

# A Comparative Study of IT Enabled Education in Urban and Rural Area during Covid-19

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## ABSTRACT

This study has been done to be familiar with the education system during COVID-19. Educational Institutes among all over the Chhattisgarh was closed due to pandemic. All colleges and universities have been shifted to online learning platforms to continue the academic activities. This research paper aim to understand the challenges faces by students during online classes and the comparison between urban education system and rural education especially in Chhattisgarh scenario.

**Keywords** :- IT Enabled Education, Face-to-Face Learning, Rural and Urban Education, college students.

## I. INTRODUCTION

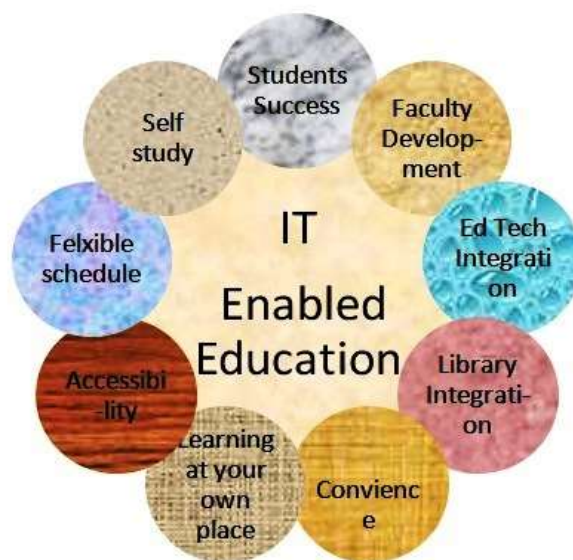
### 1.1 Education

As we understand Education here, is a process of inviting truth and possibility, of encouraging and giving time to discovery. [1] In other words an Education is the process of acquiring knowledge, proper conduct, technical proficiency, learning etc. Education includes knowledge, proper conduct and technical proficiency, teaching and learning etc. Such education is:

- If we understand the meaning of education in the right sense, education focuses on our mental and moral development as well as our skill and business development.
- Education is a successful attempt to transfer our knowledge and understanding from generation to generation in our society. [16]

### 1.2 IT Enabled Education

- **Applied IT training means:** - Providing instruction, training or software training through electronic devices. E-learning involves using a software computer or electronic device (such as a mobile phone) in any way to conduct web-based learning, teaching or research [2].
- A combination of Internet and i-learning or Internet learning.
- Use communication technologies to create, facilitate and facilitate support anytime, anywhere [2].
- Free yourself as a whole, immobilize the values learned in real time, contribute to the development of knowledge communities, and connect teachers with practitioners and researchers.
- A remarkable fact that enables responsibility, openness and the ability to enable individuals and organizations to follow the rapid changes that are shaping the online world [2].



**Figure1: - IT Enabled Education [14, 15]**

### 1.3IT Enabled Education in Urban Area

Information technology (IT) has been empowered to support teaching and learning in classrooms interaction between students and teachers became very much restricted because of limited time and space, in traditional classroom environment. Contrary to this, IT provides a platform like online discussion forum students and teachers can easily interact with one another without any limitation. In order to broaden the learning experience teachers can be benefited from IT by delivering some of the part of course content online [7].

### 1.4 IT Enabled Education

The COVID-19 virus has caused a numerical change in the level of education through online calling. Mobile digital writing online and interactive research in a global environment [17]. Majority of Indian population lives in rural areas and the direction in which our country is going, development and progress seems to be evident. However, the benefits of ICT in rural areas have not been less [6]. The population lives with fewer IT companies, especially the poor. The level of improvement in online higher education has not yet reached the expected level.

**1.5 Compare IT education in Urban and Rural Area**

In the beginning it is time to understand the

S.No	Dimensions	Urban Area	Rural Area
1	Computer Education-	Higher importance in urban area	Very few colleges give computer training in rural area
2	Level of Education	Far advanced	Basic level taught
3	Modern Infrastructure	In Urban education system equipped with modern infrastructure	In Rural education system lacks accessibility of such factor
4	Shortage of Teachers	Availability of teacher in built-up area are good	Rural communities often face higher teacher shortage[9]
5	Facilities and Resources	Students of city area have all the facilities and resources as per the requirements	Students that lives in rural area will less expose of using technology due to insufficient facilities[10]
6	Migration Level	High and generally net in-migration	Low and generally net-out-migration[11]
7	Opportunities	Students in urban area get more opportunities and have lack of knowledge about the current topics	Students in rural area get less exposure and less opportunities and they dolack of knowledge about the current topics[12]

relationship between urban and rural school systems. The new methodology and methods which are popular internationally and vice versa integrated education system is not suitable for everyone.

IT education helps in the development and progress of society through advanced learning and generates maximum possible output [18]. The rural areas are still lacking in terms of education therefore in order to open a door of opportunities for rural people IT education should be prioritized there.

**II. OBJECTIVES: -**

The main objectives of this research paper are to understand or compare the online education system of rural and urban area during covid-19 and challenges faces by the students and teachers on online mode. The objectives of this research paper are as follows:-

- To understand the concept of IT Enabled Education.
- To study the impact of covid-19 on online education system on rural and urban area.
- To understand the challenges and issues faces by student and teachers.
- To compare the online education system in urban and rural area during covid-19.
- To compare the online and offline education system.

**III. LITERATURE REVIEW**

Eye-learning is a personal training. Many organizations will use in-school to meet the needs of their students. Especially with unknown students and fixed working hours. Because e-learning is conducted on the Internet and the World Wide Web. The learning environment is getting complicated. Firstly, students will be satisfied with technology based e-learning. This will determine whether they use the program regularly.

To understand the challenges and opportunities derived from research findings in published literature to find useful benefits and impact of Covid19 on rural and urban education. See article [4].

**3.1 Online Distance Learning versus Face-to-Face Comparative Study:**

Online learning is a form of distance education which involves internet based educations where courses are offered synchronously and asynchronously. On the other hand traditional face-to-face learning includes real-time education. In a physical classroom where teacher interact with students in real time where in online format instructor can offer real time lectures through internet withdifferent apps or software or record the lectures to watch later[5].

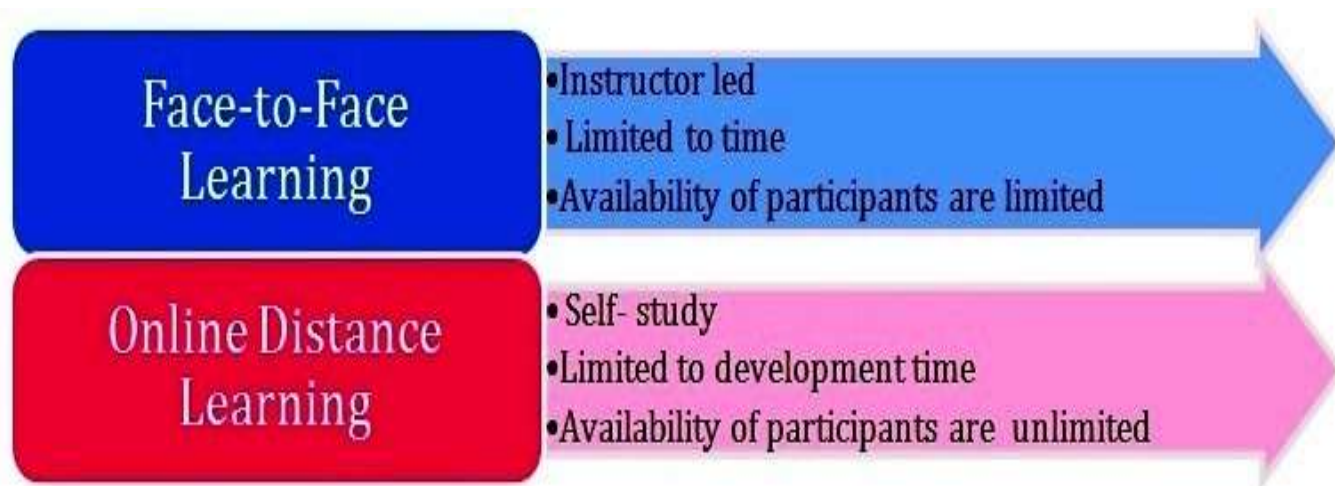


Figure 2:-Face-to-Face and Online Distance Learning Concept [13]

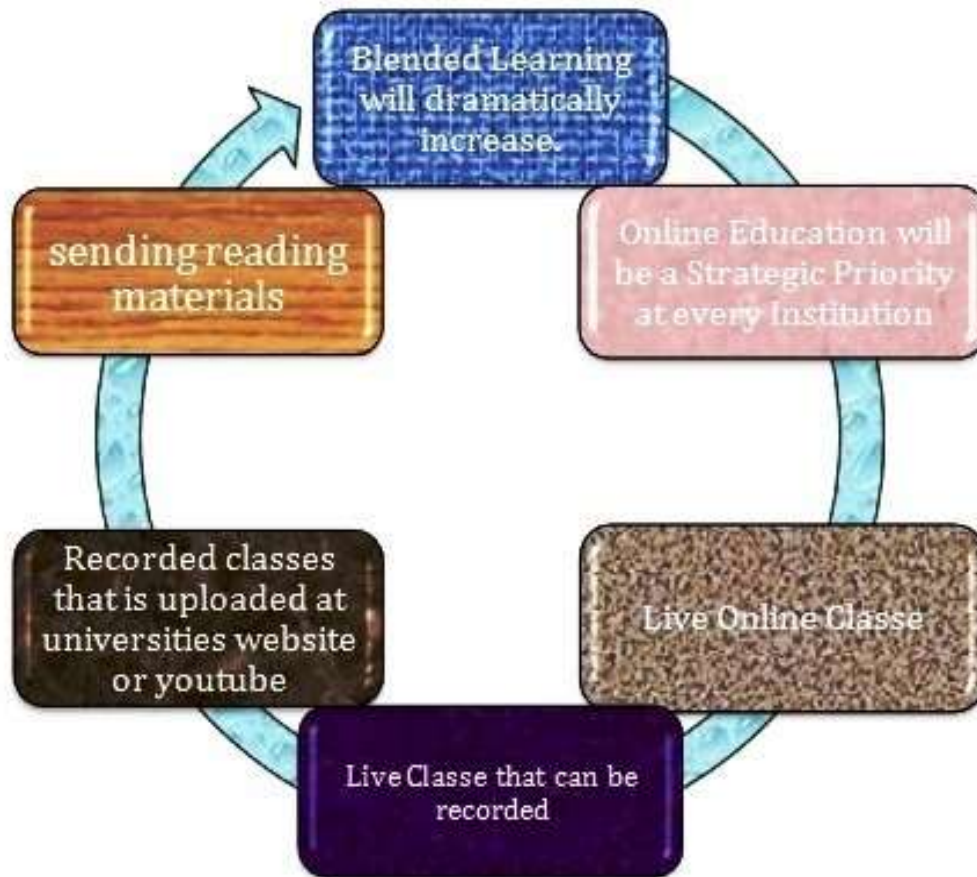
Challenges of online learning	
TECHNOLOGICAL CHALLENGES	<ul style="list-style-type: none"> <li>• Online learning is entirely dependent on technological devices and internet. With bad internet connections are liable to be denied access to e-learning. The Dependency of e-learning on technological Peripheral instruments was a big challenge for institutions, faculty and learners.</li> <li>• Teachers be deficient in of skills in by means of technology need for Training and guidelines for teachers and students.</li> </ul>
EDUCATIONAL CHALLENGES	<ul style="list-style-type: none"> <li>• Need for teaching materials in the form of interactive multimedia (images, animations, educational games) to engage and maintain students' motivation.</li> <li>• Be short of of learner response and evaluation system.</li> </ul>
COMMUNITY CHALLENGES	<ul style="list-style-type: none"> <li>• Lack of suitable home learning environment to study and parents' support.</li> </ul>

**3.2 Online education and the challenges during Covid-19 lockdown:**

During the pandemic all the states and countries were lockdown due to which the education of students were held online. To make precaution and too safe peoples from covid-19, Government decided to start lockdown and the people state at home. Students were continuing their studies from home on online process through internet by using different software like: - Google Meeting, Zoom Meeting, Skype Meeting, Cisco WebEx etc. Due to covid-19 all the exam, practical, entrance-exam was held online through computers, laptops, or smart phones. The whole education was continuing through e-learning or online[3].

**3.3 Online learning plans after covid-19 in Chhattisgarh**

39.57 lakhs online classes conducted in Chhattisgarh during COVID-19 crisis to provide non-stop education amid battling on April 7 by Chief Minister Bhupesh Baghel. With the college being shutdown Chhattisgarh's developed academic program "Padhai Tuhar Duar". According to this program education was conducted continue through online. Teachers and students were interacting with each other by using different apps or software like: - Google meeting, Zoom meeting, Cisco WebEx, Skype etc. Totally all the education system was changed.



**Figure 3: -Online learning plans after Covid-19**

### 3.4 Factors influencing the quality of teaching and learning

The studies provide the information which will improve the quality of online education use and involvement of students and teachers in the system. The intention to use online education was a challenge during the pandemic for teachers and students. Because of online education and use of digital platform during the pandemic the behavior and attitude of students towards education may lead many challenges.

## IV. METHODOLOGY

In this research, a qualitative research is conducted, based on a questionnaire method to obtain and analyse data. This method was design to help the researchers to understand the

IT Enabled education system as well as the challenges faces by the students on online learning.

The research methodology framework in this study consists of four main phases as presented. In phase one, an introduction on education, IT Enabled education; IT Enabled education on Rural and Urban area and its comparison has been conducted. In phase two the objectives of research paper has mentioned. In phase third, a literature review on IT Enabled education and the challenges faces by students was described. In fourth phase, collecting and analysing the data to determine the main challenges on online education based on primary data using Google Form and secondary data and to know the merit and demerit of e-learning. In the following sections, we will describe in details the purpose of study, the format of data collection and the data analysis technique used in this study.

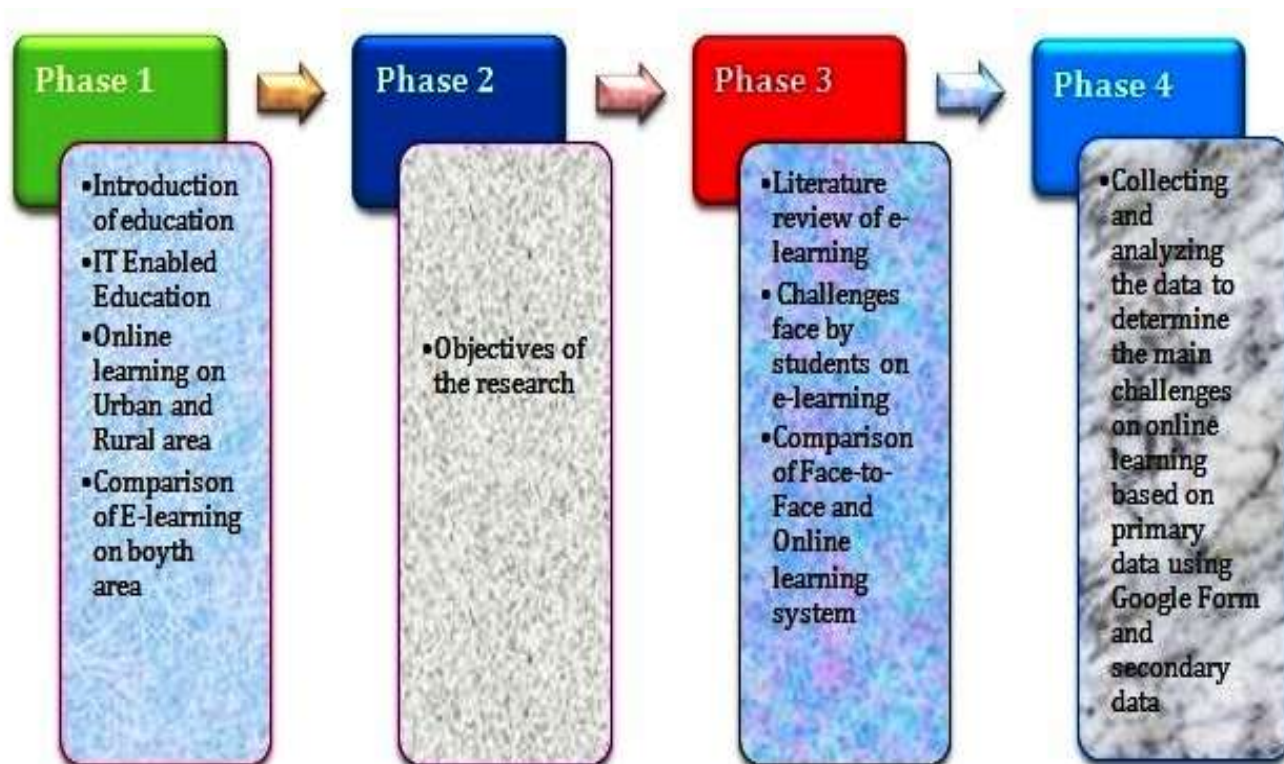


Figure 4 : - Framework of Research Methodology

**4.1 Participants:**

Undergraduate and Postgraduate students were chosen as the respondents for this study as online learning or IT enabled education is the most diverse topic that includes matter ranging from education system to challenges on it. The participants were undergraduates and postgraduate students from different universities of Chhattisgarh. It includes **99 UG** students and pursuing **108 PG** students. Among them **115** were female and **92** were male.

**4.2 Function apply to this study:**

A structured and unstructured preliminary questionnaire was designed with the help of literature survey and informal discussions with the students who are currently attending the online classes. The students were selected from different district of Chhattisgarh of U.G. and P.G. level for the responses.

**4.3 Purpose of Study:**

The aim of this study was to compare the availability, access and use of online education technology in urban and rural colleges in Chhattisgarh. Google Forms contacts are sent via Whatsapp to key contributors for feedback to analyse research. They share questions with other students. We broke the link

three days after Google sent the document. In this way students get responses from 207 students from different universities of Chhattisgarh.

**V. DATA ANALYSIS:**

Demographic data is collected. This information is then based on literature research and discussions with several researchers. For most of the queries, the data collection percentage was calculated.

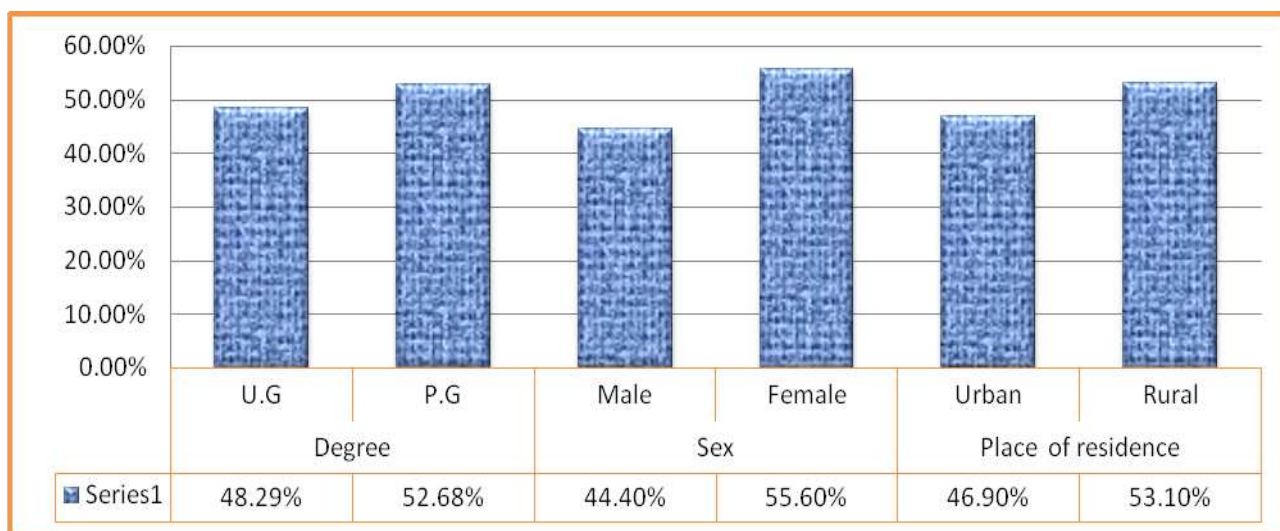
$$\text{Percentage (n \%)} = \frac{\text{No.of Respondents}}{\text{Total No.Of Respondents}} * 100$$

**5.1 Demographic details of the respondents:**

The demographic details of the respondent’s integrated age, sex, degree, and place of residence. The mean age of the respondents was 23 years. There were more female respondents 115(55.6%) then male respondents 92(44.4%). Greater part of the respondents were belonging to rural background 110(53.1%) whereas 97(46.9%) were from urban area.(see Table1)

**Table1. Demographic details of the respondents**

Statistics variables		Percentage% N=207
Degree	U.G	47.82
	P.G	52.17
Sex	Male	44.4
	Female	55.6
Place of Residence	Urban	46.9
	Rural	53.1



**5.2 Basic information and Technical Requirement for online class:-**

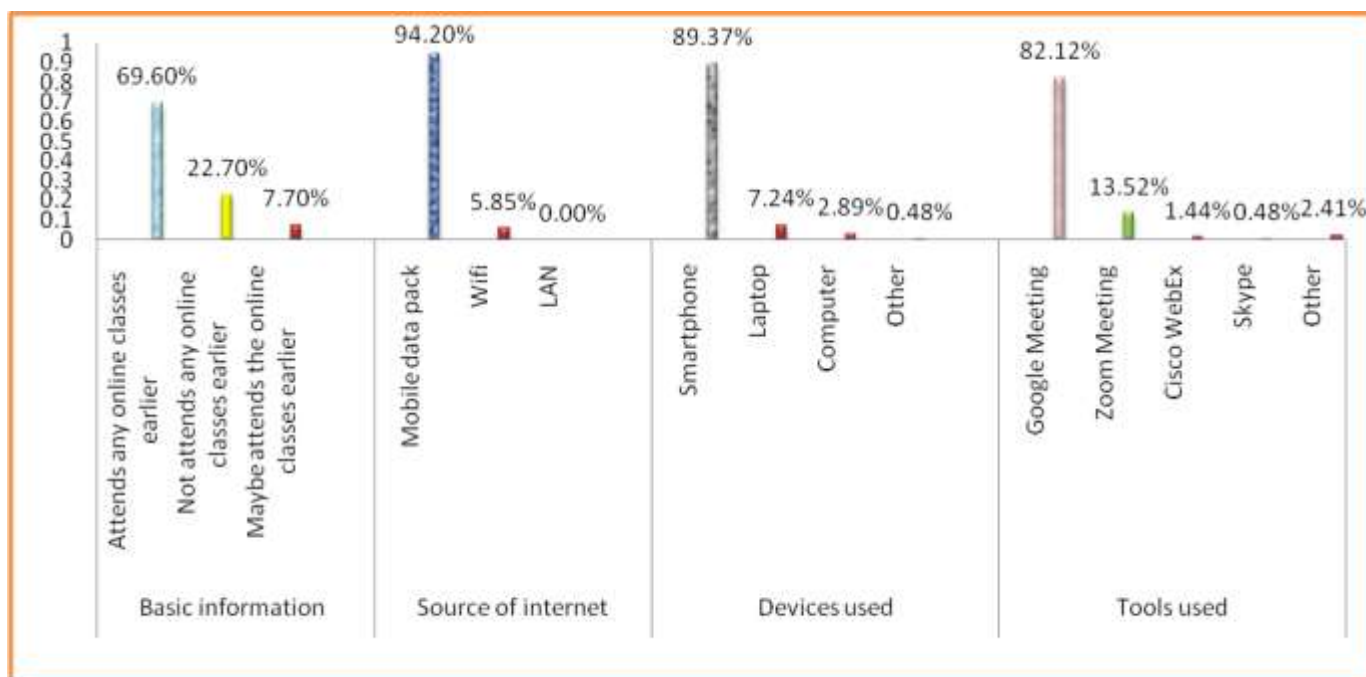
Online classes among the 207 respondents only 144(69.6%) were prior experience of online classes, 47(22.7%) were not attends any online classes earlier and 16(7.7%) respondents were maybe attends the online classes. Mobile data pack 195(94.20%) and Wi-Fi 12(5.85%) are the sources of internet. Various devices were preferred by the respondents for attending online classes were smart phone 185(89.37%), laptop 15(7.24%), computer 6(2.89%) and other device

1(0.48%). A questionnaire inquiry was raised to know the acquaintance of the participants on which tool the online teaching and learning is carried out. Majority of the participants have respondent that they are using Google Meeting 170(82.12%) after that Zoom Meeting 28(13.52%), Cisco WebEx 3(1.44%), and Skype 1(0.48%), other tools 5(2.41%) which is shown in [Table 2].

Table 2. Technical requirement for online classes

Questions	Attributes	Percentage n%
	Attends any online classes earlier	69.60%

Basic information	Not attends any online classes earlier	22.70%
	Maybe attends the online classes earlier	7.70%
Source of internet	Mobile Data pack	94.20%
	Wifi	5.85%
	LAN	0.00%
Device used	Smart phone	89.37%
	Laptop	7.24%
	Computer	2.89%
	Other	0.48%
Tools used	Google Meeting	82.12%
	Zoom Meeting	13.52%
	Cisco WebEx	1.44%
	Skype	0.48%
	Other	2.41%



### 5.3 Structure of online classes:-

Majority of the respondents preferred the live classes 147(71.01%) for learning and teaching, 32(15.45%) respondents chosen the live classes that can be recorded. Regarding the reading materials majority of the respondents select 15(7.24%) recorded classes that can be uploaded at universities site or YouTube. More students chose 13(6.28%) sending reading materials by the instructor. On the

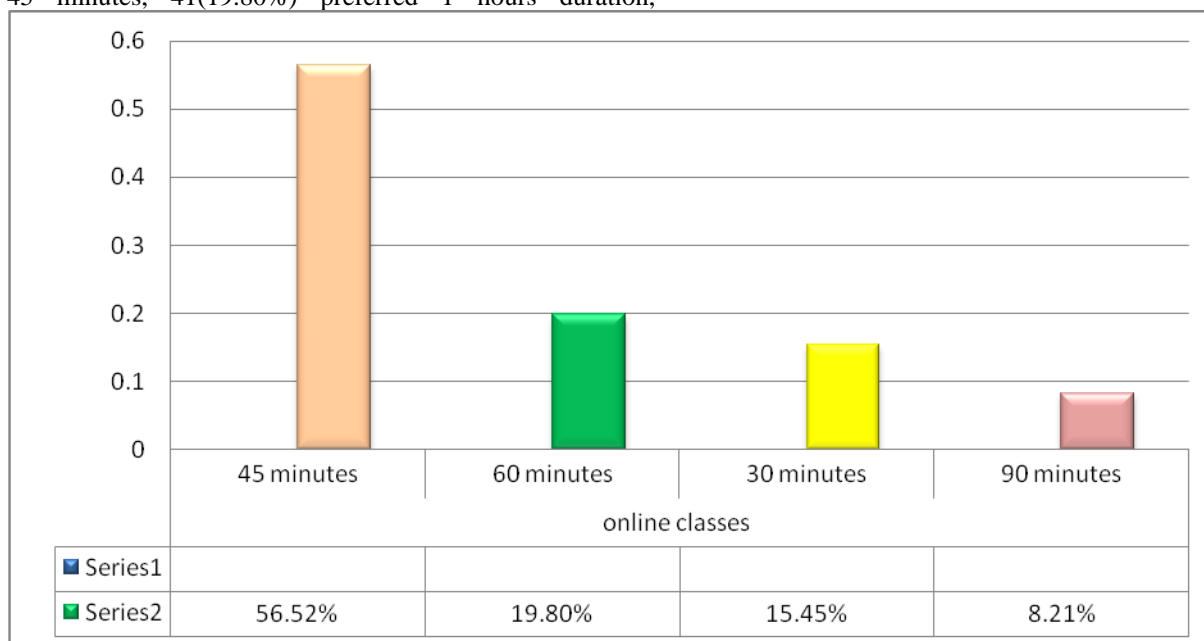
comparison between face-to-face and online distance learning more than half of the students wants to study offline 160(77.29%) smaller part of students selects the online

Learning 8(3.86%) and some respondents suggest for both 39(18.8%). Some view or suggestions of respondents about online learning are only few students like the online learning 58(28.01%), more people don't like online mode of learning 101(48.79%) and some preferred both 48(23.18%).

**5.4 Duration of online classes:-**

Among 117(56.52%) of the learner wants online classes for 45 minutes, 41(19.80%) preferred 1 hours duration,

32(15.45%) respondents suggest 30min. of classes and other 17(8.21%)students wants more hours of classes (see graph 3).



**VI. RESULTS /DISCUSSION**

The main aim of this research was to understand the challenges faces by the student of urban and rural area on online learning and its effect on their physical life. It presents the results that are derived after analysing the collected data from students with usability evaluation methods.

**6.1QuestionnaireResults:**

After research the questionnaire distributed too many college students of U.G and P.G level to understand the merit and demerit of IT Enabled education in rural and urban population. The questionnaire was design according to the research work. It sends to the students by Whatsapp or e-mail. The responses were received. Students have different thinking and thought regarding to online education system but mostly they have the relative comments.

**6.2Discussion:-**

The main objective of this research is to find out the interest and understanding of the students of online classes. Due to the COVID-19 attack, online case studies require multiple lessons, but 30% recommend taking block chain courses or providing textbooks until they are blocked.

In such a situation, information about online classes is needed.

There is a question that was asked to all user groups –student, researcher, teacher and staff that conceptual understanding is enhanced by traditional teaching techniques or e-learning based teaching techniques. As the graph indicates, from the

four groups: in case of students 60% conceptual understanding is developed by e-learning techniques whereas only 30% of conceptual understanding is urbanized using traditional teaching techniques. In the same way other groups also offered more points to conceptual understanding through e-learning techniques as compared to traditional techniques.

**VII. CONCLUSION AND RECOMMENDATION**

In organizations, people (employees , learners and teachers) apply terms and analyse the results of the study of problems and difficulties. Overall, this study demonstrates the careful use of IT assessment approaches to explore usability issues and requirements for educational learning environments. Get results and statistics using the Usage Analytics Questions Quiz. Research needs and questions.

**7.1 Conclusion:**

The improvement of a few countries depends on the learning of schools or colleges of its people. An analysis of this research shows that a large group of students showed a positive attitude towards early online learning at Taj. Internet teachers find it useful as it makes students flexible and easy. Excellent students organize subjects and record videos uploaded to college and university websites. In addition to meeting the needs of these nerves, other training such as interaction, pictures and feedback should also be included. E-learning can combine different elements to make learning more fun and creative. Learning or having fun with new activities or new programs is more fun and therefore more satisfying. Of course, not all types of training can be



converted into e-training, but many can achieve the best results.

**7.2 Recommendation:**

The questions in this report examine the needs of students and the needs to achieve their goals. It is recommended that students have a high level of communication with teachers and others at the regulated gate. Compilation and distribution of documents, blogs, message boards and chats, meeting state of the art communication needs to improve student retention, support students in need, and convert personal support into individuals and mentors assigned to anonymous education Have all the necessary tools to do this. . University campus doors should make more use of the integrated nature of the site by combining useful and relevant learning materials and educational resources available online, where students can expand their learning experience. All high schools are already aware of the importance of technology and they should take serious steps to implement technology based education through standard education. Teachers are recommended to use technology in all aspects. This pandemic reflects the partnership between technology and education that will last forever. Another idea is that the institute's schools may split classrooms into traditional and formal education, helping to implement technology in the classrooms. Integrated education will increase the literacy of teachers and students, improve their well-being and learning, and make them more employable as leaders of the digital world, thus contributing to a sustainable society.

**Solution for online teaching challenges**

S.no	Challenges	Solution
1.	Trustworthy Internet right of entry	Restricting internet access can be frustrating. Especially if you are stuck in multiple classes and have to do a lot of homework at once when internet access is insufficient or inconvenient. Try to find nearby places. Be it a school or a local library where you can connect with online classes and educational institutions
2.	Not Enough Computers	Devices like laptops, tablets or laptops used for online education are not cheap for everyone. All teachers and students must have the appropriate tools for their effective methods.
3.	Technical Issues	All you need to do is find a fast internet connection in your home. And find out where to find professional support for your relationships with others. problems with the program good learning tools
		Time management is the key to online

4.	Study time administration	learning. It takes time and effort to achieve the best learning outcomes. You must be aware of the facts that may affect your timing during the training process such as:- Avoid distraction. creative things to do View List Get Help & Avoid Multitasking
5.	Communication issues	It is necessary to realize the importance of communication for better learning. Online learning enhances your learning. It is the basis of communication and interaction with others. That way you can learn from them. and develop their knowledge and skills
6.	Virtual Engagement	For questions on the way or by phone, you can contact your personal supervisor. Perhaps your teacher can obviously help you. and can help you with things that are easy to read and easy to understand
7.	Learning Management Systems	You should have an understanding of strength training systems and web technologies that can assist you in your training. Consider the training and seminars involved in teacher training and make good use of them. Use methods for effective learning management and modeling.
8.	Teaching Methods	The most important thing is accessibility. Discover a variety of tools that are practical in the classroom. Simple and easy to learn and easy to configure. You can develop various teaching methods that can enhance learning, such as activities, demonstrations, debates, part-time activities. Regular descriptors of group discussions during the holidays
9.	Course Content	You need to understand the material and how it works with your online course. Remember to change the schedule of events and activities to better understand the problem.
10.	Feedback	It is essential to understand the importance of providing feedback to the students for their growth and development. Make sure you give specific instructions to all students so that they can improve their learning

	abilities.
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