



Unlocking Success: Transforming Challenges into Solutions in the World of Remote Learning and Online Teaching for Distance Education

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ABSTRACT

This research highlights the challenges that students faced when using different modes to participate in online classes. Encouraging the expansion of private educational institutions is seen as a way to promote competition throughout the entire higher education sector. This, in turn, is expected to result in a wider range of options, offering more innovative and higher quality products and services, all at a reduced cost (Boliver, 2023). The goals of this study were primarily centred on three characteristics of the learners: their personal, academic, and technical challenges. Because it depends on offline modes of instruction, this work has a research gap. Since the COVID era (Pareek & Soni, 2020), there have been very few studies on online instruction, and it is difficult to gauge how successful virtual education is and how well students are responding to it. While taking courses online using a mobile device or a computer, learners are wary of technological development and their frequent upgrades because of various groups like dropout students, working people, elderly people, and homemakers. In order to gather information from the 623 respondents who are enrolled in online education programmes, the researcher prepared a well-structured questionnaire. The SYSTAT software (Wilkinson, 1990) was used to utilise univariate and multivariate normality, and JAMOVI (Şahin & Aybek, 2019) was used for SEM (D. A. Jalaludeen, 2022). In order to analyse the data, we also formulated 4 null hypotheses (H₀), of which 3 were disproved. The study's findings indicate that the majority of comments concern how taking online courses through ODL helps me advance professionally or pursue higher education. The analysis led the researcher to the final conclusion that, of the three attributes, personal problems had the greatest impact on how the online courses were run. The institution will expand and be able to strengthen its position if it adopts or incorporates all of the researcher's recommendations.

Keywords: DDE, ODL, Online Learning, Personal Issues, Academic Issues, Challenges of ODL, SYSTAT

Introduction

Open distance learning (ODL) is growing rapidly among the seekers of higher education in the present scenario. (Musa et al., 2020) Today, most employed people benefit from this ODL system rather than physical classes. The world is moving towards technology, which is playing a vital role in educational delivery systems. (A. Jalaludeen et al., 2021) Earlier, learners had to spend more time and money to join the regular degree programmes in various universities, but the demand for higher education outnumbered the availability of seats

in the regular colleges and universities. This has thrown open the floodgates in the field of online and distance education, providing ample opportunities to students from all disciplines. Moreover, distance education is now part of the government's plan to expand higher education. Particularly, state and federal governments are struggling to provide adequate service to students in terms of technology adoption or innovative programs. (A. Jalaludeen et al., 2021) Hence, the University Grants Commission (UGC) has granted permission to private universities to start open and distance learning programmes to augment enrolment in ODL and online programs. In the field of distance education, some private and deemed-to-be universities outperform state universities. As a result, the primary focus of this study is on the difficulties encountered by learners in remote learning and online teaching methodologies in distance education.

Review of related studies

(**Idrizi et al., 2021**), used VARK (Visual, Aural, Read/Write and Kinaesthetic). The study revealed that a majority of students expressed a preference for online education, while acknowledging the value of addressing their queries through direct interactions in traditional face-to-face teaching. (**Su & Guo, 2021**), the study highlights the influence of learner-learner and learner-instructor interactions on online learning. It concludes that factors such as the nature of courses and teaching capabilities of instructors can impact the effectiveness of online learning. (**Castro, 2019**) explores trends in blended learning in higher education and the potential of technology, such as datafication, to enhance learning experiences. The findings highlight the benefits of digital tools and platforms, including improved access, self-paced learning, personalized paths, and effective feedback, while acknowledging the need for further research to validate these outcomes. (**Li et al., 2014**) the central government offer scholarships, grants, loans, and financial aid to students from underdeveloped regions and disadvantaged groups. This could involve expanding existing scholarship programs or establishing dedicated scholarships for distance education learners in the western area. (**Pnevmatikos et al., 2019**) argues that values and knowledge education (VaKE) is an effective instructional approach for promoting critical thinking skills and dispositions in Higher Education. This study marks the initial stage of ongoing research, indicating that the VaKE approach successfully engages students in critical thinking. (**Linda Price a, 2007**) Comparing students' experiences in distance learning courses, face-to-face tutorial support yielded better outcomes than online support, as indicated by quantitative surveys and interviews. Online tuition requires training for effective communication due to the absence of paralinguistic cues. (**Zhang & Worthington, 2017**) examines the cost efficiencies of distance education in comparison to face-to-face instruction in Australian universities. The findings reveal strong overall scale and scope economies, indicating cost savings in distance education. Therefore, prioritizing distance education can lead to significant cost benefits when allocating student places or expanding enrolment. (**Caspi & Gorsky, 2006**) the assumption that instructor-student dialogue is crucial in distance education, revealing that most students initially rely on individual efforts to overcome conceptual difficulties and turn to peers for help rather than instructors. (**Lawless & Richardson, 2004**) The Course Experience Questionnaire (CEQ) and the Personal and Educational Development Inventory (PEDI) are reliable instruments for assessing student experiences and differentiating among degrees in both campus-based and distance-learning institutions. (**Jelfs & Richardson, 2010**) Limited evidence exists on the experiences of disabled students in higher education. This study reveals that disabled students, particularly those with dyslexia, mental health difficulties, and fatigue, may exhibit surface approaches to studying and perceive lower academic quality. However, the impact of disability on students' experiences and approaches to studying is relatively minor. (**Newlands & Mclean, 1996**) Live teacher-supported distance learning, facilitated by interactive technologies like audio or video conferencing, offers the benefits of distance education while addressing the challenges of traditional distance courses. The use of audio conferencing has helped overcome initial concerns about the quality of distance learning, and a survey indicates that distance students perceive their experience to be on par with conventional students in terms of quality (A. Jalaludeen & Marimuthu, 2021).

Materials and Methods

Research Gap

The researchers have gone through as many as 35 articles and journals in preparing this research paper. The researchers have found a gap in the effectiveness of remote learning and online teaching methodologies in distance education in the Indian context. Most of the studies rely on offline modes of teaching. Only a few studies on online teaching have emerged since the COVID era, and there is a problem measuring the effectiveness of virtual education and students' satisfaction with online teaching.

Methodology Gap

Most of the researchers have used the same repetitive statistical tools for analysing data. That is ANOVA, Chi-Square test, t-test, correlation, and regression. Plenty of studies contain or have only dealt with tested or univariate normality. Here, in this study, the researcher used a multi-normality check using SYSTAT and structural equation modelling (SEM) to find the effect of an independent variable on a dependent variable.

Findings Gap

In many of the research articles and theses, the researcher found satisfaction and drawbacks in educational sectors, especially direct modes of teaching. Furthermore, their findings were primarily concerned with the outcome or result of the students. The research in this study was primarily focused on issues that arose during the online class.

Suggestion Gap

Most of the researchers have suggested general advice but not immediate solutions for the grievances of students and management separately. Hence, this study gives suggestions to students and management together for the effectiveness of online teaching methodologies.

Statement of the Problem

The study recognizes that learners in distance education come from diverse groups, including dropout students, working individuals, elderly learners, and housewives (A. Jalaludeen et al., 2021). Among these groups, housewives often face significant time constraints due to their family commitments, making it challenging for them to allocate sufficient time for keeping up with technological advancements in their education. On the other hand, older learners may experience eye irritation and hearing problems, further complicating their ability to adapt to technological changes effectively. The study acknowledges that these learners, across the different groups, often express wariness and apprehension towards the rapid pace of technological development. This apprehension arises from the constant need to adjust to new software, platforms, and upgrades. Consequently, the learners struggle to keep up with the latest technological advancements in the context of their distance education programs. By exploring the challenges faced by learners in distance education, this study aims to shed light on the specific obstacles arising from technological advancements (Castro, 2019). Understanding these challenges can help inform the development of appropriate strategies, interventions, and support systems that enable learners to overcome the hurdles and enhance their overall learning experience in distance education.

The aim of the research study

- To ascertain the personal challenges faced by the learners in distance education.
- To identify the technical challenges that distance learners face.
- To make out the academic challenges faced by the learners in distance education.
- To bring out the effectiveness of the distance education programme among ODL learners.

Rationale for choosing the topic

The researcher currently holds the position of an assistant professor at the Directorate of Distance Education, SRM Institute of Science and Technology in Chennai. During the researcher's teaching sessions for learners enrolled in distance learning degree programs, numerous technological challenges were encountered by most of the learners. Among these challenges, some older individuals lacked the knowledge of opening and logging in to applications such as Google Classroom or Zoom. Others mentioned difficulties related to mobile battery charging, network connectivity issues, smartphone handling delays, and familial responsibilities, particularly for female learners. Additionally, some learners expressed the struggle of attending classes due to their work obligations (Huang, 2014). These collective challenges faced by learners have motivated the researcher to select this topic in order to gain a deeper understanding of the issues encountered in distance education.

Need for the Research Study

While many studies primarily concentrate on examining gadgets and the performance of specific companies, this study takes a different approach by focusing on the challenges faced by learners pursuing degrees through distance education (Caliskan et al., 2017). Unlike previous research that often centered around educational institutions and regular students, this study specifically targets the unique context of distance education. It recognizes that distance education learners are frequently excluded from research investigations. Notably, learners pursuing degrees in distance mode exhibit exceptional dedication to their studies, often surpassing the commitment of many regular students. They possess practical experience and demonstrate a strong ability to apply their knowledge in real-world business scenarios. These learners actively engage in Personal Contact Programme (PCP) classes, readily seeking clarification by posing questions that reflect their deep understanding of practical implications.

Scope of the study

Through its findings, this study brings attention to the inadequate recognition of challenges faced by learners attending virtual classes and emphasizes the need for administrators to address these issues seriously. The study serves as a persuasive tool for government bodies and educational institutions, urging them to prioritize and resolve the problems encountered by learners during their learning journey (Ministry of Education, 2020). Additionally, the study recommends that mobile application and website developers consider the limitations faced by learners and develop user-friendly applications that are simple and easy to navigate.

Furthermore, this study empowers learners by providing strategies to overcome obstacles and highlights the crucial role technology plays in the pursuit of knowledge.

Research Methodology

In this research study, the researcher used purposive sampling techniques to determine the sample and analyse the data. As per Cochran's [1] formula, the fixed sample size is 385 in the case of an unknown population. The researcher calculated the sample as 333 and determined the sample size as 623. Because the researcher collected data from the 623 respondents. The data were collected from the respondents using a structured questionnaire administered through a Google Form prepared by the researcher.

Tools used for analysis

- Percentage Analysis
- Reliability Analysis
- Multi-normality Examination
- Univariate Normality
- Structural Equation Modelling

Analysis

The demographic characteristics of the respondent are shown in Table No. 1. As per the table, out of 623 learners, 56.3% were male respondents, and 43.7% were female respondents. In terms of age, 60% of respondents are between the ages of 18 and 25, 27.8% are between the ages of 26 and 35, 9.3% are between the ages of 36 and 45, 2.4% are between the ages of 46 and 55, and 0.5% are between the ages of 56 and Above. In terms of qualification, 67.1% of learners had Undergraduate (UG), 28.9% had Postgraduate (PG), 2.2% had 12th, 1% had Ph.D or PDF, and 0.8% had Diploma.

The second table shows the validity and reliability of questions or variables. The Cronbach's alpha and McDonald's omega coefficient values for all the variables are above 0.8. Cronbach's alpha probability values greater than 0.5 are considered reliable for analysis (Hair et al. 2017). So this shows that the variables are very reliable and valid. KMO (Kaiser Meyer Olkin) aids in determining sample size adequacy. The Measure of Sample Adequacy (MSA) score is 0.809, and Barlett's test of sphericity is significant.

Mardia's coefficients of multivariate skewness and kurtosis can be used to measure the multivariate normality assumption that must be satisfied in many multivariate statistical procedures. The researcher performed the multivariate normality test through SYSTAT software. To determine whether the variables were normally distributed or not, a multivariate normality test was performed. The Mardia's coefficient of skewness is 170.561, and the P-value is 0.000. Mardia's Coefficient of Kurtosis value is 1240.341, and the P-value is 0.000 (**Bonett et al., 2002**). So based on the analysis, samples are not normally distributed. But the researcher assumed that the data were normally distributed for further analysis.

Shapiro-Wilk test is used to check the univariate normality of the variables (**RMD, 2015**). The test result of univariate normality, the P-value of all the variable is 0.000. i.e. less than 0.05. so the variables are fully departed from univariate normality at 1% level of significant or not normally distributed. As a result, the researcher assumed that the data were distributed normally in order to continue the study.

SEM fit assessment

SEM (Structural Equation Modeling) is a method for testing hypotheses or theories. Also, it is used to analyse the impact of an independent variable on a dependent variable based on the sample collected from the respondents. As recommended by (**James C. Anderson, 1988**), the various proposed models were finally accepted as a measurement model. After accepting the measurement model to analyse the reliability and validity of the questionnaire first, the structural equation model was tested using JASP. The SEM is extremely useful for testing the causal relationship between variables (**Hu & Bentler, 1999**).

SEM determines whether or not the data fits the theoretical model. In order to assess the SEM model, highlight the GFI, CFI, PGFI, NFI, IFI, TLI, CMIN/D.F., and RSMEA (Table 5) (**Hu & Bentler, 1999**). The model's result, a Chi-Square (X²) p-value of 0.000, indicates that it is not a good fit. However, **Randall E. Schumacker and Richard G. Lomax (1996)** recommended that a sample size of over 200 (623 in this research) could affect the Chi-square value to indicate a significant probability value (p) of 0.000. So this model is considered a good fit. And other indicators like GFI, CFI, PGFI, NFI, IFI, and TLI were used to test the estimation and measurement of model fit. Table No. 5 depicts the estimation of the model fit indices from JASP structural equation modelling (JALALUDEEN, 2019).

(**Anderson & Gerbing, 1991**) have given the acceptable model fit criteria as follows: NFI of 0.90, RMSEA of 0.08, and CFI index value of 0.90. The proposed model and data tested with GFI have a good model fit; a p value of 0.9 indicates a good model fit (Hu and Bentler, 1999) [4]. The goodness of fit indices of this analysis were 0.966 higher than the recommended value of 0.90, and other measurement values were good fit and satisfactory levels: PGFI = 0.769, CFI = 0.944, TLI = 0.933, IFI = 0.945, NFI = 0.926, CMIN/Df = 3.73, and RMSEA = 0.066. (**RICHARD P. BAGOZZI, 1997**) point out a moderate-fit model. The GFI supports the

model fit, and these highlighted indices indicate the acceptability of this structural equation model. The model fit and alternative hypotheses are framed for this purpose of analysis.

Hypothesis

1. **H_{0a}**: The measurement model has a good fit.
2. **H_{0b}**: The personal issues (PI) of the learners (students) will not affect the effectiveness of remote learning and online teaching methodologies in distance education.
3. **H_{0c}**: The academic issues (PI) of the learners (students) will not affect the effectiveness of remote learning and online teaching methods in distance education.
4. **H_{0d}** - The Technological Issues (PI) of the learners (students) will not affect the effectiveness of Remote Learning and Online Teaching Methodology in Distance Education.

According to **(Kenneth A. Bollen, 2012)** the higher the chi-square probability value, the closer the fit between the measurement model and the good fit. The test of the null hypothesis (H_{0a}), which is a four-factor structure as shown in figure 1, has a chi-square value of 530.81 with 142 degrees of freedom and a P value less than 0.001. So it is suggested that the model is a good fit for the data and the measurement model. **Schumacker and Richard G. Lomax (1996)** recommended that a sample size of over 200 (623 in this research) could affect the Chi-square value to indicate a significant probability value (p) of 0.000. So this model is considered a good fit.

Hair et al. (1998) proposed that the model fit statistic minimum discrepancy (CMIN/DF) be set to 5 otherwise. As per table no.t, the value of the CMIN/DF is 3.73, which is less than the accepted value of 5.

In this section, the researcher used four construct to test the model fit. **(Kenneth a. Bollen, 2012)** Firstly we analyse the impact of personal issues on effectiveness of remote learning and online teaching methodology in distance education.

Table 6 shows the results of structural equation modelling of constructs. Personal issues (PI) are revealed; the unstandardized coefficient value was 0.952; the critical ratio was 11.0441; the standardised coefficient was 0.714; and P<0.001. This shows that the p-values are less than the generally accepted minimum norm of 0.05. So the null hypothesis is rejected. The personal issues of the learners are affecting the effectiveness of remote learning and online teaching methodologies.

Secondly, we have tested the impact of academic issues on the effectiveness of remote learning and online teaching methodologies in distance education. Table 6 shows the results of structural equation modelling of constructs. The unstandardized coefficient value was 0.753, the critical ratio was 9.1052, the standardised coefficient value was 0.663, and the P value was 0.001. This indicates the p-values are less than the generally accepted minimum norm of 0.05. As a result, the null hypothesis is rejected (hoc). The academic issues of the learners are affecting the effectiveness of remote learning and online teaching methodologies **(Liu & Geertshuis, 2021)**.

Finally, we have analysed the impact of technological issues on the effectiveness of remote learning and online teaching methodologies in distance education. Table 6 shows the results of structural equation modelling of constructs. The unstandardized coefficient value was 0.621, the critical ratio was 8.269, the standardised coefficient value was 0.683, and the P value was 0.001. This indicates the p-values are less than the generally accepted minimum norm of 0.05. So the null hypothesis is rejected. Learners' technological issues are reducing the effectiveness of remote learning and online teaching methodologies.

From the analysis among the three factors, personal issues are highly affecting the effectiveness of remote learning and online teaching methodologies in distance education compared with other factors based on a large critical ratio of 11.0441 in probability values, which is less than 0.001.

Table 7 reveals the results of structural equation modelling for individual items. **AI5 has a high influence (0.794) over other variables in academic issues.** Specifically, contacting universities is difficult, and the AI6-subject teacher does not coordinate your attendance at classes. In terms of personal issues, PI2—disturbance from my family while attending classes—has a greater influence on the construct than other variables. For technological issues, TI6: "I am having a power or electricity problem while attending the classes" (0.848) is highly influenced by other variables and followed by TI7: "My DATA is not sufficient while attending the classes (1 or 2 GB)" (0.791). For effectiveness, E3-Online Classes help with my promotion or higher studies through ODL **(Lai, 2015)** (0.724), which is more highly affected than other variables.

Suggestion

Academic Issues

The ODL-offering universities have switched over to offering classes through online mode, and most of the learners find it difficult to raise their issues about their studies or to contact the universities and subject teachers **(Netanda et al., 2019)**. So the department concerned and the university should improve. Contacting the university should be made easier, and more administrators should be appointed to work with them. Increase the number of landlines or set up a call centre to contact the university. If you follow this suggestion, your admission rate will increase. Moreover, faculty members have to encourage learners or students to attend the classes regularly. Because these people are working and family-committed, a little bit of abstinence can be

tolerated. So the head of the department and management have to take the necessary steps to solve the problems.

Personal Issues

Most of the students are having personal family issues while attending classes and are not able to attend the classes for more than 2 hours. So the students have to make arrangements according to the time table sent by the class coordinator or the university. Moreover, while attending the classes, the learners expect the arrangements to be proper before the class. Another issue with attending the class is having classes run continuously for hours. The university should conduct the Personal Contact Program (PCP) for 40 minutes per class in a day and a maximum of 120 minutes (i.e.). 3 periods per day, and that makes learners attend the class with due attention.

Technological Issues

This is one of the very important issues the students face while attending the class in virtual mode. Mainly, they are facing two problems. One of the main problems is a power or electricity problem while attending the classes in virtual mode. Before the start of PCP classes, the ODL offering university should instruct students on how to use electronic devices to attend classes online. All the problems associated with the bandwidth of the internet, storage, and connectivity should be properly addressed. So it is suggested that the university give recorded videos to students.

Effectiveness

Responses on the effectiveness of remote learning and online teaching methodology in distance education have been gathered from students pursuing degrees in ODL in Chennai city. Most of the responses are related to how taking online classes helps with my promotion or higher studies through ODL (Letseka & Pitsoe, 2014). Many of the students are mainly pursuing degrees for their individual advancements. If they acquire a degree in ODL, they will get higher pay with promotion.

Conclusion

Unlocking Success: Transforming Challenges into Solutions in the World of Remote Learning and Online Teaching for Distance Education was created with the intention of recommending valid points to students and universities (Hazelkorn, 2014). The first of the three constructs is highly influential in the conduct of online classes. So the students should be prepared before attending the classes, like charging, internet frequency, etc. Secondly, academic issues are highly influential in the conduct of online classes. So the management has to concentrate more on the development of facilities. If the students are having any issues, they can easily approach the institution and use the Grievance Redressal Cell to solve their issues. If the university implements or incorporates all the suggestions given by the researcher, it will grow, or they can strengthen their admissions.

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Annexure

Table No.1- Demographic Characteristics of the Respondent

		Frequency	Percent
Gender	Male	351	56.3
	Female	272	43.7
Age	18-25	374	60.0
	26-35	173	27.8
	36-45	58	9.3
	46-55	15	2.4
	56 and Above	3	.5
Qualification	12th	14	2.2
	Diploma	5	.8
	Under Graduate	418	67.1
	Post Graduate	180	28.9
	Ph. D or PDF	6	1.0

Table No.2 – Validity and

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.809
	Approx. Chi-Square	11206.441
Bartlett's Test of Sphericity	df	378
	Sig.	0.000

Reliability Analysis

<i>Scale Reliability Statistics</i>		<i>Cronbach's α</i>	<i>McDonald's ω</i>		
		0.896	0.912		
Item / Variable	Cronbach's α	McDonald's ω	item / Variable	Cronbach's α	McDonald's ω
PI1	0.89	0.907	TI1	0.892	0.909
PI2	0.889	0.906	TI2	0.888	0.905
PI3	0.908	0.917	TI3	0.896	0.912
PI4	0.891	0.909	TI4	0.888	0.906
PI5	0.906	0.917	TI5	0.889	0.906
PI6	0.893	0.91	TI6	0.888	0.905
PI7	0.891	0.909	TI7	0.889	0.906
AI1	0.891	0.908	E1	0.894	0.91
AI2	0.891	0.908	E2	0.892	0.909
AI3	0.891	0.907	E3	0.891	0.908
AI4	0.891	0.907	E4	0.892	0.908
AI5	0.891	0.907	E5	0.892	0.908
AI6	0.892	0.908	E6	0.891	0.908
AI7	0.892	0.908	E7	0.896	0.912

Table No.3 – Multi-Variate Normality Test

<i>Joint Normality</i>			
<i>Test</i>	<i>Coefficients</i>	<i>Test Statistic</i>	<i>p-Value</i>
<i>Mardia Skewness</i>	170.561	17,801.086	0.000
<i>Mardia Kurtosis</i>	1,240.341	121.896	0.000
<i>Henze-Zirkler</i>		1.738	0.000

Table No.4 – Uni-Variate Normality Test

Marginal Normality Tests			
Variable	Test	Test Statistic	p-Value
I am having issues with my Electronic Gadgets	Shapiro-Wilk	0.864	0.0000
Disturbance from my family while attending Classes	Shapiro-Wilk	0.863	0.0000
Online classes is very suitable for me instead offline Class	Shapiro-Wilk	0.835	0.0000
I am not able to attending the classes for more than 2 hrs	Shapiro-Wilk	0.909	0.0000
This remote or online learning program working to me	Shapiro-Wilk	0.863	0.0000
Weekend i am not able to attend	Shapiro-Wilk	0.874	0.0000
Work pressure affect my PCP Classes	Shapiro-Wilk	0.909	0.0000
No proper communication from the Universities	Shapiro-Wilk	0.864	0.0000
I am having issues with SLM Books	Shapiro-Wilk	0.861	0.0000
I am having issues with writing exam through online mode	Shapiro-Wilk	0.779	0.0000
I am having issues with receiving Hall Ticket	Shapiro-Wilk	0.762	0.0000
Very difficult to Contact the Univerisities	Shapiro-Wilk	0.832	0.0000
Subject Teacher is not coordinate to attend the classes	Shapiro-Wilk	0.826	0.0000
Professor is not clearing my doubts	Shapiro-Wilk	0.794	0.0000
I am not having strong Knowledge in using Technological Platform (Google Class room, Zoom, LMS)	Shapiro-Wilk	0.768	0.0000
Network issues in my area	Shapiro-Wilk	0.858	0.0000
I am using my mobile to attend the classes	Shapiro-Wilk	0.868	0.0000
Battery Charging Problem with my Gadgets	Shapiro-Wilk	0.863	0.0000
I am having eye irritation while attending the Classes through Gadgets	Shapiro-Wilk	0.871	0.0000
I am having Power or Electricity problem while attending the classes	Shapiro-Wilk	0.865	0.0000
My DATA is not sufficient while attending the Classes (1GB, 2GB)	Shapiro-Wilk	0.854	0.0000
My Course effectively useful for my Growth	Shapiro-Wilk	0.909	0.0000
It is helps to improve my Knowledge	Shapiro-Wilk	0.862	0.0000
It is helps for my promotion or higher studies	Shapiro-Wilk	0.852	0.0000
All facilities provided by the university for development	Shapiro-Wilk	0.763	0.0000
Highly Knowledgable SME taking classes	Shapiro-Wilk	0.73	0.0000
I am very happy with behaviour of the SME	Shapiro-Wilk	0.835	0.0000
I am very happy with feedback response of the SME	Shapiro-Wilk	0.867	0.0000

Table No.5 –SEM- Model Fit Indices

Fit Indices	Results	Suggested Values
Chi-Squares	530.81 (0.000), DF-142	P-value>0.05
Chi-Squares/Degrees of freedom (x2/d.f)	3.73	<5.00 (Hair et.al, 1998)
Comparative Fit Index (CFI)	0.944	>0.90 (Hu and Bentler, 1999)
Goodness of Fit Index (GFI)	0.966	>0.90 (Hair et.al 2006)
Bentler-Bonett Normed Fit Index (NFI)	0.933	≥0.90 (Hu and Bentler, 1999)
Bollen's Incremental Fit Index (IFI)	0.945	Approaches 1
Tucker-Lewis Index (TLI)	0.933	≥0.90 (Hair et.al., 1998)
Root Mean Square Error of Approximation (RMSEA)	0.066	<0.08 (Hair.et al., 2006)
Parsimony Goodness of Fit Index (PGFI)	0.769	Within 0.5 (Mulaik et.al., 1989)

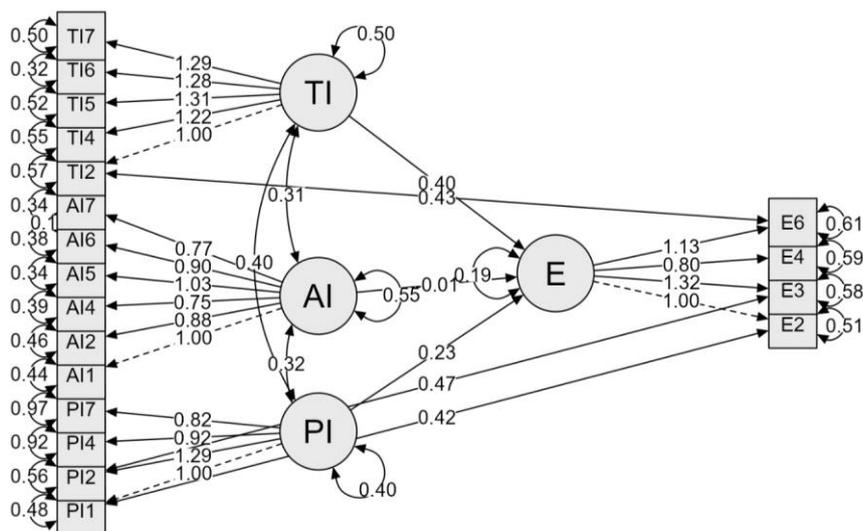
Table No.6 –Result of SEM for Constructs

Parameters estimates							
Dep	Pred	Estimate	SE	C.R	β	z	p
Personal Issues	Effectiveness	0.952	0.0862	11.0441	0.714	11.04	< .001
Academic Issues	Effectiveness	0.753	0.0827	9.1052	0.663	9.1	< .001
Technological Issues	Effectiveness	0.621	0.0751	8.2690	0.683	8.28	< .001

Table No.7 – Result of SEM for Constructs with item

Constructs	Indicator	Estimate	Std. Error	Standardized	z-value	p
AI	AI1	1		0.746		
	AI2	0.878	0.053	0.691	16.456	< .001
	AI4	0.752	0.047	0.667	15.861	< .001
	AI5	1.03	0.055	0.794*	18.896	< .001
	AI6	0.899	0.051	0.735	17.46	< .001
	AI7	0.773	0.047	0.699	16.541	< .001
PI	PI1	1		0.676		
	PI2	1.287	0.06	0.737*	21.592	< .001
	PI4	0.922	0.075	0.52	12.365	< .001
	PI7	0.82	0.074	0.466	11.052	< .001
TI	TI2	1		0.684		
	TI4	1.223	0.066	0.761	18.398	< .001
	TI5	1.31	0.069	0.789	19.095	< .001
	TI6	1.279	0.062	0.848*	20.515	< .001
	TI7	1.29	0.067	0.791	19.148	< .001
E	E2	1		0.647		
	E3	1.32	0.069	0.724*	19.219	< .001
	E4	0.797	0.066	0.531	12.01	< .001
	E6	1.127	0.071	0.657	15.84	< .001

Figure No. 1- SEM Model- Path diagram



Questionnaire

Demographical Details

- Name of the Respondent-----
- Gender :
 - Male
 - Female
 - Third Gender or Transgender
- Age
 - 18- 25 years,
 - 26-35years
 - 36-45years,
 - 46-55 Years,
 - 56 and above
- Educational Qualification
 - 12th,
 - Diploma,
 - Degree (Example- B.Com, BBA, B.Sc. B.E)
 - PG Degree (Example. M.com, MBA, MSC, M.E)
 - Ph.D. or PDF
- District-----

Please give your response for the followings.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

PI	Personal Issues	1	2	3	4	5
PI1	I am having issues with my Electronic Gadgets					
PI2	Disturbance from my family while attending Classes					
PI3	Online classes is very suitable for me instead offline Class					
PI4	I am not able to attending the classes for more than 2 hrs					
PI5	This remote or online learning program working to me					
PI6	Weekend i am not able to attend					
PI7	Work pressure affect my PCP Classes					
AI	Academic Issues					
AI1	No proper communication from the Universities					
AI2	I am having issues with SLM Books					
AI3	I am having issues with writing exam through online mode					
AI4	I am having issues with receiving Hall Ticket					
AI5	Very difficult to Contact the Universities					
AI6	Subject Teacher is not coordinate to attend the classes					
AI7	Professor is not clearing my doubts					
TI	Technical Issues					
TI1	I am not having strong Knowledge in using Technological Platform (Google Class room, Zoom, LMS)					
TI2	Network issues in my area					
TI3	I am using my mobile to attend the classes					
TI4	Battery Charging Problem with my Gadgets					
TI5	I am having eye irritation while attending the Classes through Gadgets					
TI6	I am having Power or Electricity problem while attending the classes					
TI7	My DATA is not sufficient while attending the Classes (1GB, 2GB)					
Effect	Effectiveness					
E1	My Course effectively useful for my Growth					
E2	Online Classes is helps to improve my Knowledge through ODL					
E3	Online Classes helps for my promotion or higher studies through ODL					
E4	All facilities provided by the university for development					
E5	Highly Knowledgeable SME taking classes					
E6	I am Very happy with behaviour of the SME					
E7	I am very happy with feedback response of the SME					