

Impacto del E-learning en el Sector de la Educación Superior durante la pandemia del COVID-19 a través de herramientas de la Pedagogía: Un Estudio observacional

Impacte de l'E-learning en el Sector de l'Educació Superior durant la pandèmia del COVID-19 a través d'eines de la Pedagogia: Un Estudi observacional

Impact of E-learning on the Higher Education Sector during the COVID-19 pandemic through Pedagogy tools: An observational Study

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Resumen: El modo físico y la educación superior en todo el mundo se recuperan durante la pandemia de covid-19. Todas las actividades educativas se convirtieron al modo en línea, donde especialmente los sectores de educación superior no estaban preparados y, simultáneamente, nuevas técnicas pedagógicas se incorporaron a la posibilidad de impartir clases en línea. El propósito de este estudio fue el desarrollo de nuevas herramientas pedagógicas y su implementación en los sectores de educación superior. La pandemia de covid-19 nos enseñó cómo usar la nueva tecnología y el avance en la educación superior y lo que puede ser mejor para esta sociedad. Para cumplir con este objetivo, realizamos una encuesta en la que preguntamos sobre el impacto de las nuevas herramientas pedagógicas en los sectores de educación superior y sus opiniones sobre diferentes aspectos de la educación en línea durante los períodos de pandemia. El cuestionario se preparó y distribuyó en los sectores de educación superior y analizó los puntos de vista de los encuestados y sus opiniones sobre las herramientas pedagógicas y los datos. Los siguientes datos fueron analizados utilizando el software SPSS 2.0 para el estudio. Los encuestados procedían de los siguientes datos en varias regiones del norte de la India. Se distribuyeron un total de 350 cuestionarios; de los cuales se recibieron 320. Se utilizó la Escala Likert de 5 puntos, donde 01 representaba "totalmente en desacuerdo" y una puntuación de 5 representaba "Totalmente de acuerdo".

Palabras clave: experiencia de e-learning, internet, herramientas pedagógicas, aplicaciones, educación superior

Resum: La manera física i l'educació superior a tot el món es recuperen durant la pandèmia de COVID-19. Totes les activitats educatives es van convertir a la manera en línia, on especialment els sectors d'educació superior no estaven preparats i, simultàniament, noves tècniques pedagògiques es van incorporar a la possibilitat d'impartir classes en línia. El propòsit d'aquest estudi va ser el desenvolupament de noves eines pedagògiques i la seva implementació en els sectors d'educació superior. La pandèmia de COVID-19 ens va ensenyar com usar la nova tecnologia i l'avanç en l'educació superior i el que pot ser millor per a aquesta societat. Per a complir amb aquest objectiu, realitzem una enquesta en la qual preguntem sobre l'impacte de les noves eines pedagògiques en els sectors d'educació superior i les seves opinions sobre diferents aspectes de l'educació en línia durant els períodes de

pandèmia. El qüestionari es va preparar i va distribuir en els sectors d'educació superior i va analitzar els punts de vista dels enquestats i les seves opinions sobre les eines pedagògiques i les dades. Les següents dades van ser analitzats utilitzant el programari SPSS 2.0 per a l'estudi. Els enquestats procedien de les següents dades en diverses regions del nord de l'Índia. Es van distribuir un total de 350 qüestionaris; dels quals es van rebre 320. Es va utilitzar l'Escala Likert de 5 punts, on 01 representava "totalment en desacord" i una puntuació de 5 representava "Totalment d'acord".

Paraules clau: experiència d'e-learning, internet, eines pedagògiques, aplicacions, educació superior

Abstract: The physical mode & higher education across the world come to health during the covid-19 pandemic. All education activities converted into online mode, where especially the higher education sectors were not ready and simultaneously new pedagogy techniques were brought into the possibility to conduct online classes. The purpose of this study was to the development of new pedagogy tools and their implementation in the higher education sectors. The covid-19 pandemic taught us how to use new technology and advancement in higher education and what can be best for this society. To fulfil this aim we conducted a survey in which we asked about the impact of new pedagogy tools in the higher education sectors and their opinions on different aspects of online education during the pandemic periods. The questionnaire was prepared and distributed in higher education sectors and looked into the views of the respondent and their opinions on the pedagogy tools and the data. The following data were analyzed using the SPSS software 2.0 for the study. Respondents were from the following data was various regions of Northern India. A total of 350 questionnaires were distributed; of which 320 were received. The 5 points Likert Scale was used, where 01 represented "strongly disagree" and a score of 5 represented "Strongly agree".

Keywords: e-learning experience, internet, pedagogy tools, applications, higher education

1. Introduction

In the Covid-19 Pandemic period between 2020 and 2021 the “Emergence of online education in the higher education Sector” will not forget in the coming year. Though all users that ready

to adopt the online platform system, this period taught us a lot of positive and negative from offline to online and learn into many conscious which would be beneficial for our day-to-day life. As schools, colleges, institutions, universities and higher education were closed pandemic higher education took initiative less bringing the E-Learning concept for continuing education to students. While adopting this model in the higher education sectors different pedagogy tools were applied for better learning and teaching.

The beginning brought lots of proposals, and challenges being faced by students, but in the end, bring in the smoothness in the operations was observed and become an effective tool in every student's life. There was no one uniform tool for all but various training make it possible for students and teachers. Various technical subjects' were pre-requisite different tools. Blackboard was replaced with an online screen, chalk and talk transformed to click and learn, e-books replaced with hard covers, Google classroom replaces projects files, table screens replaced with whiteboard and class periods replace with online classes and no more personal touch among the students. The use of various pedagogy tools for online education depends on expertise and exposure. The major role played by the Information Technology and using the different platforms such as Microsoft, Google Meet, Zoom, Canvas, Google Classroom, Code-Tantra, WebEx, Cisco, Hangout and Skype. Through these platforms students executed live chats with the teacher, shared PowerPoint presentations, PDF and Word documents etc. Other tools used by a teacher like Quizzes.com and Google Form for conducting online quizzes in the classes well also brought in practices.

1.1 Impact of E-Learning on the Students

As the Higher education sectors were shut for an indefinite period and it was difficult to cover lest, over syllabi, the impact of digitalization in the higher education sector created a new image. The Union Government decided to make a transition to an online teaching environment to

impose National Wide Lockdown for 21 days from 25th March 2020 which was extended for another 19 days and increased for 02 years (Adnan and Anwar, 2020).

Every organization focused on online teaching and the concept of e-learning was introduced by using various pedagogy tools to make teaching more interactive (Alismail et al., 2015). The use of online teaching platforms WhatsApp, WeChat, and Virtual learning was explored and tried in teaching for the first time. Teachers and students tried new tools of teaching. Online teaching was great exposure for the teacher and students as compared to classroom teaching. E-Learning is a mode of learning used for distance learning in British and American universities since mid of 1960. E-Learning is a digital transformation of the education system and content into a digital one. The entire publishing house created an e-library and gave access to all the students to get the access on the digital library for a better student learning experience. E-Learning gave flexibility to the students with different experiences among the students and learning at its best in a different environment. E-learning also helped to bring it positively in individual life and motivates to achieve short and long-term goals in life (Almarab, 2014). Technology-Based System and Learning Management System (LMS) improved IT skills. It also encouraged educators to adapt their teaching style and make it more creative in the classroom. Creative and innovative skills brought changes in the higher education sectors by using different virtual channels. Through the help of social media students' performance was increased and promoted motivation to learn new things through two-way discussion, problem-solving, innovations and knowledge (Andrews et al., 2019). E-learning supports the education sector and is most convenient in the higher education sector. Modern Learning Techniques (MLT) also supports the learning style and makes the learning environment modern (Goian, 2010).

1.1.1 Positive Effect of Pedagogy tool in Education Sectors

The great challenge faced by educators and students was using advanced pedagogy tools to conduct lectures and make connections with the students and handle a situation in a normal way. Students' assignments were received through online mode tool ware used to check plagiarism to bring accuracy to the evaluation system. Approaches were also received from students for conducting the online examination, where some of the higher education institutions create their interface and someone used a third-party interface to make this simple way (Caladine, 2008). Not only the internal assignment, mid-term test and end-term Examination was paused/delayed also government and public examinations were also postponed during the same period. The use of different pedagogy tools for School and higher education students created social awareness on social media (Cash, 2014). Pre-recorded video lectures were shared with the students who miss their classes.

2. Review of Related Literature

As per the study conducted by (Chang et al., 2017) in technology, e-learning is an effective tool, which gives them direct access to all relevant information and knowledge themselves. Every academician has a responsibility to guide their students and prove their knowledge of the relevant field. Over the past 20 years, online teaching becomes the most effect on learning quality, increasing the interest of the students and more engagement and motivation (Dhawan, 2020). By using the multimedia effect in online teaching students learn better from the textbooks (Ellaway & Master, 2008). Animated small movies and clips used in the teaching also help to create more interest in the student with effective learning for the students (Fischer et al., 2014). The students improve their problem-solving ability by using a different mode of pedagogy tool in the education sector along with interpersonal skills (González, 2010). The new survey was conducted by (Hollweck & Doucet, 2020) using an effective tool in teaching that

can help to interact with students in an effective way and make the classroom environment positive way. The study was conducted in the Australian vocational education and training sector, research focused on online learning and three factors were identified student preferences, student confidence and capability to engage (Hrastinski & Aghae 2012). During the pandemic period, the use of YouTube was found one of the most effective tools for a better understanding of the concept of teaching (Muller, 2006). The modern training tools consider as YouTube has many merits which have a good reputation and it is the most eco-friendly user and filters the content shared on social media (Keleher et al., 2006). The new tool used in the education sector; video conferencing products include Real-Time Communication (RTC) technologies, as it was used for the last fifteen years (Lave, 1991). The use of social media refers to the most used tool in the online teaching networking tools that have become main stream in the past five years, which includes blogs, photo sharing, videos, Face book and Youtube. Social media support pedagogy practices and make our learning smooth (Mayer, 2019). The impact of eLearning initiatives will have direct effects on the future structure of universities on both strategic and tactical levels (Meyer et al., 2010). Teaching via eLearning may also focus on enrichment in educational society and reality in e-learning techniques (Popovici & Mironov, 2015). There is a close relationship identified by the researcher between higher education teaching practices and learning through the help of technologies tools (Shabha, 2000). During this pandemic students' habits bring some minor changes in perception towards the teaching from the previous experience, but the changes brought by the e-learning create a positive impact on the education sectors (Allo, 2020). Through the use of e-learning can also improve synchronous and asynchronous tools such as e-mail, forums, chats, and video conferences (Sintema, 2020). Students were also facing different problems and challenges related to internet connectivity, lack of devices, rural areas and lack of communication skills will not able to interact with the teacher.

During the pandemic periods, the higher education system brings so many new changes which will fulfil the desire of the students and teachers, thus Information technologies become an essential tool for all universities and institutions in the online system (Teare, 2000). On the other hand, a lot of innovation brings in the field of technologies which will be helpful for students and teachers' learning (Topps et al., 2013). Now a day's traditional education is more use of E-content development and student-centre (Venkata et al., 2020). The use of e-learning is one of the Technology Acceptance Model (TAM) which is helpful for students in an e-learning ineffective way (Warner et al., 1998). Online teaching during the Covid-19 period shows a positive attitude toward e-learning which will be helpful for the students during the crisis of pandemics. Some of the institutions and universities used additional methods during the period of Covid-19 and make the online experience memorable, thus they deliver their lecture more effectively with teacher-student interaction and simple way of communication skills.

3. Materials and Method

3.1 Objectives and Research Questions

Various studies were conducted by different authors to make teaching effective and more interesting by using different pedagogy tools in higher education sectors during the pandemic period. This study will highlight the pedagogy tools used in higher education and challenges faced by student during pandemic time when students and teachers were very unfamiliar with online teaching platforms and their force on everybody's life, but in a short period new tools of pedagogy were introduced and one more time teaching will become one on track in the higher education sectors. Therefore, we conducted the survey in the higher education sectors, and study the perception of the students toward the new pedagogy tools of online teaching and their attitude toward teaching, the questionnaire was distributed in different universities, coaching

centres, professional colleges, and Technical Education and other education sectors. We prepared the questionnaire with 20 statements related to various tools used in the higher education sectors.

In this study, the following research questions were addressed:

1. What are the impacts of using the new pedagogy tools used in the higher education sectors?
2. How new pedagogy tools make teaching more interesting among the students through online teaching.
3. What are the various challenges faced by the students during e-learning in the pandemic period?

Researcher used a quantitative research approach with probability sampling. Simple random sample to make sure the probability of generalizing to the study population to fulfil our study goals by conducting a survey of 400 students from reputed Universities, Coaching centres, Professional colleges, Technical education and other education sectors in Northern India. Based on the literature study and the data-gathering research questions, a closed-ended structured questionnaire was created. Data was collected through sharing the link in the email ID and through other social media in Google Form, during the first and second year's students 2020-2021 who are doing the higher degree from respected institutions. A 83% response rate was achieved with just 332 surveys being correctly filled out. According to (A Bryman, 2011), attaining a good response rate while surveying a population of small businesses may be challenging. Therefore, 50% response rate is sufficient for analysis.

Table 1 Questionnaire

Indicator	Statement
Online Teaching Experience	
TE1	Did you attend the online classes earlier before the pandemic?
TE2	Did you enjoy the online classes during the pandemic period?
TE3	Did you like the pedagogy tools used by the teacher?
TE4	Faculty members solve all the queries of the students through online mode.
TE5	Do you have the awareness about the how-to attend online classes
Impact of Pedagogy Tools in Online Classes Teaching	
PT 1	How was the learning experience using various technical tools
PT 2	Adequate study material is shared through the online platform
PT 3	Effective pedagogy resolve the problem of the students
PT 4	Teacher- students interaction take place better way through online classes than in physical classroom teaching
PT 5	New pedagogy tools used by the teacher will make it easier for me to communicate with my teacher.
Used Pedagogy Tools for Learning and Content Sharing	
CS 1	Which platform is used for online classes
CS 2	Which one of the platforms used for content sharing
CS 3	On which platform are students' inquiries handled by the teacher
CS 4	Which one of the tools was found more effective in online teaching
CS 5	Which tool is used by you uploading your assignment
Challenged Faced by the Students During e-learning in Pandemic Period	
CF 1	Feeling of Anxiety
CF 2	Device failure to connect to attend online classes
CF 3	Internet connectivity issues faced by the students
CF 4	The low income of your family would affect your education
CF 5	Poor Internet infrastructure and limited data speed in the rural and urban areas become a barrier.

4. Results and Discussion

The majority of respondents were male and female, up to the age limit of over 25 years from Urban and Rural areas and the education qualification Higher Education, Bachelor's Degree, Professional Degree and others. However, 240 (72.3%) of the students were male and 92 (27.7%) female, out of which were 188 (56.6%) belongs to Rural areas and 144 (43.4%) were from urban areas and their education qualifications Higher Education 232 (69.9%), Bachelor's

Degree 57 (17.2%), Professional Degree 18 (5.4%) and other categories 25 (7.5) see table number 2.

Table 2 Demographic profile of respondents

Variables	Category	Count	Percentage
Gender	Male	240	72.3
	Female	92	27.7
Residential Status	Rural	188	56.6
	Urban	144	43.4
Degree	Higher Education	232	69.9
	Bachelor's Degree	57	69.9
	Professional Degree	18	17.2
	Other	25	5.4
Age	18-22	280	84.3
	23-25	38	11.4
	Over 25	14	4.2

Table 3 Questionnaire

Indicator	Statement
Online Teaching Experience	
TE1	Did you attend the online classes earlier before the pandemic?
TE2	Did you enjoy the online classes during the pandemic period?
TE3	Did you like the pedagogy tools used by the teacher?
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CS 5	Which tool is used by you uploading your assignment

Challenged Faced by the Students During e-learning in Pandemic Period	
CF 1	Feeling of Anxiety
CF 2	Device failure to connect to attend online classes
CF 3	Internet connectivity issues faced by the students
CF 4	The low income of your family would affect your education
CF 5	Poor Internet infrastructure and limited data speed in the rural and urban areas become a barrier.

Table 4 Attend the online classes earlier before the Pandemic

Did you attend the online classes before the Pandemic?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Yes	82	24.7	24.7	24.7
	No	250	75.3	75.3	100.0
	Total	332	100.0	100.0	

Among the respondents 332 out of which 250 did not attend the classes in their life in online mode, it has a different experience for the respondents where only 82 respondents attend online classes during the pandemic and they face a lot of issues in the begging, the majority of respondents were having the new experience for attending the online classes and later on it work beneficial for the respondents in the higher education's point of view.

Table 5 Which Platform is used for Online Classes?

Which Platform did you use for Online Classes?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	University LMS	40	12.0	12.0	12.0
	Code Tantra	284	85.5	85.5	97.6
	Google Meet	2	.6	.6	98.2
	Other	6	1.8	1.8	100.0
	Total	332	100.0	100.0	

The study had a question regarding that which platform was used for conducting the online classes in table 5. The result showed that the most significant application used by the students were Code Tantra software 284 (85.5%), University LMS applications were liked by the 40

(12%) students, where Google Meet and other were not liked by the students during the pandemic period.

Table 6 Online Teaching Experienced among the respondents

Did you enjoy the online classes?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Yes	208	62.7	62.7	62.7
	No	124	37.3	37.3	100.0
Total		332	100.0	100.0	

The percentage and frequency were calculated for this statement and it showed that the maximum number of students enjoyed the online classes and it also found more interesting and two-way communication, by using these different applications students will get the excess for online pooling, sharing their live screen and do a live chat with the faculty members. The study proved that 208 students (62.7%) mostly enjoyed all the classes which were conducted through online mode by using of more eco-friendly application Code Tantra and on the other hand 124 students (37.3%) faced little more problems and experienced found no satisfaction due to poor internet issues, technology and some time device not supported.

Table7 Which platform was used for Content Sharing among the respondents?

Which platforms are used for Content Sharing?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	University LMS	129	38.9	38.9	39.1
	Code Tantra	129	38.9	38.9	78.2
	Google Meet	6	1.8	1.8	80.0
	You Tube	23	6.9	6.9	87.0
	Other	45	13.5	13.5	100.0
Total		332	100.0	100.0	

The majority of students preferred content sharing, assignments and other materials on both the application ie LMS and Code Tantra 258 (77.8%) at the end of class for effective learning experiences and other applications were used very less percentage, the data also proved that

maximum students preferred code Tantra application for their final examination during this pandemic period.

Table 8 which platform students' Inquiry handled

In which platform was used to resolve students' grievances?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	University LMS	124	37.3	37.6	37.6
	Code Tantra	157	47.3	47.6	85.2
	Google Meet	6	1.8	1.8	86.4
	Other	45	13.6	13.6	100.0
Total		332	100.0	100.0	

During the lockdown period, all higher education sectors used different applications with the students for handling the inquiry of students and the study proved that some of the application feedback was found very strong and students did not face any challenges when students put their enquiry related to the assignment, examination, time table, general inquiry and their results etc. Table number 8 showed that 124 students (37.3%) used the application University LMS software, Code Tantra application was used by the 157students (47.3%), Google Meet and other applications were also used by the students but the quickest response and eco-friendly applications were found University LMS software and Code Tantra.

Table 9 which tools were found more effective in online teaching

Which tools do you find the most effective in online teaching?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	University LMS	53	16.0	16.0	16.0
	Code Tantra	246	74.1	74.1	90.6
	Google Meet	7	2.1	2.1	92.7
	You Tube	14	4.2	4.2	97.0
	Other	12	3.6	3.6	100.0
Total		332	100.0	100.0	

Most of the students appreciated the online tool found more effective being used by the professor in higher education during the pandemic period. Out of 53students (16.0%) agreed

with the statement mentioned in table number 8 that University LMS was an effective tool for online classes but the Code Tantra application was quite good as compared with the other application where 246 students (74.1%) found fully satisfied than the other applications. Students expressed how they thought lectures can be made more interesting and more informative.

Table 10 Most effective tool for uploading the Students Assignment

Which tool did you use to upload your assignment?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	University LMS	231	69.6	70.0	70.0
	Code Tantra	54	16.3	16.4	86.4
	Google Meet	3	.8	.8	86.7
	Other	44	13.3	13.3	100.0
Total		332	100.0	100.0	

Table number 9 indicates the University LMS and Code Tantra applications were most used by all the students for uploading the assignment. The result of the study indicates that 231 (69.6%) students used the University LMS application for uploading the successful assignments without any error and the Code Tantra application and other applications were also used by the students but the result was not showing much more in their favours.

Table 11 Feelings of Anxiety

Did you encounter feelings of Anxiety?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	42	12.7	12.7	12.7
	Agree	92	27.7	27.9	40.6
	Neutral	140	42.2	42.4	83.0
	Disagree	38	11.4	11.5	94.5
	Strongly Disagree	20	.6	.6	100.0
Total		332	100.0	100.0	

The third question of the research was asked on the various challenges faced by the students during e-learning during the pandemic period, the Likert Scales, where 1= Strong Agree, 2=

Agree, 3= Neutral, 4= Disagree and 5 = Strong Disagree. During the period of the pandemic, students faced a lot of challenges, mainly feeling anxiety; some of the students do not have effective devices, poor internet connectivity especially in the rural areas, lack of infrastructure and other major issues and mainly feel of anxieties. The data were collected from 332 students where 42 students (12.7%) gave their opinion that they strongly agreed with the statement, where 92 students (27.7%) Agree with the statement, 140 students (42.2%) responded was neutral, 38 students (11.4%) disagreed and 20 students (0.6%) strongly disagreed that they feel anxiety.

Table 12 Device Failure to connect to Feelings of Anxiety

Was the device failing to connect to attend during a session?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	78	23.5	23.6	23.6
	Agree	105	31.6	31.8	55.5
	Neutral	87	26.2	26.4	81.8
	Disagree	49	14.8	14.8	96.7
	Strongly Disagree	13	3.9	3.3	100.0
Total		332	100.0	100.0	

The study had a question regarding the devices that fail to connect to attend the online classes (see table number 11). The results showed that 78 students (23.5) strongly agreed with the statement that some of the devices were unable to connect with the applications used by the higher education and e-learning affected, and 105 students (31.6%) agree that sometimes devices do not support, 87 students (26.2) responses were received neutral, 49 students (14.8%) disagreed with the statement and they device was well connected and no e-learning hamper, 13 students (3.9%) were also found strongly disagree.

Table 13 Connectivity issues faced by the students

Were there internet connectivity issues?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	129	38.9	39.1	39.1
	Agree	113	34.0	34.2	73.3
	Neutral	57	17.2	17.3	90.6
	Disagree	24	7.2	7.3	97.9
	Strongly Disagree	9	2.7	2.7	100.0
Total		332	100.0		

In this regard, it is notable that while using the online platform students face a lot of issues with the connectivity, where 129 students (38.9%) strongly agreed that e-learning was affected due to internet connectivity, and 113 students (34%) agreed on the statement that there was an issue on poor connectivity, 57 students responses were recorded as a neutral mode, 25 students disagreed and they did not face any challenge in the internet connectivity due to Urban areas and 09 students (2.7%) were strongly disagree on the statement as per table number 12. In the context of Covid 19, teachers were obliged to use the e-learning platform provided by higher education in which students learning can be improved and the teacher used to advance technology in the pandemic period with effective tools and applications.

Table 14 Low Income in the family affects education

Was an online class a financial burden on the low-income family?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	64	19.3	19.4	19.4
	Agree	91	27.4	27.6	47.0
	Neutral	96	28.9	29.1	76.1
	Disagree	54	16.3	16.4	92.4
	Strongly Disagree	27	8.1	8.1	100.0
Total		332	100.0	100.0	

Table 13 shows due to low income in the family student's online education got affected when offline teaching was converted into the online mode which students and parents were not ready

for that due to the Global pandemic. Many of the students do not aware of online teaching and where the majority of students belong to rural areas where parents were mostly illiterate, some students were engaged in other responsibilities and low-income parents could not afford smart phone to attend online classes due to this reason their academic performance also goes down. Some of the students were not able to give Mid Term and End Term Examinations and some postpone their exams. The 64 students (19.3%) strongly agreed, 91 students (27.4%) agree with the statement, 96 students (28.9%) responded recorded in the neutral mode, 54 students (16.3%) students disagreed and 27 students (8.1%) response strongly disagree.

Table 15 Was Poor Internet infrastructures and limited data a barrier?

		Were Poor Internet infrastructure and limited data barriers?			
Valid		Frequency	Per cent	Valid Percent	Cumulative Percent
	Strongly Agree	149	44.9	45.2	45.2
	Agree	120	36.1	36.4	81.5
	Neutral	39	11.7	11.8	93.3
	Disagree	16	4.8	4.8	98.2
	Strongly Disagree	6	1.8	1.8	100.0
Total		332	100.0	100.0	

The percentage and frequency were calculated for this statement and it showed that the maximum number of students face challenges while attending online classes, the data speed and poor infrastructure become the major barrier in the academic where due to bad infrastructure students did not attend the classes and teaching effected which cause low performance in the academic careers. A lot of IT companies came forwards Like Jio, AirTel and Voda which gave the special package to the students for attending the online class, but in the issues of the rural areas could not be resolved, wher149 (44.9%) students strongly agreed, 120 students (36.1%) agree on the statement that data speed and infrastructure were the major issues, 39 students (11.7%) response recorded Neutral, 16 students (4.8%) strongly disagree and 06 students (1.8%) were couldn't face such types of issues.

5. Discussion and Recommendations

During the crisis of the pandemic some of the major changes seen in the higher education sectors; were digitalization and the transition to a student-centred in e-learning. The surveys were conducted in urban and rural areas where all the students used the mode of teaching online during this pandemic period and the pedagogy was used by the professor Flipped classroom, pre-recorded videos, you tubes links, reviewed articles, research papers, Virtual classroom, videos conferencing and different software and application where ever possible to conduct classes in the essay, mode and effective learning. During this pandemic period, various online training was provided to professors and students related to the new technology and application for better understanding. Many online infrastructures have been prepared by the higher education sectors and made for learning during the Covid-19 periods. All the students were also faced with other challenges like; hearing, visual impairment, disabilities and additional training and support. The study explains examined that there was a great impact of Covid-19 in the higher education sectors but the student's active participation, support and online teaching experience were found successful. Ministry of Higher Education ensures that all the activities were conducted by the higher education sector found satisfactory and that the mode they have to choose was quite effective in the education field. According to the Semenikhina et al, 2019 online class found some discrepancies in the communication and interaction with the students but it also has some other benefits which include; students could pay an online fee, and listen to recorded lectures in fast and slow mode, which can increase their interest and become the motivation for them to attend online classes. Through the online platform, faculty members create a good to connect with the industry with virtual collaboration and provide students with their experience while conducting online Guest lecturers/ webinars and doing two way communications with the industry experts. Before this pandemic, none of the students attends online classes, which also indicates the lack of technology use in the field of higher education

sectors, but during the pandemic higher education sectors/ private and Government universities do huge investments in terms of technology and provide the right kind of platform to all the students for e-learning. In this study, we have explained the lack of infrastructure, poor internet connections, poor economic conditions and various other challenges in the rural and urban areas.

The major goal of this study was how to fulfil the gap, so we have framed the questionnaire and circular with all the students who have faced this pandemic. This study has also tested and asked various questions from the students who belong to rural and urban areas; how the teaching experience was, did you attend the online classes before, what new pedagogy was used by the faculty members, and did you aware of how to attend online classes and which online application and software were used.

6. Conclusions

This research explored the e-learning experience of the students creating a great impact on higher education. The use of digital learning, devices, application and software were used for conducting online classes, which create a new history in the higher education sector. It also brings new changes to the education system. The new pedagogy used by the faculty members also creates a new impact in the higher education sectors which makes teaching more informative and interactive. The findings of this study indicated that the majority of students take an interest to attend online classes; a positive attitude is seen in the students even though they face a lot of challenges in online teaching. Students are well aware of the new technology; get excess to attend online classes, and got recorded lectures uploaded by the institution and universities. Students also attended online guest lecturers/ webinars/audio-videos conferences and various other interactive sessions. In this context e-learning experience was explored among the students, further research can include another variable of the study and explore their

teaching experience and would improve the teaching experience. When offline classes resume faculty can use online experience and technology by using other tools and pedagogy for better learning.

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