

# Students' Learning Experience during Covid 19: Dr. B. R. Ambedkar Open University

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## 1. University Profile

The University, initially known as Andhra Pradesh Open University, was set up on 26<sup>th</sup> August 1982 through an Act of the A.P. State Legislature (APOU Act, 1982). Subsequently, the University was renamed as Dr. B. R. Ambedkar Open University on 26 October, 1991 by the Government of Andhra Pradesh. The establishment of this University, the first of its kind in India, heralded an era of affirmative action on the part of the Government of Andhra Pradesh to provide opportunities of higher education to all sections of society to meet the changing individual and social needs. All the 39 programmes offered by the University are recognized by the University Grants Commission, New Delhi. The motto of the University is "**EDUCATION FOR ALL**".

This innovation in distance education led to the opening of the portals of higher education to a variety of potential students like housewives, farmers, skilled and unskilled labour, jawans, policemen, etc., who would otherwise not be able to acquire new skills and higher qualifications. Even prison inmates under life sentence also enroll themselves as students and pursue education through exclusive study centers at Central Prison - Cherlapally, Warangal, Rajahmundry, Visakhapatnam, Kadapa and Nellore.

The University has achieved the following recognitions

- B.Sc. programmes Ranked No-1 among India's best distance learning institutions-2011 by Careers 360 of OUT LOOK magazine
- Indus Foundation Award for Education Excellence-2012 under distance education category.
- CSR top distance learning institutes of India award 2013 and 2014

Looking back at the achievements, over four decades, the University has gained a prestigious and enviable position in the society by:

- Providing access to large number of non-formal learners to the undergraduate programmes
- Designing courses innovatively as Foundation Courses, Core Courses and Application
- Oriented Courses
- Producing quality materials for interactive learning in Telugu, English and Urdu
- Setting up a wide network of support services
- Widening access to research, postgraduate and professional programmes through the distance mode
- Giving hands-on training for laboratory practice in Science and Technology courses
- Using multiple modes (Print and Electronic) for delivery of instruction.

## **The Vision**

Dr. B. R. Ambedkar's social philosophy of education as a means of creating an egalitarian society is the vision of this University. Access to relevant quality education and training programmes for diverse sections of society with a focus on hitherto deprived sections at lower costs by using the modern technologies in teaching-learning processes as well as in administrative and support services is the goal of this University. The University programmes aim at making education and training instruments for living and for making a living.

## **The Mission**

Enrichment of on-going academic programmes

- Competency building through education and training programmes
- Interactive individual based teaching learning processes;
- Reliable and credible student evaluation systems;
- Result oriented, accountable and transparent administrative and logistic support systems; and
- Research, innovation, training and networking for system development and staff development.

## **Objectives of the University**

- To provide educational opportunities to those students who could not take advantage of conventional institutions of higher learning.
- To provide equal educational opportunities for higher education through distance mode for a large segment of the population, including those in employment, women (including housewives) and adults who wish to upgrade their education or acquire knowledge and studies in various fields.
- To provide flexibility with regard to eligibility for enrolment, age of entry, choice of courses, methods of learning, conduct of examinations and operation of the programmes.
- To complement the programmes of the existing Universities in the State in the field of higher learning so as to maintain the high standards on par with the best universities in the country.
- To promote integration within the State through its policies and programmes.
- To offer degree courses and non-degree certificate courses for the benefit of the working population in various fields and for those who wish to enrich their lives by studying subjects of cultural and aesthetic values.
- To make provision for research and for the advancement and dissemination of knowledge.
- To serve as a source of continuing education, consultancy and to provide equal access to knowledge and higher education.

## Students Enrolment

**Table-1: Number of students enrolled since inception, graduated and number on roll:**

Year (for reference)	Number enrolled since inception	Graduated in that particular year	Number on roll In that particular year
2017	1841693	37397	145643
2018	1896942	35150	128621
2019	1958771	35336	116354
2020	2013933	19223	113555
2021	2075276	14079	124253

It was observed that there is a decline in the enrolment since the government of Telangana and Andhra Pradesh have extended complete fee reimbursement and scholarships to all the students enrolled in the conventional colleges/ Universities. In Dr. B.R. Ambedkar Open University no such facility is available. Students have to pay the fees from their own resources. The average age of the students in Dr.B.R. Ambedkar Open University is around 20 years only. At this age the students are preferring conventional institutions rather than distance educational institutions because of benefits provided there. Apart from this, the university introduced Choice Based Credit System (CBCS) in 2017. With this, the number of courses to be learned by the students has increased and it might be one of the reasons for the decline of enrolment from 2017. Further in 2020-21 the pandemic situation also contributed for the decline of enrolment. The significant rise in enrolment during 2021-22 confirms that the student community have accepted the CBCS system along with the reduced impact of pandemic.

The university offers the academic programmes through 181 learner support centres located in both the States of Telangana and Andhra Pradesh. Among these centres, some are exclusively allocated to offer special programmes such as Education, Special Education, Health Care Management etc. A total of 429 staff members are working in different capacities as Teaching and Non-Teaching staff in the university headquarters located in Hyderabad. Around 6000 Part Time Councillors teach in the 181 learner support centres.

## 2. Strategic directions/plans envisaged and implemented during pandemic for distance teaching and learning

### Key modalities of distance learning adopted in the institution before pandemic

- 1) **Printed course material:** Without collecting any additional fee, printed course materials are supplied to every student who gets admission in the university. These materials are developed by eminent subject experts from different universities and printed by the university. These course materials are being supplied to the students either through learner support centres (Study Centres) for urban students or through the postal department for rural students.
- 2) **Face- to- face counselling:** The University arranges face- to- face counselling in the learner support centres on Sundays and public holidays in the form of contact classes.

- 3) **Laboratory practicals /training:** The practical training classes are organised in the Regional Coordination Centres (RCCs) as per the UGC regulations.
- 4) **Audio cassettes:** The Audio lessons prepared in different subjects by subject experts and academics of the University are recorded in the University studios and are supplied to the students as per their request.
- 5) **Video cassettes:** The video lessons prepared in different subjects by subject experts and academics of the University are recorded in the University studios and are supplied to the students as per their request.
- 6) **Radio broadcast of lessons:** The audio lessons are broadcast through All India Radio at fixed times, according to a schedule. The time table of the broadcast schedule is circulated to the learners from time to time.
- 7) **Telecast of lessons:** The Video lessons prepared with the support of eminent teachers are telecast through Dooradarshan at fixed times, according to a schedule. The time table of the telecast schedule is circulated to the learners from time to time.
- 8) **Supply of Compact discs with audio and video lessons:** The audio and video lessons are supplied in the form of compact discs (on request) according to the options selected by the learners.
- 9) **Teleconferencing through Doordarshan:** Every Sunday the university organizes live teleconference programmes from 2pm to 3pm through Doordarshan with expert resource persons. It is a two-way audio and one-way video communication between students and subject experts.
- 10) **Summer/Winter Schools:** Some extensive teaching classes are arranged in the learner support centres to orient the students before the commencement of examinations.

### 3. Changes made to Course materials design and delivery during pandemic

**During 2019-20 and 2020-21 the following changes were introduced**

- 1) **Web hosting of course material:** The e-content prepared in the form of text, audio, video modes are placed in the university website and each student was provided a password to access the content as per his/her optional subjects. The university collected the mobile numbers of the learners at the time of admission. The passwords were communicated to those mobile number.
- 2) **Supply of e-content of course material to students through e-mail:** About 50% of the students submitted their mail IDs at the time of admission. The university supplied the e-content to the students through e-mail. With this experience, now the university has made it mandatory for the students to submit mail IDs at the time of admission.

- 3) **Online teaching through zoom platform :** Immediately after the announcement of restrictions for face- to- face counselling classes in the learner support centres, the university procured about 40 licences of zoom and organised online teaching for the students. For this approach, the university availed the services of eminent teachers to undertake the online teaching. To organise these online classes a centralised computer centre was established at the headquarters and all the internal teachers participated and monitored the online classes. The schedules were circulated to the students through personal communication in the form of SMS and the information was also given wide publicity through print and electronic media. The students were supplied with necessary links and Passwords to join the zoom sessions.
  - 4) **Placing video lessons in the BRAOU YouTube channel:** The pre-recorded video lessons were placed in the YouTube channel and also linked to the university website. This permitted the students to learn as per their convenience.
  - 5) **Placing Audio lessons on the university website:** About 1500 pre-recorded audio lessons were uploaded on the university website.
  - 6) **Telecasting of lessons through T-Sat (KU Band) Government of Telangana:** The video lessons recorded were telecast through the T-Sat Channel and the schedules were intimated to the students. The students can view these programmes staying in their residence.
  - 7) **The practical training programmes (Experiments):** The practical training programmes were offered through blended mode. 60% of experiments were recorded and webhosted. The remaining 40% were conducted once the lockdown conditions were relaxed by following standard operating procedures (SOP).
  - 8) **Contactless admissions:** During the pandemic times the university arranged contactless admission procedures through online methods. The students submitted their certificate copies online and the admission/examination fee was paid through digital payments. After the restrictions were lifted the students approached the nearby study centres and got necessary verification of certificates completed following SOP.
4. **Efforts made to ensure delivery of quality distance education programmes during pandemic.**
1. **Information and communication technology (ICT):** These were extensively utilized to reach the students. ICT has not only changed the way students get information, but also alter the whole corpus of what a person knows and the information available to an individual at any given time and place. As a substitute for face-to-face communication, for example, ICT can provide benefits such as reducing travel, saving time, and extending the geography of the human community. They may replace valuable human contact with a much less rewarding form of communication, fostering social isolation, or communication among students who might never have an opportunity to meet face to face. However, they enhance the awareness and skills of the learners. Using social media they also enrich the experience of the learners. Supply of e-content of learning

materials, online classes and webhosting of study material greatly benefited the students.

2. **Mobile technology:** Mobile technologies are the pillars to deliver knowledge during the times of pandemic. Mobile technologies have a huge potential to be one of the most effective and efficient tools to offer the services to the student clientele. The university adapted the usage of mobile technologies for providing necessary information to the students for understanding the instructions provided time to time. This helped the students to get proper information regarding e-content and online teaching schedules. Further, students could access the information at their convenience and use the replay facility for greater assimilation. Several instructions were available in the regional languages as well.

## 5 Strategies designed to ensure communication and interactivity with students during pandemic.

The University utilized the social media platforms in two ways

1. **Starting YouTube channel:** The University arranged to upload around 1200 video lessons and about 300 recorded teleconference programmes into the YouTube channel for the convenience of the students. Students can watch or download them at their convenience and even replay them for clarity about concepts and theories.
2. **Using Whatsapp:** The University used Whatsapp to provide information to learners of programmes which have a lower enrolment and it is practically possible to do so, - such as M.Sc. programmes, M.L.I.Sc. and B.L.I.Sc. As the numbers of students enrolled are less Whatsapp groups have been formed and relevant information was posted for the benefit of the students. The counselling schedules, assignments, examination schedules, practical training programme schedules etc. are posted in such groups. The students are getting information fast and also able to interact speedily.

## 6. Changes made to students' assessment

1. **Assignments and examinations:** The term- end/ end of semester examinations are conducted physically following SOP- at the nearby study centres where the candidates are registered. This is as per the directions of UGC and the Government of Telangana.
2. **Online evaluation:** The evaluation of the answer scripts term- end/ end of semester examinations was done through digital methodology. The examinations were held following SOP and immediately the answer scripts are scanned and communicated to the examiners. Thereafter the examiners (subject experts) evaluate the answer scripts and communicate the marks award list digitally to the university.

## 7. Students' perceptions and feedback on the effect of Pandemic on their learning

Dr. B. R. Ambedkar Open University in association with Commonwealth Educational Media Centre for Asia (CEMCA) proposed this study to know the impact of Covid 19 pandemic on the learning of students in the university. The university has been offering various academic programmes through distance mode since 1982 in the States of Telangana and Andhra Pradesh. Due to Covid19 pandemic the university adopted some more services such as web hosting of course materials, online teaching, uploading of audio and video lessons etc to reach the students. Now university would like to know impact of these efforts on students

and their feedback. This will help the university to enhance services further by using the Information and Communication Technology (ICT).

### 7.1 Methodology

Dr. B. R. Ambedkar Open University in association with Commonwealth Educational Media Centre for Asia (CEMCA) prepared a questionnaire consisting of various issues pertaining to online teaching and learning. The questionnaire is posted on to the university website and kept for one month to get the feedback from the students. The site was open from 1<sup>st</sup> November 2021 to 30th November 2021 for sharing the experiences of students. The information about the questionnaire was sent to students through SMS to the available contact numbers. Further intimations were sent to the students through a letter posted on the university website.

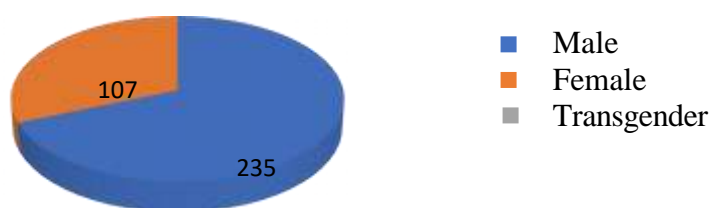
### 7.2 Survey findings and discussion

Due to Covid-19 pandemic the society has faced many challenges. In the case of educational institutions there are many issues due to the absence of face to face interactions. Dr. B. R. Ambedkar Open University is no exception. However, to reach the students and impart education, the university adopted several modes of teaching. Now the university in collaboration with Commonwealth Educational Media Centre for Asia (CEMCA) has conducted an online survey to know the effectiveness of the newly introduced teaching methodologies for better implementation. The students have expressed their concerns regarding the hardships with phones, laptops and bandwidth problems.

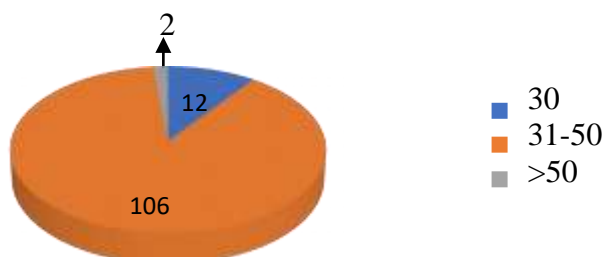
### 7.3 Participants Profile

The students profile was generated by collecting the data pertaining to the students' age group, gender, place of residence, programme of study and area of the study. Their number in percentage is depicted in figures 1 to 5

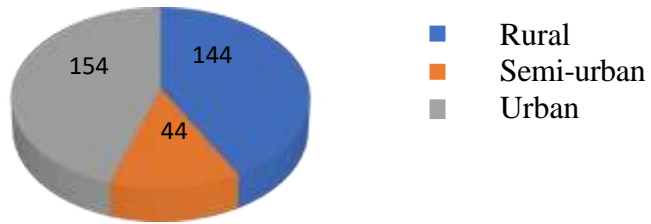
**Fig 1 : Gender**



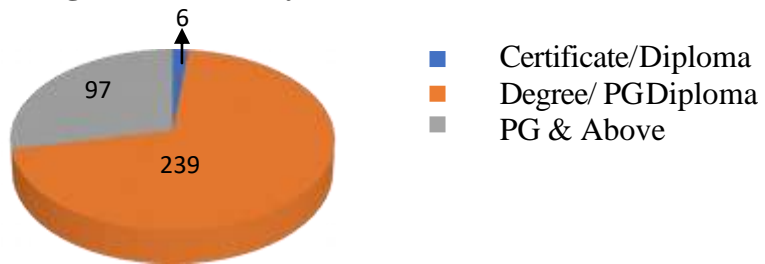
**Fig 2 : Age in Years**



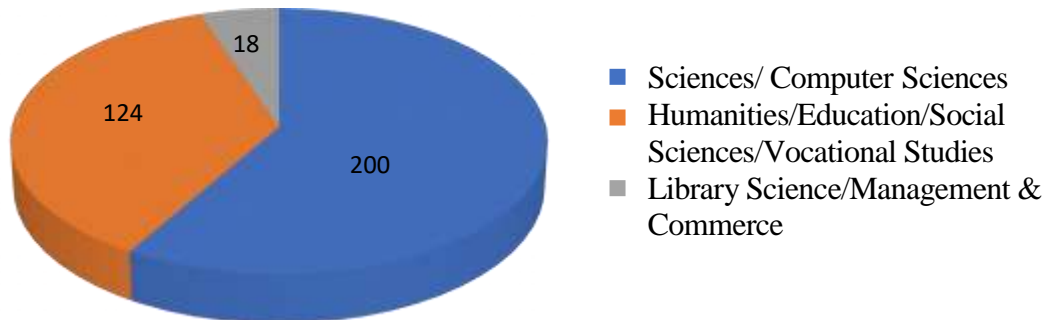
**Fig 3 : Place of Residence**



**Fig 4 : Programme of Study**



**Fig 5 : Area of Study**





- Approximately two third of respondents are male, and one third of them are females.(Fig1)
- About 88% of respondents' age is between 31 and 50 years, followed by those under 30years of age.(Fig 2)
- Approximately 45% of respondents stay in the urban area, 42% of respondents stay in therural area and 13% in semi-urban areas.(Fig 3)
- More than two third of students who were part of the survey, had enrolled in undergraduate Degree/Post Graduate Diploma programme, followed by Post Graduate Degree programme and very few students have enrolled in Certificate programmes.(Fig 4)
- About 58% of students who responded to the survey are from Sciences/ Computer sciences, and about 36% of students are from Humanities/Social sciences streams.(Fig5)

#### 7.4 Access to devices and internet connectivity

The university had introduced the online admission process in 2013 along with digital payment of fee. Further during the year 2018, the university adopted a system of online examination registration and downloading of marks memos. During Covid 19 pandemic, some other technological procedures were implemented. In view of these circumstances, the present survey was carried out regarding the accessibility of computers/smart phones, net connectivity, bandwidth issues for better implementation of ICT in the process of imparting education. .

**Table-2: The device used by students' location of residence in percentage**

Location	The device used		
	Smart Phone	Laptop/Tablet	Other including desktop
Rural	81.25	13.19	5.56
Semi Urban	76.74	20.93	2.33
Urban	65.81	28.39	5.81

The most preferred device for learning during pandemic was smart phones followed by laptops/tablet irrespective of location of the students. Less than 5% of them are using desktop and other gadgets.

Urban students are not as dependent on smart phones as the rural and semi urban students, and about 28 % urban students use laptop/tablet for their learning. This shows that, though a significant proportion of urban students use laptop/tablet for online learning, a significant proportion (81 %) of students use smart phones.

**Table: 3 Status of internet connectivity by student's location of residence in percentage**

Location	The device used		
	Very poor/poor	Fair	Good/very good
Rural	11.81	20.83	67.36
Semi Urban	13.95	32.56	53.49
Urban	5.81	23.23	70.97

Approximately 67% of students from rural areas stated that the internet connectivity is good/very good, two-thirds of the students from urban locations expressed that the internet connectivity is good/very good, while only 6% of students from urban locations felt internet connectivity is poor/very poor.

**Table: 4 The data used by students by location of their residence in percentage**

Location	The type of data package used		
	Mobile data package	Secured wireless connection	Others
Rural	90.97	4.17	4.86
Semi Urban	84.40	6.98	11.63
Urban	65.16	26.45	8.39

A significant proportion of students from rural and semi urban use mobile data package for their learning. Among urban students, approximately 26% use secured wireless connections for online learning, but a significant proportion of students still use mobile data for learning.

**Table: 5 The data used by students by speed of access in percentage**

Speed	The type of data package used		
	Mobile data package	Secured wireless connection	Others
Very poor/poor	11.24	4	0
Fair	24.34	14	32
Good/Very good	64.42	82	68

From the above table, it can be observed that 89 % of students who use mobile data for online learning revealed that the speed of network is Fair/Good/Very good/very good, 96 % of students who use secured wireless connection for online learning revealed that the speed of networks is Fair/Good/Very good.

The study revealed that the majority of the students are depending on smart phones for accessing the course material and for attending online classes. Since a majority of the students are using smart phones.

## 7.5 Perceived proficiency levels in using ICT for learning.

To access and understand the subject content through ICT, it is important to have proficiency in using ICT. In order to know the students' perception about the usage of ICT, the opinions of the students were collected and presented based on gender, age group, location of residence, programme and schools of study.

**Table: 6 Students perceived proficiency in using ICT for learning by their Gender in percentage**

Gender	Proficiency of using ICT for Learning			
	No experience	Require help	Can perform basic functions	Competent/Very proficient
Male	10.21	16.17	20.00	53.62
Female	14.95	25.23	23.36	36.45

Approximately 10% of male students and 15 % did not have experience of using ICT for online learning, while 16 % of male 25 % of female needed help to use ICT. More than 50% male and 36% of female students expressed that they are competent/very proficient to use ICT for online learning.

**Table: 7 Students perceived proficiency in using ICT for learning by their Age in percentage**

Age Group in Years	Proficiency of using ICT for Learning			
	No experience	Require help	Can perform basic functions	Competent/Very proficient
< 30	14.08	19.42	20.39	46.12
31-50	8.21	17.91	22.39	51.49
>51	0.00	0.00	0.00	100.00

Approximately 14% of students whose age is under 30 years did not have experience in using ICT for online learning, and 46 % are competent enough to use ICT for online learning where as 51% students of age group 31-50 are competent and another 22 % could perform basic functions.

**Table: 8 Students perceived proficiency of using ICT for learning by their location of residence in percentage**

Location	Proficiency of using ICT for Learning			
	No experience	Require help	Can perform basic functions	Competent/very proficient
Rural	13.19	20.14	22.92	43.75
Semi Urban	11.63	18.60	18.60	51.16
Urban	10.32	18.60	20.00	51.61

The competency in using ICT for online learning is almost the same between semi urban and urban students.. Irrespective of place where they reside, about 19-20% need help in handling ICT for online learning. Approximately 20% of students whether rural, semi-urban or urban are able to manage basic functions in using ICT for online learning.

**Table: 9 Students perceived proficiency in using ICT for learning by the Programmes Enrolled inpercentage**

Programme Enrolled	Proficiency of using ICT for Learning			
	No experience	Require help	Can perform basic functions	Competent/Very proficient
Certificate/ Diploma	11.11	33.33	16.67	38.89
Degree/PG Diploma	16.54	21.05	20.30	42.11
PG Degree and above	0.00	0.00	0.00	100.00

From the above table, it can be concluded that the students who have enrolled for Certificate/ Diploma programmes require help or assistance to use ICT for online learning as against the students enrolled for Degree/ PG diploma programmes. In contrast, the proportion of students enrolled for degree/ PG diploma programmes with no experience in handling ICT is more than the proportion of students enrolled for Certificate/ Diploma programmes.

**Table: 10 Students perceived proficiency in using ICT for learning by the Schools Enrolled in percentage**

Schools Enrolled	Proficiency of using ICT for Learning			
	No experience	Require help	Can perform basic functions	Competent/Very proficient
Sciences/Computer/IT/LIS	0.00	0.00	0.00	100.00
Social Sciences/Humanities	11.48	13.11	24.59	50.82
Management and commerce	23.08	23.08	15.38	38.46
Education/Vocational/ Other	22.22	26.98	20.63	30.16

From the above table, it can be concluded that the students who enrolled for Sciences/Computer/ IT courses are highly comfortable in using ICT for online learning followed by students of Social Sciences/Humanities courses. Interestingly this proportion is much for the students of Management and commerce courses. About 27 % students of Education/Vocational courses require assistance in handling ICT for online learning.

It was observed from the study on the proficiency of students in using ICT, that the male students have higher proficiency than their female counter parts probably because most of the male students are from working group and most of the female students are home makers. There is not much difference between the age groups. Post graduate degree students are seems to be more capable of handling online learning. Only 40% of the students enrolled for other programmes are having proficiency to deal with online learning. The students who have taken science and computer sciences are more adept followed by social sciences/ humanities.

## 7.6 Overall Concerns of students during Pandemic Period

The university has been arranging audio and video lectures through the learner support centres since 1998. These lectures are also delivered through television and radio during fixed time slots. Due to pandemic conditions the university implemented some more multimedia approaches such as web hosting of course (Study) materials, online teaching, sharing of course material through E-mails etc. Now it is also necessary to know the students' concerns regarding physical health, mental and emotional well-being, education disruption and financial aspects during the pandemic time.

**Table -11 Students concerns during pandemic by their Gender in percentage**

Gender	Female			Male		
	Most Important/ Very Important	Important	Somewhat/ least Important	Most Important/ Very Important	Important	Somewhat/ least Important
Physical Health	88.79	9.35	1.87	89.79	8.51	1.70
Mental and emotional well-being	88.79	7.48	3.74	86.81	8.94	4.26
Education disruption	66.36	20.56	13.08	70.21	22.55	7.23
Financial aspects	75.70	18.69	5.61	69.36	20.85	9.79

The above table shows that about 90% of both female and male students mentioned physical health and Mental and emotional well-being to be the most and very important concerns. About 70% of both female and male students felt that education disruption is the most and very important factor during pandemic time. About 75% of female and 70% of male expressed that financial aspects are the priority. More than 90% of students agreed that all the above factors are most important/ important are the concerns while learning during pandemic time.

**Table: 12 Students concerns during pandemic by their Age in percentage**

Age	< 30			31 -50			> 51		
	Most Important/ Very Important	Important	Some what/ least Important	Most Important/ Very Important	Important	Some what/ least Important	Most Important/ Very Important	Important	Some what/ least Important
Physical Health	88.83	10.68	0.49	91.04	5.22	3.73	50.0	50.0	0.0
Mental and emotional well-being	85.92	9.71	4.37	89.55	6.72	3.73	100.0	0.0	0.0
Education disrun	69.42	22.33	8.25	67.91	21.64	10.45	100	0.0	0.0
Financial aspects	73.30	19.42	7.28	67.91	21.64	10.45	100	0.0	0.0

From the above table, it is observed that the students irrespective of their age felt that both physical health and mental wellbeing are the most important concerns for learning during pandemic. All the 4 aspects were considered as most important/very important/important by more than 90% of the age group 30 years and below.

**Table -13 Students concerns during pandemic by their Location of residence in percentage**

Concern	Rural			Semi Urban			Urban		
	Most Important/ Very Important	Important	Some what/ least Important	Most Important/ Very Important	Important	Some what/ least Important	Most Important/ Very Important	Important	Some what/ least Important
Physical Health	86.11	12.50	1.39	90.70	6.98	2.33	92.26	5.81	1.94
Mental and emotional well-being	100	0.0	0.0	100	0.0	0.0	89.03	7.10	3.87
Education disruption	70.83	22.92	6.25	72.09	25.58	2.33	66.45	20.0	13.55
Financial aspects	65.97	22.92	11.11	72.90	18.60	9.30	76.13	18.06	5.81

From the above table, it is observed that irrespective of where the students reside, more than 90% of the students perceived that Physical Health is the most important concern. 100% of rural and semi-urban students mentioned that Mental and emotional well-being is of primary concern. About 66-76% of the rural, semi-urban and urban students stated that education disruption and financial aspects are important issues for learning.

**Table-14 Students concerns during pandemic by the Programmes Enrolled in percentage**

Concern	Certificate/Diploma			Degree/PG Diploma			PG Degree and above		
	Most Important / Very Important	Important	Some what/ least Important	Most Important / Very Important	Important	Some what/ least Important	Most Important / Very Important	Important	Some what/ least Important
Physical health	83.33	5.56	11.11	88.06	11.94	0.0	91.05	6.84	2.11
Mental and emotional well-being	66.66	16.67	16.67	89.47	7.52	3.01	87.96	8.38	3.66
Education disruption	77.78	11.11	11.11	70.90	23.88	5.22	66.84	21.58	11.58
Financial aspects	50.0	38.89	11.11	76.87	15.67	7.46	69.47	21.58	8.95

From the above table, it is observed that about 90% of the students enrolled in the university believe that Physical Health is the very important/important concern. About 2/3 of students enrolled for certificate programmes expressed that Mental and emotional well-being is the very/most important concern. While 90% of the students enrolled for Degree/PG/ PG Diploma programmes indicated that Mental and emotional well-being is the very important factor during pandemic. About 70% of the students across the programmes

of enrolment opined that education disruption is very important. 50% of the students enrolled for certificate programmes, 77% of students enrolled for degree/PG diploma programmes and 70% of PG students felt that financial aspects are most important factor for learning during pandemic time.

The data collected regarding physical health, mental well-being, education disruption and financial aspects across gender, age groups, location and programme of study reveals that about 90% of students felt that all these parameters influenced their studies during the time of pandemic.

## 7.7 Students Learning Experiences during online classes

The survey also focused on the students online learning experience during and after the pandemic. The student's response programme wise and location wise were looked in order to know about their learning experience.

**Table: 15 Students Learning Experience before and during/post pandemic period in percentage**

OnlineClasses	Students Learning Experiences						
	How often students engaged in online classes						
	Yes	No	Not at all	1-4 times a year	1-4 times a month	1-4 times a week	Almost every day
Conductedonline classes before Pandemic	52.63	47.37	28.95	24.85	16.96	16.67	12.57
Conductedonline classes During/ Post Pandemic	80.12	19.88	16.08	20.76	22.51	23.68	16.96

It is evident from the above table that the percentage of online classes has been increased significantly during or in the post pandemic time as compared to the pre-pandemic times by about 28 %. There is an indication that there is an increased engagement with technology-enabled and online learning activities during pandemic period.

**Table: 16 Students engagement in classes by the Programme Enrolled in percentage**

Programme Enrolled	Students Learning Experiences				
	How often students engaged in online classes				
	Not at all	1-4 times a year	1-4 times a month	1-4 times a week	Almost every day
Certificate/Diploma	22.22	16.67	22.22	22.22	16.67
Degree/PGDiploma	30.83	27.82	15.04	14.29	12.03
PG Degree andabove	27.89	23.16	17.89	18.4	12.63

28% of students who enrolled for PG degree were not engaged with technology-enabled and online learning activities during the pandemic period. Among all programmes, who enrolled for Certificate/Diploma programmes approximately 39% have been engaged 1- 4 times in a week or every day with technology-enabled and online learning activities during the pandemic period, While approximately 60% of students enrolled for Degree/PG Diploma programmes are least engaged (Not at all/1-4 times a year) with technology-enabled online learning activities during pandemic period.

**Table: 17 Students engagement in classes by location during or post pandemic in percentage**

Programme	Students Learning Experiences				
	How often students engaged in online classes				
	Not at all	1-4 times a year	1-4 times a month	1-4 times a week	Almost everyday
Rural	18.75	24.31	18.06	22.22	16.67
Semi-urban	11.63	18.60	27.91	25.58	16.28
Urban	14.84	18.06	25.16	24.52	17.42

Approximately 41% of students from urban and semi urban locations are highly engaged(1-4 times a week/Almost every day) with technology-enabled online learning activities during the pandemic period. On the other hand, 42% of students from rural area are least engaged with technology-enabled and online learning activities during the pandemic period (Not at all/1-4 times a year).

**Table: 18 Students preferred learning resources during or post pandemic.**

Preferred Learning Resources	Number of students responded (N)	Students Response in percentage				
		VGE	GE	SE	OLE	NA
1. Learnt from print-based learning materials	342	37.72	34.50	19.88	4.97	2.92
2. Learnt from e-SLM (text format) available on University website	342	20.47	25.15	31.87	11.99	10.53
3. Accessed audio-video lectures from university website	342	31.29	26.90	23.68	9.36	8.77
4. Accessed lecture notes, videos, e-books online from sources other than University website	342	29.82	28.36	22.81	9.94	9.06
5. Completed and submitted assignments online	342	27.49	19.59	17.25	9.36	26.32
6. Attended examinations online	342	20.47	18.13	16.37	7.89	37.13
7. Accessed digital library resources	342	23.39	21.35	19.59	8.48	27.19
8. Searched for academic information on the internet	342	37.43	30.70	21.05	7.31	3.51
9. Used University Learning Management System	342	27.78	26.90	22.81	8.77	13.74
10. Accessed University repository of educational resources	342	23.98	27.19	24.56	11.70	12.57
11. Accessed online educational repositories and digital education platforms such as SWAYAM, NPTEL, Virtual Labs, e-PG Pathshala, and others	342	25.73	24.56	20.18	11.11	18.42
12. Enrolled in online courses, including MOOCs	342	24.56	21.64	20.47	10.53	22.81
13. Joined live online lecture/tutorial sessions	342	38.30	27.49	19.30	6.73	8.19



14. Received feedback on assignments online	342	21.64	24.27	18.13	9.94	26.02
15. Participated in online discussion forums for study-related purposes	342	26.02	23.98	21.93	9.06	19.01
16. Used email for academic purposes	342	32.75	27.49	20.76	9.36	9.65
17. Used social media for academic purposes	342	34.21	26.90	20.18	7.31	11.40

72 % of students preferred print-based material, 66% from live online lectures, 61% from social media to a very great/great extent during the pandemic period. Most of the students accessed audio-video lectures from university website, also a significant number of student's accessed audio-video lectures other than from university website. Two-thirds of the students availed MOOCs courses and accessed online educational repositories and digital education platforms such as SWAYAM, NPTEL, Virtual Labs, e-PG Pathshala.(VGE/GE/SE). One-fourth of the students stated that they haven't received feedback for assignments submitted.

The data analyzed in this section reveals that about 47% of the students were not aware of onlineteaching before pandemic. However, during and after the pandemic their awareness increased to 80%. The semi urban and urban students are benefitted more with online classes. About 42% of rural students were least engaged ((Not at all/1-4 times a year) in online classes. In the university, attendance for classes is not mandatory. Since the establishment of the university, students mainly depend on printed course material and face to face interaction. Now some positive change is observed towards multimedia approach.

## 7.8 Challenges faced by students in learning during the pandemic

During the period of pandemic, the society has been largely dependent on the internet and electronic communication systems for news, entertainment and education. The student community also used ICT for learning and communication. For better design of teaching - learning programmes during such conditions the following data was obtained.

**Table: 19 Challenges faced by students during their learning in pandemic period**

Challenges	Number of students responded (N)	Students Response in percentage				
		Most Important	Very Important	Important	Some what Important	Least Important
1. Internet connectivity issues	342	34.50	32.16	14.62	7.89	10.82
2. Lack of access to devices	342	33.33	28.65	19.01	9.36	9.65
3. Sense of isolation due to no in- person interaction with other students/tutors /counsellors	342	46.78	28.65	12.28	4.97	7.31
4. Fatigue due to continuousscreen time exposure	342	32.46	33.33	18.13	4.39	11.70

Challenges	Number of students responded (N)	Students Response in percentage				
		Most Important	Very Important	Important	Some what Important	Least Important
6. Challenges in completing and submitting assignments	342	31.58	32.16	16.37	7.60	12.28
7. Difficulties in managing Academic workload	342	32.46	31.58	15.79	8.19	11.99
8. Difficult to receive feedback on assignments	342	28.36	29.53	20.18	9.06	12.87
9. Difficulties with taking online/remote examinations	342	27.78	31.58	16.08	8.19	16.37
10. Lack of adequate learner support	342	31.58	27.49	17.54	7.89	15.50
11. Lack of motivation to Olearner	342	32.46	30.70	15.50	7.60	13.74
12. Difficult to concentrate for prolonged live online sessions	342	30.41	32.16	17.84	7.60	11.99
13. Difficulty in getting notifications regarding study	342	32.46	30.70	15.79	8.19	12.87
14. Absence of supportive environment for learning at home	342	31.58	30.99	16.67	8.19	12.57
15. Difficulty specific to course of study, for example, access to science laboratories, field work, etc.	342	33.04	33.92	16.08	8.48	8.48
16. Costly in terms of resources and the time and effort required.	342	29.82	30.12	19.88	8.77	11.40
17. Difficult due to inadequate ICT skills among teachers.	342	29.82	29.82	18.71	10.53	11.11
18. Lack of availability of quality online academic content.	342	33.04	28.36	17.54	9.06	11.99

In order to assess the rank among the variables a weightage score is calculated using RIDIT analysis for the tables 19, 21 and 23 and presented the final outcome in the tables 20, 22 and 24. The use of RIDIT analysis was suggested for the use of ordinal data (data which are ordered but are not on an interval scale). RIDIT analysis is carried out from a reference population with the same categories. This score for each category is the percentile rank of an item in the reference population and is equal to the number of items in the subject category, divided by the population size. Once the RIDITs of each category have been

determined, they are taken values of dependent variable for the comparison groups and the normal distribution is applied.

**Table-20 Rank wise Challenges faced by students in learning during the pandemic**

Challenges	WeightedScore	Rank
3. Sense of isolation due to no in-person interaction with other students/tutors/ counsellors	0.5892	1
15. Difficulty specific to course of study, for example, access to science laboratories, field work, etc.	0.5184	2
1. Internet connectivity issues	0.5178	3
4. Fatigue due to continuous screen time exposure	0.5117	4
2. Lack of access to devices	0.5037	5
7. Difficulties in managing academic workload	0.5021	6
6. Challenges in completing and submitting assignments	0.4987	7
13. Difficulty in getting notifications regarding study	0.4980	8
11. Lack of motivation to learn	0.4968	9
18. Lack of availability of quality online academic content.	0.4965	10
5. Inadequate ICT skills among students for learning online	0.4954	11
14. Absence of supportive environment for learning at home	0.4945	12
12. Difficult to concentrate for prolonged live online sessions	0.4928	13
16. Costly in terms of resources and the time and effort required.	0.4845	14
17. Difficult due to inadequate ICT skills among teachers.	0.4823	15
10. Lack of adequate learner support	0.4799	16
8. Difficult to receive feedback on assignments	0.4714	17
9. Difficulties with taking online/remote examinations	0.4663	18

From the above table it is observed that the most challenging issue for the students is a sense of isolation due to lack of face to face interaction with other students/tutors/ counsellors, followed by difficulty to access science laboratories, field work, etc. The least challenge they faced was in taking online/remote examinations.

The opinions expressed by the students will be addressed by the university. During the current academic year, the university adopted blended approach. 60% classes are arranged through face- to-face interactions, and the rest through online teaching. Regarding practical training, 100% realtime physical training is arranged.

## 7.9 Opportunities in learning during the pandemic

It is essential for any educational institute to provide proper channel of learning for the students during the time of pandemic. Accordingly, the university implemented complete multimedia approach using ICT for learning. Because of the digital divide in the society some of the students have not optimally utilised the services provided by the university.

**Table: 21 Students degree of agreement on the opportunities provided by the technology - enabled learning during pandemic**

Learning Opportunities provided by the technology - enabled learning during pandemic	Number of students responded (N)	Student's degree/level of Agreement on the opportunities provided by the technology – enabled learning in percentage				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Helped to maintain continuity in learning	342	51.46	35.09	10.53	0.88	2.05
Offered flexible opportunities for learning	342	43.57	42.11	11.11	1.75	1.46
Enabled communication with peers and teachers	342	40.64	35.96	16.96	4.09	2.34
Provided multiple ways (audio, video, presentation, text) of learning the same material	342	45.91	35.38	12.57	3.22	2.92
Improved learning through self-assessment quizzes and activities	342	34.50	39.47	16.08	5.56	4.39
Provided opportunities for group assignments among students at different locations	342	34.80	36.26	15.50	8.48	4.97
Provided opportunities for regular feedback from teachers	342	33.63	36.84	16.08	6.73	6.73
Provided access to quality course content from different subject experts	342	35.38	41.23	13.74	4.97	4.68
Promoted participation in online platforms/forums for doubt clarification and discussion	342	35.96	38.30	13.74	7.31	4.68
Promoted my time management skills and self-discipline	342	38.60	39.47	11.11	5.26	5.56
Improved my conceptual understanding through self-paced learning	342	37.72	41.81	11.11	5.56	3.80
Made me more involved in learning activities	342	40.64	40.06	11.40	4.97	2.92
Improved my ICT skills	342	46.78	35.67	11.40	3.80	2.34

The technology enabled learning was well received by the students who have participated in the survey. They stated that this type of ICT is useful to maintain continuity in learning. Further the learning skills are improved a lot with this process. Students have given less importance to discussion forums, group assignments, regular feedback.

**Table- 22 Students degree of agreement on the opportunities provided by the technology -enabled learning during pandemic**

Learning Opportunities provided by the technology -enabled learning during pandemic	Weighted Score	Rank
Helped to maintain continuity in learning	0.5721	1
Improved my ICT skills	0.5403	2
Offered flexible opportunities for learning	0.5390	3
Provided multiple ways (audio, video, presentation, text) of learning the same material	0.5336	4
Made me more involved in learning activities	0.5099	5
Enabled communication with peers and teachers	0.5009	6
Improved my conceptual understanding through self-paced learning	0.4938	7
Promoted my time management skills and self-discipline	0.4914	8
Provided access to quality course content from different subject experts	0.4765	9
Promoted participation in online platforms/forums for doubt clarification and discussion	0.4706	10
Improved learning through self-assessment quizzes and activities	0.4661	11
Provided opportunities for group assignments among students at different locations	0.4563	12
Provided opportunities for regular feedback from teachers	0.4495	13

From the above table it is seen that, the most significant opportunity for the students was that the technology -enabled learning helped them in continuous learning followed by improved technological skills. The least significant is the opportunity for regular feedback from instructors, the contribution towards group assignments and learning through self-assessment quizzes and activities.

**Table-23 Students Preferences of modes learning in the online learning context**

Learning Resources	Students (in percentage) preferences of learning resources				
	Most preferred	Very preferred	Preferred	Somewhat preferred	Least preferred
Pre-recorded video lecture only	35.67	19.88	21.35	11.11	11.99
Pre-recorded video lecture with reading material provided	37.43	21.35	22.22	9.94	9.06
Reading material only	27.19	24.85	23.98	11.4	12.57
Synchronous (real-time or live) online Sessions	38.01	28.36	21.05	7.89	4.68
Asynchronous self-learning from available material	28.65	27.78	23.98	10.23	9.36
Live interaction sessions for doubt clarification and addressing queries	48.54	24.27	18.42	4.97	3.8
Live lecture/tutorial sessions that can be recorded	45.91	28.36	17.54	4.97	3.22
Use of presentation in video lecture	43.57	31.87	16.67	4.09	3.8
Use of whiteboard in video lecture	42.69	26.9	19.3	5.26	5.85
Individual assignments	37.13	30.7	21.64	6.43	4.09
Group activities and assignments	40.06	27.78	19.88	7.31	4.97
Digital platform/forum for posting queries and clarifying doubts	45.61	27.49	18.71	4.68	3.51
Email for communication with peers and instructors	42.4	30.99	18.13	3.8	4.68
Live chat for communication with peers and instructors	43.27	28.95	19.59	4.39	3.8

**Table-24 Students Preferences of modes learning in the online learning context**

<b>Learning Resources</b>	<b>Weighted Score</b>	<b>Rank</b>
Live interaction sessions for doubt clarification and addressing queries	0.5508	1
Live lecture/tutorial sessions that can be recorded	0.5466	2
Digital platform/forum for posting queries and clarifying doubts	0.5427	3
Use of presentation in video lecture	0.5416	4
Live chat for communication with peers and instructors	0.5326	5
Email for communication with peers and instructors	0.5315	6
Use of whiteboard in video lecture	0.5191	7
Group activities and assignments	0.5052	8
Individual assignments	0.4984	9
Synchronous (real-time or live) online sessions	0.4947	10
Pre-recorded video lecture with reading material provided	0.4632	11
Pre-recorded video lecture only	0.4423	12
Asynchronous self-learning from available material	0.4274	13
Reading material only	0.4041	14

From the above table it is seen that, in online learning the factor “Live interaction sessions for doubt clarification and addressing queries” has the highest weightage indicating that they need a live interaction with an instructor to clarify their doubts so that teaching and learning will be effective. Live lecture/tutorial sessions that can be recorded has the next highest weight indicate that when students have doubts in understanding the concepts they can watch the recorded video lectures again, so that the learning would be effective. The least preferred learning resource through online is reading material with least weightage .

### **7.10 Suggestions**

At the end of the survey questionnaire an attempt was made to get suggestions from students to find possible solution for the difficulties they faced while learning during the pandemic. The net connectivity, skills of the teachers for online teaching, dedicated mechanism for monitoring of online classes are some issues where the student feedback is essential for further refinement of usage of ICT for teaching and learning in ODL institution.

**Table -25: Major suggestions provided by students in percentage:**

Suggestions	Students Response	
	Number of students provided the suggestion (N)	Students Response in percentage
Improved connectivity infrastructure	40	32.26
Improved access to devices	21	16.94
Provide more teacher training and capacity building opportunities in ICT skills	14	11.29
Teacher training and capacity building in online and blended course development, delivery, and teaching-learning strategies	10	8.06
Guidelines on online/digital platforms, repositories, and educational resources	13	10.48
Provide ongoing technical support to students and teachers for technology-enabled learning	10	8.06
Develop a mechanism for monitoring online learning activities	6	4.84
Strengthen quality assurance for online and blended learning	10	8.06

As per the analysis of students suggestions, about 32% of students thought that internet connectivity and infrastructure are the main issues to be addressed as first priority followed by access to the devices. Only 5% students wanted improvement of the monitoring mechanism of online teaching. Students opined that teachers need training for online teaching and students require the skills for online learning.

#### **7.11 Future directions including plans for improving distance teaching and learning based on the experiences gained during pandemic**

The strategy in vogue before the pandemic in Dr.B.R.Ambedkar Open University was to supply printed course material to all the students, arranging face to face interaction (Counselling) classes in learner support centres (attendance is not mandatory) supported by multimedia through ICT. During the time of pandemic, university arranged course material as soft copies through E- mail and web hosting of course material. Online teaching/interaction strategy is introduced in place of face to face teaching/interaction. As a statutory obligation, printed course material was supplied after lockdown conditions are removed by following SOP.

The present survey reveals that the students have faced several challenges for their learning such as internet connectivity, access to devices, physical health and mental well-being during the pandemic. With these observations, the university decided to shift towards online education in a phased manner. Meanwhile the university has developed some resilient systems to face any difficult situations.



The university-initiated efforts to find solutions to the challenges. Some of the measures are as follows

- Started training programmes for the faculty and other teachers on the skills needed for online teaching through the Centre for Staff Training and Development (CSTD)
- A separate centre for online learning is established
- A communication network is established to send on time communication to the students regarding schedules, ID and Passwords for online teaching.
- A well-established monitoring mechanism was started to monitor online teaching.

The university is planning to resolve the other issues which come under the purview of the university. However certain issues such as net connectivity, speed and access to devices will be solved in due course with technological advancement in the society.

For the academic year 2021-22, the university had given the choice to the students to opt for supply of course material either in the soft copy or in the printed version. The university has given some incentives to the students who opted for soft copies. But it was observed that 90% of the students opted for printed copies only. The reason may be that more than 70% of the students are using smart phone as tool for online learning which is not ideal for continuous studying. Hence the university has decided to continue to distribute both soft and printed copies of course material.

Regarding the face to face interaction arranged in the learner support centres, the university implemented a blended mode, where in 60% of the classes are arranged physically and the remaining 40% are done virtually.

During the pandemic time the university was not in a position to conduct online examinations. So no evaluation had taken place. Now it is decided to hold formative evaluation through online means and summative evaluation physically following the regulations of University Grants Commission (UGC) and Government of Telangana.

The university is planning to move towards online education in a phased manner by evolving a greater role for multimedia with ICT. This may be possible in due course of time at least for some of the programmes.

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