. Paradigm shift from traditional face to face teaching method to Online teaching poses technical difficulties that affects the efficacy of Teaching-Learning Process. The survey has been conducted with various stake holders of all higher education courses to know the efficacy of Teaching-Learning process. More than 60% of the students are not ready (due to lack of technical, infrastructural, and high-speed internet access, and power supply, limited network data per day) for the online classes. Survey indicated that the online sessions of problematic subjects are difficult, but theoretical subjects are easy to understand. Most of the students felt that Morning 8-12 time is effective for conducting the online teaching. Students felt selected portions which are covered during the emergency lockdown period via online, needs to be revised in face-to-face classes after reopening of institutions. The suggestions and recommendations are made to improve the efficacy of online teaching learning process. Further, the precautions to be taken by the universities to avoid rapid spread of COVID-19 cases are high lightened, if colleges/universities open before vaccinating the individuals (public, staff and students).

The outcome of the survey is given below:

1.A small group of 5 students would help students to have digital collaboration and engage personally in digital learning.

2.Animations are found to be the best digital approach for effective learning.

3.Online learning helps students to learn at their own pace comfortably.

4.Students prefer to learn from video lectures delivered by his/her faculty handling the subject.

5.Online quiz having multiple-choice questions (MCQ) preferred by students.

6.Student version software is useful for learning.

7.Online classes are more effective because they provide PPTs in front of every student, lectures are heard by all students at the sound level of their choice, and walking/travel to reach classes is eliminated.

8.Students do not have any disturbances or distractions which make learning more effective.

9.But for a few students, most of the students have no or limited responsibilities at home which provides a good ambiance and a nice environment for effective online learning.

10.Students can get their doubts clarified during lectures, by posting queries in discussion forums and by referring to online materials provided by the faculty.

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Annexure

The questionnaires are framed from the collective suggestion and recommendation by experts after conducting brainstorming sessions in view of online education system during the lockdown period.

Questions are framed to know the common and essential requirements that could help to understand the efficacy of current online teaching- learning in comparison with traditional in-class face-to-face teaching process. The survey has been carried out through Google forms online platform shared viz. social media (WhatsApp, Facebook, Instagram) and email.

Questionnaire

The Google form consists of the following questionnaire,

1. Which mode of the learning/teaching you prefer?
2. Your opinion on Online Teaching?
3. Which online tools you are aware of?
4. Do you feel online class creates curiosity?
5. Which type of course was more effective to understand through online?
6. Convenient time for online teaching/learning?
7. Do you feel revision of the topics require after college re-opens?
8. Do you feel that COVID - 19 lock-down affected the placement activities?
9. Do you feel lock-down affected your individual/professional growth?
10. Do you feel laboratory/practical teaching through online mode is effective?

The questions are framed with two or more specific options to select the answer for the respondent. For each question, sufficient space has been provided to suggest or recommend his individual opinion.

SCOPE FOR FURTHER RESEARCH

1. **Longitudinal Studies:** Conduct longitudinal studies to track changes in students' awareness, preferences, and engagement with online education over time. This can help in understanding the long-term impact of online education on learning outcomes.

2. **Comparative Analysis:** Compare the effectiveness of online education with traditional classroom education across different subjects and levels of study. This can provide insights into which types of courses are best suited for online delivery.

3. **Technological Advancements:** Investigate the impact of emerging technologies, such as artificial intelligence, virtual reality, and augmented reality, on the effectiveness of online education. These technologies have the potential to enhance the learning experience significantly.

4. **Instructor Training Programs:** Explore the development and implementation of comprehensive training programs for instructors to improve their proficiency in using online teaching tools and methodologies. Assess the impact of these programs on teaching effectiveness and student outcomes.

5. **Student Engagement Strategies:** Research effective strategies for increasing student engagement and motivation in online courses. This could include the use of gamification, interactive content, and personalized learning pathways.

6. **Equity and Accessibility:** Examine issues of equity and accessibility in online education. Identify barriers faced by students from diverse backgrounds and propose solutions to make online education more inclusive.

7. **Institutional Policies and Support:** Analyze the role of institutional policies and support systems in the successful implementation of online education. This includes ownership of course materials, intellectual property rights, and support for technical and pedagogical challenges.

8. **Student Feedback Mechanisms:** Investigate the effectiveness of different student feedback mechanisms in online education. Determine how feedback can be used to improve course content, teaching methods, and overall student satisfaction.

9. **Impact on Skill Development:** Study the impact of online education on the development of practical skills and competencies required in the job market. This can include internships, project-based learning, and other experiential learning opportunities.

10. **Cross-Cultural Studies:** Conduct cross-cultural studies to understand how cultural differences influence students' perceptions and acceptance of online education. This can help in designing culturally sensitive and relevant online courses.

11. **Economic Impact:** Assess the economic impact of online education on students, institutions, and the broader education market. This includes cost savings, return on investment, and the potential for online education to bridge educational gaps in underserved regions.

12. **Hybrid Learning Models:** Explore the effectiveness of hybrid learning models that combine online and face-to-face instruction. Determine the optimal balance between online and offline components to maximize learning outcomes.

13. **Psychological Impact:** Investigate the psychological impact of online education on students, including stress levels, social isolation, and mental health. Propose strategies to mitigate any negative effects.