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Online Teaching and its Effect on Students' Progress - Post - Covid Learning Strategies for Higher Education Sector

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Abstract

The Covid Pandemic outbreak has taught lots of lessons to the teaching industry. However, everything is learning. The production may stop, marketing may stop, even a customer shall stop purchasing, but the learning alone would not stop. Our technology has gifted a thrill word called "Online", with this facility, the classes of the management students went well. The student's progress and their perception are recorded in the study. A structured questionnaire was framed based on the online classes with 31 independent variables, and the responses were collected from the MBA students of Tiruchirapalli, Tamilnadu. A conceptual model is suggested using statistical tools, and the predictors of placement readiness are identified in the study. The results of the study suggested that the students are expecting content beyond the curriculum and valuable inputs from the faculty members. Virtual learning satisfaction is predicted when the faculty delivers the content beyond the curriculum.

Keywords: *Online Learning, Covid Pandemic, Management Students, Virtual learning, Students satisfaction*

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Introduction

The Coronavirus induced pandemic in 2020 has taken the world by storm. It disrupted the normal ways of life and introduced humankind to new ways of living. The internet is one such medium that was hugely made use of during the pandemic. In the first few weeks of the pandemic, when almost all nations started to impose lockdowns and forcefully kept people at home, even Internet giants like YouTube and Netflix lowered the video quality on their services to keep the internet infrastructure running smoothly (Brian Fung, CNN, 2020). The latency on the internet got impacted due to the increased amount of human activities that were starting to get done online (Massimo Candela, 2020). Such was the widespread adoption and use of the internet during the pandemic.

Apart from using the internet for entertainment, financial services, the prolonged and uncertain nature of the pandemic has resulted in the internet as a medium for education. Though online education and some form of hybrid learning were present in colleges and universities even before the pandemic, the unprecedented scale at which students and teachers adopted online education all over the world is simply mind-boggling.

Online Teaching and Learning:

Online teaching refers to the interactions between a student and a teacher in a virtual classroom setting. In traditional methods, the instructor and the pupil were meant to be present physically in close proximity. However, with the advancements in technology and high-speed internet connectivity becoming ubiquitous, the student and teacher may be separated physically by time and distance and yet a classroom setting can be mimicked. The pupil and the master can be seated in the comforts of their home or any place of their liking, and all they require is an uninterrupted internet connection. Applications like Google Classroom, Cisco Webex, Microsoft Teams and Zoom are all tools that help to achieve this virtual classroom feel. Especially in the Indian context, where access to paid applications is a luxury for some, even common chat apps like Whatsapp and Telegram are being used for online education. Teachers and students are on their mobile phones during the 'scheduled classroom hours' with classroom lectures and materials uploaded as videos and image files after the completion of the lecture.

The Effectiveness of Online Teaching:

Availability and accessibility of computer hardware, software and a decent internet connection are all prerequisites for online education. However, the effectiveness of delivery and learning and retention levels of students via the online medium is a subject of intense speculation and debate. (Anna Ya Ni, 2018) A study on the effectiveness of classroom and online learning indicates that a student's performance as measured by a grade is independent of the mode of instruction, be it offline or online. The students may have to put in a lot more effort to stay competitive and be on time with assessments in an online learning environment rather than a classroom atmosphere. Also, online learning may not be the right or best method to learn for every student (Heather Kauffman, 2015). Different students have different learning styles, and sitting in front of a monitor for extended periods of time may not yield the optimum learning experience for everyone. The performance of the students can be improved during online study experiences as the students become self-sufficient learners in an online mode (Mark Stansfield, 2004). This is achieved through tailoring the pace of study according to one's personal needs and requirements and gaining flexibility of access to learning materials and assessments that provide a greater sense of reflection over their performances.

From the faculty or teaching end, online learning needs to fulfil the three basic ideas: cognitive presence, social presence, and teaching presence (Randy Garrison, 2003). The teaching and cognitive presence are taken care of during the online class. It is the social presence that is found missing. Teachers are not in a position to physically make eye contact with their students and attend to the students individually as they can during a physical class. The command that a teacher can receive in a classroom will be missing, and they have to watch the images of students through a video camera. So, as a result, certain new and innovative teaching and pedagogical skills are also needed to make online education a learner-centred teaching model (Liesbeth De Paepe, 2018).

Online Teaching and MBA Students:

MBA all over the globe and more so in a developing country like India is viewed as an aspirational course where students seek to further their careers by investing their time and money for a period of two years. Owing to the classroom disruption due to the pandemic, MBA, like all other courses, also needed to be done online with lectures, discussions and assessments moving to the virtual mode. Globally, students have found this online MBA experience beneficial because they could access friends and classmates from distances apart (Kyong Jee Kim, 2005). They felt that virtual learning would help them be a part of the global business environment. Moreover, instructor behaviour, the way a professor takes forward an online class, is a key indicator of the effectiveness and success of the program (Arbaugh, 2014). To cater to the aspirations of today's generation of MBA students is a huge challenge for any set of teachers. Doing that online is an even greater challenging proposition.

This research study discussing about online learning in these challenging times amongst MBA students in Tamil Nadu seeks to inquire into these issues.

Review of Literature

Keengwe & Kidd (2010) explored the transition from traditional classroom-based teaching to online learning. Online learning is a challenge for both the students and faculty members since their roles are different from that of a conventional classroom setting. Teachers need to be conversant with the usage of information and communication technology tools to deliver content online. Cognitive tasks under an online setting undergo considerable changes in the virtual classroom environment. **De Freitas et al. (2015)** studied the effects of Massive Online Open Courses (MOOCs) on higher education and learning. Though MOOCs have been largely successful in attracting larger student groups and broad base education to a wider audience, concerns still remain with regard to the quality of teaching and learning that happens. This paper views MOOCs as a change agent for higher education but at the same time reviews and analyses how course retention can be made more effective. **Bowers & Kumar (2015)** performed a comparative analysis on students' perceptions between learning in a physical environment and online learning. The results of the study are quite contrary to the commonly accepted wisdom. The students perceived stronger social and teacher presence in an online teaching environment. Implications of the results of this research are crucial for further discussions. **Nguyen (2015)** examined the effectiveness of online learning and categorised them as positive, negative and mixed or null findings. The study finds out that distance or online education is at least as effective as traditional learning in areas such as student test scores and their engagements with the classroom materials that are provided. More importantly, there is a stronger sense of community amongst the students with very little withdrawal from the classes and students failing their exams. **Hodges et al. (2020)** talk about the structural differences between emergency remote teachings as is being done due to the pandemic and between systematised online learning. Understanding the differences between the two is important for academicians because proper online learning will have a fundamentally different course and instructional design. Abrupt and unplanned migration to online teaching from classroom learning can lead to diminishing the overall effectiveness of the course being delivered. **Dhawan (2020)** has performed a SWOC analysis of online learning in the Indian context during the Covid pandemic. Academic institutions were left with no other choice but to shift to online both for learning and for assessing the students. This is also the time that has seen an exponential growth of educational technology (EduTech) startups and their facilitation of online education. Innovations and changes are inevitable in the education sector, and both teachers and students must get ready for this challenge. **Xu & Jaggars (2013)** have studied the impact of online learning on students' course outcomes. The study has estimated the learning in an online setting versus a face to face course delivery. Analyses gave negative estimates in terms of both course persistence and grades achieved in online learning. The study recommends colleges to evaluate their quality of online coursework before expanding. **Dinning et al. (2016)** assess whether a blended learning approach can enhance students' transition into higher education. The study intended to capture the students' attention and their curiosity levels during online and face to face sessions. Blended learning

was found to be an effective method for students during their initial days at college.

Research Methodology

Using a five-point Likert scale, the researcher constructed a questionnaire based on the following components, "Teachers cohesion with students", "Supportive Virtual Learning Environment", "Online Content Delivery and Learning Experience", "Leverage of Technology", "Content beyond Curriculum", Virtual learning satisfaction, and "Placement Readiness". The questionnaire consists of 31 independent variables distributed to MBA students of Tiruchirappalli City. The total sample collected is 132. The responses were collected through google forms and analysed the data using IBM SPSS 23.0 and IBM SPSS AMOS 20.0. Descriptive Statistics, Pearson Correlation, Multiple regression and Structural Equation Modeling (SEM) were the statistical tools used. The questionnaire was checked for Cronbach alpha for internal consistency and derived satisfactory results.

Research Objectives

1. To study the demographic profile of the full time MBA students and their Internet usage pattern for online classes.
2. To find out the effectiveness of online learning during the Covid Pandemic outbreak.
3. To study the predictors of Placement readiness and virtual learning satisfaction of the MBA students.
4. To derive a Model for online learning to enhance the MBA students' managerial skills.

Research Hypothesis

H1a-Teachers Cohesion has a linear relationship with Placement Readiness.

H2a-Supportive virtual learning environment has a linear relationship with Placement Readiness.

H3a-Online Content Delivery and Learning Experience has a linear relationship with Placement Readiness.

H4a-Leverage of Technology has a linear relationship with Placement Readiness.

H5a-Content beyond the curriculum has a linear relationship with Placement Readiness.

H6a-Virtual Learning Satisfaction has a linear relationship with Placement Readiness.

Table 1 Computation of Cronbach Alpha Reliability Score for the Online Learning Constructs

CONSTRUCTS	NO OF ITEMS	CRONBACH ALPHA
TEACHERS COHESION WITH STUDENTS	5	0.815
SUPPORTIVE VIRTUAL LEARNING ENVIRONMENT	5	0.733
ONLINE CONTENT DELIVERY AND LEARNING EXPERIENCE	5	0.811
LEVERAGE OF TECHNOLOGY	4	0.814
CONTENT BEYOND CURRICULUM	4	0.804
VIRTUAL LEARNING SATISFACTION	4	0.834
PLACEMENT READINESS	4	0.862
TOTAL ITEMS IN THE INSTRUMENT	**31**	**0.810**

The Online learning effectiveness has seven constructs, and all the constructs were individually checked for the Cronbach alpha. The construct "Placement Readiness" with four items has an α of 0.862, which is highly reliable. Similarly, "Online Content Delivery and Learning Experience" has an α score of 0.811 and "Supportive learning environment" reported an alpha score of 0.733. All the constructs reported a satisfactory reliability score.

Table 2 Demographics and Internet Usage Pattern during the Online Classes

DEMOGRAPHIC AND INTERNET USAGE PATTERN	PERCENTAGE
Gender	
Male	63%
Female	37%
Device which you use to attend the online classes	
Laptop/Desktop	60%
Mobile	40%

Internet connectivity in your residence	
Mobile Data/hotspot	61%
Broadband	35%
Dongle/Others	4%
Are you already familiar with the online learning and usage of online platforms	
Yes	54%
No	23%
Somewhat	23%
Do you switch your "Video camera on" during your classes?	
Yes	11%
No	29%
Occasionally/On Demand	60%
Did you experience any issues during the online classes in terms of technicality, network issues etc.	
Very Frequently	8%
Frequently	22%
Occasionally	38%
Rarely	27%
Very Rarely	4%
Never	1%

Table 3 Computation of Descriptive Statistics for the Online Learning Constructs

Constructs	Range	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
LEVERAGE OF TECHNOLOGY	3.25	3.94	0.76	-0.29	0.21	-0.57	0.42
TEACHERS COHESION WITH STUDENTS	3.60	3.85	0.75	-0.45	0.21	0.03	0.42
ONLINE CONTENT DELIVERY AND LEARNING EXPERIENCE	3.00	3.73	0.74	0.04	0.21	-0.73	0.42
SUPPORTIVE VIRTUAL LEARNING ENVIRONMENT	2.75	3.60	0.74	0.37	0.21	-0.77	0.42
VIRTUAL LEARNING SATISFACTION	4.00	3.54	0.86	-0.45	0.21	0.41	0.42
PLACEMENT READINESS	3.50	3.49	0.88	-0.08	0.21	-0.69	0.42
CONTENT BEYOND CURRICULUM	3.75	3.37	0.89	0.05	0.21	-0.51	0.42

The Construct "Leverage of Technology evidenced the highest mean score (M=3.94, SD=0.76) shows a skewness (-0.29) and kurtosis (-0.57) score, which demonstrates the normality of the variables. "Teachers Cohesion with Students" reported (M=3.85, SD=0.75) shows a significant skewness score of -0.45, which is nearer to 1." Online Content delivery and learning experience" indicated (M=3.73, SD=0.74), which shows a normal skewness score of 0.04. The lowest mean of 3.37 is observed for "Content beyond Curriculum".

Table 4 Computation of Pearson Correlation Coefficient for Determining the Relationship between the Online Learning Constructs

	TCS	SVLE	OCD-LE	LoT	CBC	VLS	PR
TCS	1						
SVLE	.736**	1					
OCD-LE	.657**	.685**	1				
LoT	.646**	.607**	.733**	1			
CBC	.434**	.500**	.695**	.586**	1		
VLS	.371**	.415**	.600**	.501**	.759**	1	
PR	.484**	.612**	.617**	.582**	.675**	.697**	1
	H1	**H2**	**H3**	**H4**	**H5**	**H6**	

**. Correlation is significant at the 0.01 level (2-tailed).

Acronym and Constructs Name

1. TCS - TEACHERS COHESION WITH STUDENTS
2. SVLE - SUPPORTIVE VIRTUAL LEARNING ENVIRONMENT
3. OCDLE- ONLINE CONTENT DELIVERY AND LEARNING EXPERIENCE
4. LoT- LEVERAGE OF TECHNOLOGY
5. CBC- CONTENT BEYOND CURRICULUM
6. VLS - VIRTUAL LEARNING SATISFACTION
7. PR- PLACEMENT READINESS

- Teachers Cohesion and Placement Readiness are positively related, r =0.484, p<0.05

- The supportive virtual learning environment and Placement Readiness are positively related, r =0.612 4, p<0.05
- Online Content Delivery and Learning Experience and Placement Readiness are positively related, r =0.617 4, p<0.05
- Leverage of Technology and Placement Readiness are positively related, r =0.582 4, p<0.05
- Content beyond Curriculum and Placement Readiness are positively related, r =0.675, p<0.05
- Virtual Learning Satisfaction and Placement Readiness are positively related, r =0.697, p<0.05

Computation of Regression Coefficient

Table 5 Determining the Predictors of Placement Readiness

Constructs	B	Std. Error	Beta	t	Sig.
(Constant)	-0.201	0.290		-0.692	0.490
1. TEACHERS COHESION WITH STUDENTS	-0.064	0.103	-0.054	-0.617	0.538
2. SUPPORTIVE VIRTUAL LEARNING ENVIRONMENT	**0.416**	**0.105**	**0.348**	**3.967**	**0.000**
3. ONLINE CONTENT DELIVERY AND LEARNING EXPERIENCE	-0.056	0.120	-0.047	-0.468	0.641
4. LEVERAGE OF TECHNOLOGY	0.159	0.099	0.138	1.608	0.110
5. CONTENT BEYOND CURRICULUM	0.172	0.095	0.173	1.817	0.072
6. **VIRTUAL LEARNING SATISFACTION**	**0.409**	**0.086**	**0.401**	**4.744**	**0.000**

Dependent Variable: PLACEMENT READINESS **R=0.796**

Regression Equation

Placement Readiness= Supportive Learning Environment*0.416 + Virtual Learning Satisfaction * 0.409

The construct "Supportive learning environment" is found to the significant predictor of Placement readiness where the t value is 4.967 (β = 0.348, p<0.000). The construct "Virtual learning satisfaction" is found to be the significant predictor of Placement readiness where the t value is 4.744 (β = 0.401, p<0.000).

Table 6 Determining the Predictors of Placement Readiness

Constructs	B	Std. Error	Beta	t	Sig.
(Constant)	.762	.293		2.600	.010
1. TEACHERS COHESION WITH STUDENTS	-.015	.107	-.013	-.137	.891
2. SUPPORTIVE VIRTUAL LEARNING ENVIRONMENT	-.024	.109	-.021	-.225	.822
3. ONLINE CONTENT DELIVERY AND LEARNING EXPERIENCE	.163	.124	.141	1.322	.189
4. LEVERAGE OF TECHNOLOGY	.037	.103	.033	.362	.718
5. **CONTENT BEYOND CURRICULUM**	**.642**	**.080**	**.658**	**8.076**	**.000**

Dependent Variable: VIRTUAL LEARNING SATISFACTION **R=0.766**

Regression Equation

Virtual Learning Satisfaction= Content Beyond Curriculm*0.642

The construct "Content Beyond Curriculum is found to be the significant predictor of Virtual learning satisfaction where the t value is 8.076 (β = 0.658, p<0.000).

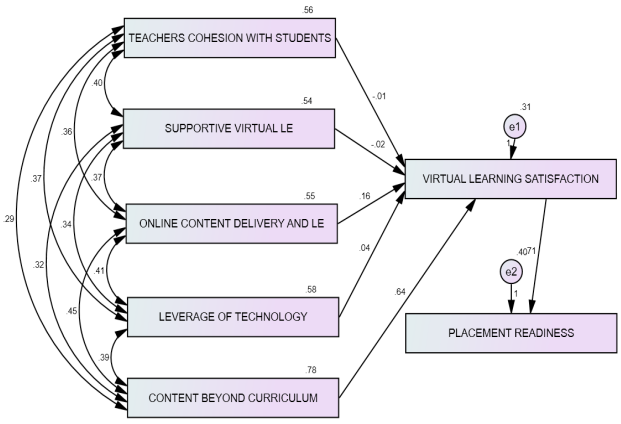

Figure 1. Derived Model using SEM for Online Learning

Table 7 Model Fit Index

MEASURES	VALUES	SOURCE
CHI-SQUARE	44.135	Hu and Bentler, 1999

GOODNESS OF FIT INDEX	0.924	Schumacker and Lomax (2016).
COMPARATIVE FIT INDEX	0.938	Bentler,1990

Findings & Discussions

None of us would have predicted this COVID-19 pandemic outbreak situation. The entire businesses around the globe got a hard hit in the revenue and education industry which faced an unadorned situation than any other industry. When this situation immediately arose, the entire education management industry turned simulated and made phenomenal efforts to give the physical classroom environment. Thanks to the technocrats and the technology for the virtual connection. Without wasting the days and years, productively, the days went on well with the online classes.

However, low internet speed, mobile hotspot based internets, and very few broadband connections are some issues the students faced during the initial stages of Covid lockdowns and online classes. The researcher of this paper attempted to provide a model for online learning, particularly for post-graduate management students. The survey was taken from 132 students, and the demographic findings are discussed. Out of 132 respondents, 63% are Male, and 37% are female. During the online classes, 60% of the students used "Laptop" and 40% of the student's patronised mobiles.

As expected, 61% of the students used Mobile-based hotspots to attend the classes, and 35% used broadband-based internet connections. A low of 4% of them used Dongles for online classes. A worthy number (which is 54%) of the people opined that they are already conversant with online platforms and do not find any difficulties. The rest of the people are very new to online classes. For the question, "Do you switch on your camera during your classes?", 60% of them responded that they would not switch on the camera and would switch only "If demanded". The majority of the respondents had a significant problem with their internet connectivity, and only a few of them had a stable internet connection. All these classifications are discussed based on the primary database collected from the respondents.

Despite the fact that the online classes bridged the gap, the scope is limited when compared to physical classes. For the past two years, college students passed the years and examinations online. One and a half years went virtually in two years of MBA program. However, the efforts were not wasted. We should appreciate the efforts of the faculty members. Many of the faculty members are not initially proficient in delivering online classes. Gradually, they learned all the technical aspects and delivered classes equivalent to those of physical classrooms. They are thankful in this regard. As teachers, the authors are also proud of that.

As per the discussions and the opinions collected from the students, virtual learning satisfaction could be determined through the content delivered beyond the faculty members' curriculum. Most importantly, the supportive virtual learning environment predicts placement readiness, the most productive and expected outcome. This supportive environment is all about interacting well with the students online by giving a topic and asking them to present instantly, sharing important career-oriented information, and bridging industry-institute gaps by sharing industry information.

Conclusion

From these findings, we shall understand that the students are expecting many additional inputs beyond academics. This is in the hands of the institution to augment the faculty by giving them an opportunity to attend faculty development programs. Already the initiative of AICTE ATAL FDP is great as they have conducted numerous online FDP's which enhanced the faculty members' learning during the pandemic. Even though students learn through online interactions with the teachers and get valuable inputs from them, it gives them placement readiness and virtual learning satisfaction. Other factors like teacher cohesion and leverage of technology did not contribute to placement readiness directly, however, it indirectly influenced the students. From the results of the Pearson correlation, all the hypotheses were proved. Online or offline classes, students satisfaction and development is in the hands of the teaching faculty. The education management of any institution and the administrators should be very

keen on developing the faculty's knowledge for the furtherance of the students.

Scope for Futuristic Research

Students from various cities shall be examined empirically using the questionnaire, and a comparison of online learning and placement readiness shall be interpreted. Presently this study has collected data only from Tiruchirapalli, which is a Tier II city. The Tier I and Tier II cities, shall be studied, and managerial suggestions shall be given accordingly in future studies.

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