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A Study on Sustainability of Education During Covid19 in India

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Abstract

The Covid19 had a widespread impact on each and every element of the world. One such impact has been faced by the educational institutions. The Objective of the study is to understand the effect of UGC and MOE Guidelines on the educational institutes that ultimately affected the learning in India. The collection of primary data was done in the form of a survey through Google form, the number of valid responses received for the study were 421. Further in order to examine the sample size the software named G*Power 3.1.9.2 was applied. The software determined 262 sample size and 421 responses were considered for the present research work. The respondents were from Pan India. In order to analyze the structural equation model, the software used was SmartPLS. Further the same was used to test the Research Hypothesis. As practical implications the government must try to make efforts in order to reduce the equity gaps affecting the learning of the students. The study is helpful in understanding the loopholes as well as the support required by the educational institutions from the government so as to improve the learning of the students in the country.

Keywords: UGC, MOE, Educational Institutions, Learning

Introduction

The pandemic covid19 is a great threat for every sector of the economy. It has spread a fear of life among every individual. One of the sectors affected by this coronavirus is the Education. The world stopped as so the schools and colleges all around the globe were shut down for logical solution of social distancing to be followed due to covid19. In the Asian regions the educational challenges were addressed as quickly as possible. Re-thinking and critical thinking were majorly required to ensure the comeback of learning. Educational Institutes has to face many challenges in the span of this emergency. There were various challenges faced in education with respect to the planning, implementation and assessment. However, the mode of transfer of knowledge is now more about technology. A high need of strategic planning is required in the pandemic so that the challenges can be overcome by the educational institutions (Toquero, 2020) Government was equally concerned for this sector as well and so the University Grants Commission (UGC),Ministry of Education(MOE) and various other authorities passed various circulars in order to not only safeguard the students and teachers but also to continue the teaching-learning process without any hindrance. Also, the measures relating to the mental health were considered. Introduction of new tools, techniques, E-books, E-materials, E-learning aspects everything was being worked upon. The lockdown was important for safety but not for a stop on learning. So, in order to understand every aspect of the educational institutes, this study on sustainability of education during covid19 in India is being conducted.

Review of Literature

Government Guidelines

The paper findings suggested that MOE issued guidelines relating to digital learning so as not to have an end to learning among students. Also, UGC asked the universities not to ignore the safety of the hostel students. The overall focus of government was to safeguard the students, faculty, staff from covid19 with continuance of learning (Gupta & Goplani , 2020).

Effect on Educational Institutes

The paper suggested that even after the challenges the educational institutes continued with the teaching-learning process. It explained that how the higher education institutes adopted new tools and techniques for its functioning. The importance of virtual education is now being considered with the introduction of E-books, Online material and learning (Jena, 2020).

Effect on Learning

The paper discussed both positive and negative concerned relating to covid19 on education. Also, it considered the technological and infrastructure related problems that are a matter of concern for government and educational institutes for the purpose of learning (Jena, 2020).

The study revealed that the situation of pandemic has created concern among the students, teachers and parents in Kosovo. The study resulted that the two major problems reported are the student assessment as well as the evaluation of the learning aspect. It also revealed that there is motivation among the teachers to advance their present skills and knowledge (Duraku & Hoxha, 2020).

The study confronted that 24.9% of Chinese college students faced anxiety during the span of covid19. One of the factors of anxiety was having a known one as covid19 positive. The great need of psychological help was faced in these times (Cao, et al., 2020)

The study suggested that the educators are required to improve their teaching techniques and the curricular. The paper concluded that their must be emphasis on critical thinking amongst students in order to get them engaged mentally. Innovation, communication is being discussed in the study so as to ultimately develop the community (Joyce & White, 2020)

Conceptual Framework

The pandemic of coronavirus has affected every life, one of the affects was faced by the educational institutes and the students. In order to understand the affect the following conceptual framework (Figure 1) is being prepared. The Guidelines of UGC as well as MOE are considered and indicators are on the basis of Academic Calendar, Examination, E-learning, Covid19 helpline, Work from home and new education policy. Further, Burden on teachers, parents, Non-teaching staff, the research prospects and teacher collaborations are considered for the effect on educational institutions. The dependent

construct (effect on learning) considered the indicators of study environment, equity gap, general promotion, practical exposures and the retaining power of students.

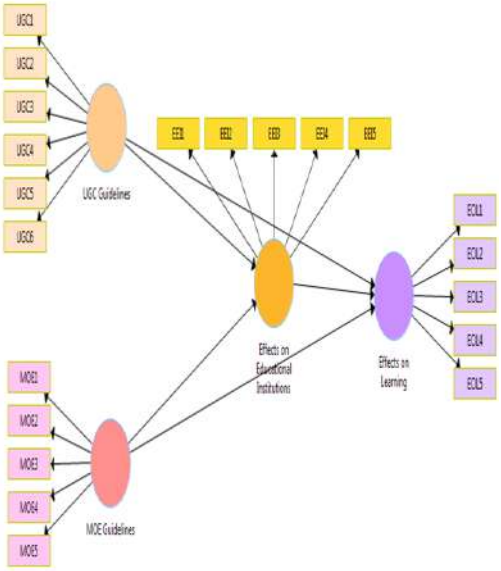

Figure 1 Conceptual Framework

Research Hypothesis

The Hypothesis framed for the study are: -

H1: Effect on Educational institutions have significant impact on effect on learning.

H2: MOE guidelines have significant impact on effect on educational institutions.

H3: MOE guidelines have significant impact on effect on learning.

H4: UGC guidelines have significant impact on effect on educational institutions.

H5: UGC guidelines have significant impact on effect on learning.

Research Methodology

The collection of primary data was done in the form of a survey through Google form, the number of valid responses received for the study were 421. Further in order to examine the sample size the software named G*Power 3.1.9.2 was applied. The software determined 262 sample size (Figure 2) and 421 responses were considered for the present research work. The respondents were from Pan India. In order to analyze the structural equation model, the software used was SmartPLS Further the same was used to test the Research Hypothesis.

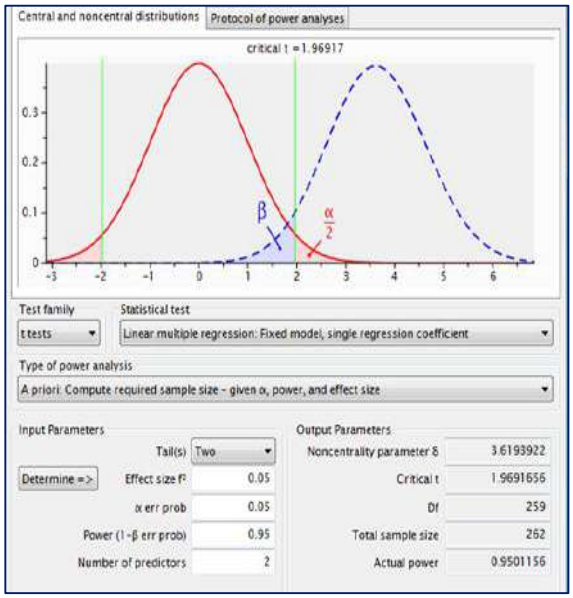

Figure 2 G*Power Analysis

Source: Author's Own Work

Results and Discussions

Demographic Factors

There were 208 males out of 421 respondents that constitute of 49.4% and 213 females (50.6%). According to the qualifications, 21 were Highschool passed (5%), 113 were undergraduate (26.8%), 203 were postgraduate (48.2%) and 84 (20%) were P.hD or Above. 21 (5%) respondents were below the age of 18 years, 132 (31.3%) were between 18 to 30 years of age, 180 (42.7%) were between the age of 30 to 40 years and 88 (21%) were of 40 years and above. Details are shown in Table 1 below.

Demographic Factors	Frequency	Percentage
Gender		
Male	208	49.4%
Female	213	50.6%
Total	**421**	**100**
Educational Level		
Highschool	21	5%
Undergraduate	113	26.8%
Postgraduate	203	48.2%
PhD or above	84	20%
Total	**421**	**100**
Age		
Below 18	21	5%
18-30	132	31.3%
30-40	180	42.7%
40 & Above	88	21%
Total	**421**	**100**

Table 1 Demographic Factors

Source: Author's Own Work

Confirmatory Composite Analysis

Confirmatory Composite Analysis was used in order to assess the reliability and validity of constructs. Cronbach's Alpha, Composite Reliability and Average Variance Extracted assessed that whether the model has the validity or not. The values calculated must be more than 0.70 for Cronbach alpha and composite reliability and must be more than 0.50 for Average Variance Extracted. The values so calculated were more than the standard ones as shown in Table 2. Whereas for factor loadings the limit required is 0.70 and that was achieved for every indicator except in case of second indicator (EOL2) of fourth construct (effect on learning).

		Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
UGC Guidelines	UGC 1	0.782			
	UGC 2	0.703			
	UGC 3	0.797			
	UGC 4	0.806			
	UGC 5	0.720			
	UGC 6	0.749	0.853	0.891	0.578
MOE Guidelines –	MOE 1	0.826			
	MOE 2	0.845			
	MOE 3	0.849			
	MOE 4	0.824			
	MOE 5	0.851	0.895	0.891	0.578
Effects on Educational Institutions	EEI1	0.802			
	EEI2	0.797			
	EEI3	0.780			
	EEI4	0.806			
	EEI5	0.846	0.866	0.903	0.651
Effects on Learning	EOL1	0.753			
	EOL2	0.652			
	EOL3	0.753			
	EOL4	0.734			
	EOL5	0.786	0.788	0.856	0.543

Table 2 Confirmatory Composite Analysis

Source: Author's Own Work

Discriminant Validity

Investigation of the discriminant validity was done with the help of fornell-larcker criterion (1981). It suggests that the square roots of Average Variance Extracted (AVE) must be greater than the correlational values of the constructs. The Table 3 below shows the same and so the study is appropriate so as to carry out the final analysis.

	Effects on Educational Institutions	Effects on Learning	MOE Guidelines	UGC Guidelines
Effects on Educational Institutions	0.807			
Effects on Learning	0.768	0.737		
MOE Guidelines	0.795	0.721	0.839	
UGC Guidelines	0.746	0.750	0.802	0.760

Table 3 Discriminant Validity

Source: Author's Own Work

Collinearity Statistics (VIF)

In order to assess the collinearity in regression analysis the Variance Inflation Factor (VIF) is used. The regression results are less reliable in case of high VIF values. VIF values must not be more than 3.33 (Diamantopoulos, 2008). The table 4 below shows that the VIF values of each indicator is less than 3.33 which shows that the study is reliable.

Indicators	VIF
EEI1	**1.981**
EEI2	**1.976**
EEI3	**1.956**
EEI4	**1.918**
EEI5	**2.212**
EOL1	**1.752**
EOL2	**1.512**
EOL3	**1.831**
EOL4	**1.585**
EOL5	**1.920**
MOE1	**2.210**
MOE2	**2.260**
MOE3	**2.360**
MOE4	**2.073**
MOE5	**2.438**
UGC1	**2.032**
UGC2	**1.558**
UGC3	**2.169**
UGC4	**2.052**
UGC5	**1.574**
UGC6	**1.694**

Table 4 VIF

Source: Author's Own Work

Structural Model Assessment

Structural Equation Model was availed so as to establish a relationship between the constructs and the indicators. The factor loadings are being expressed between each construct and indicators in the figure 3 below. The factor loadings represent the regression weights which helps in knowing the organized interconnectedness. The factor loadings must be more than 0.70 and it is for every indicator except one that is positive impact of covid19 on the practical aspects of learning (EOL2). It is slightly less than 0.70 in this case.

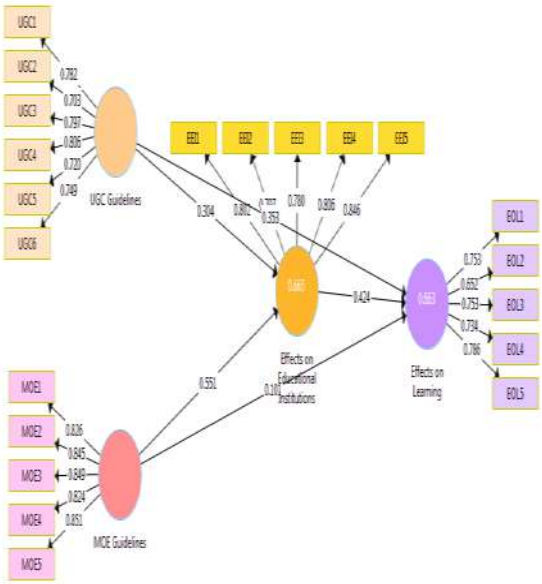

Figure 3 Structural Equation Model

Source: Author's Own Work

Model Fit

The Model Fitting is used to analyze that how well the model is framed so as to produce accurate outcomes. The Fitness is measured via Standardized Root Mean Squared Residual (SRMR) which must be less than 0.08 and for the study it is 0.076 which is acceptable. The Goodness of fit is measured via Normal Fit Index (NIF) as well which must be more than 0.90 but, in the study, it is slightly less than this. This is shown in the table 5 below.

Fit Summary	Saturated Model	Estimated Model
SRMR	0.076	0.076
d_ULS	1.347	1.347
d_G	0.488	0.488
Chi-Square	1171.014	1171.014
NFI	0.797	0.797

Table 5 Model Fit

Source: Author's Own Work

Results of Hypothesis Testing

Bootstrapping process was applied for the purpose of hypothesis testing and it was observed that the p-values for all hypothesis is supported except for H3 (There is significant impact of MOE guidelines on the effect of learning). Also, the T-Statistics should be more than 1.96 which is satisfied for all expect H3 as shown in table 6.

Mean, STDEV, T-Values, P-Values	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics (|O/STDEV	P Values
Effects on Educational Institutions -> Effects on Learning	0.424	0.423	0.063	6.715	**0.000**
MOE Guidelines_ -> Effects on Educational Institutions	0.551	0.551	0.053	10.471	**0.000**
MOE Guidelines_ -> Effects on Learning	0.101	0.103	0.069	1.463	**0.144**
UGC Guidelines -> Effects on Educational Institutions	0.304	0.305	0.051	5.916	**0.000**
UGC Guidelines -> Effects on Learning	0.353	0.354	0.069	5.133	**0.000**

Table 6 Results of Hypothesis Testing

Source: Author's Own Work

Standardized Direct, Indirect and Total Effects of Various Constructs

The Direct, Indirect as well as Total effects of the independent variables (UGC guidelines, MOE guidelines) on the mediating variable (Effects on the Educational Institutions) and ultimately on the dependent variable (Effects on Learning) are determined as shown in the table 7.

Dependent Variables ↓		Independent Variables↓		
		UGC Guidelines	MOE Guidelines	Effects on Educational Institutions
Effects on Educational Institutions	DE	0.304	0.551	-
	IE	-	-	-
	TE	**0.304**	**0.551**	**-**
Effects on Learning	DE	0.353	0.101	0.424
	IE	0.129	0.234	-
	TE	**0.482**	**0.335**	**0.424**

Table 7 Standardized Direct, Indirect and Total Effects of Various Constructs

Source: Author's Own Work

There is a Direct Effect of UGC guidelines and MOE guidelines on the effect on educational institutions as 0.304 and 0.551 respectively. The same was the total effect as well. Further, Direct effect was observed of UGC, MOE guidelines and effect on educational institutions on the effect on learning as 0.353, 0.101, 0.424 respectively. Also, there was an indirect effect of UGC guidelines and MOE guidelines on the effect of learning as 0.129 and 0.234 respectively. Hence leading to a total effect of UGC guidelines, MOE guidelines and effect of educational institutions on the effect of learning as 0.482, 0.335 and 0.424 respectively. Thus, the Independent as well as mediating variable have affected the dependent variable positively that is there is a positive effect of UGC guidelines, MOE guidelines and effect on educational institutions on the effect on learning.

Conclusion

The research has outlined different impacts of covid19 on the educational institutions in India. The pandemic brought various challenges with opportunities as well that were needed to be focused upon. The role of virtual learning is now being developed to a deeper extent. The digital learning is now to be prioritize and is to be worked upon in terms of the technological enhancements. The hypothesis testing resulted that the hypothesis that there is a significant impact of MOE on the effect of learning has been rejected as the p value was 0.144 that is more than the standard value of 0.05. The hypothesis of significant impact of MOE guidelines on effect on the educational institutions has been accepted ($p<0.05$). The results also showed that the educational institutions have significant impact on the effect on learning ($p<0.05$). Thus, an active participation is required from the end of government, educational institutions, teachers as well as students so as to bring a stability in the teaching learning process in the current scenario.

Recommendations

The study revealed that the MOE guidelines, UGC guidelines have directly affected the effects on educational institutions and all these have directly or indirectly affected the effects on learning. India has affected it positively but should also make more innovative master plans so as to reduce the equity gaps in the learning. In order to assure proper study environment which is lacking in online learning, planning is needed with respect to the continuance of the educational activities while maintaining social distancing. Proper policy framework is required in terms of the new techniques for the assessment of the academics.

Limitations and Further Study

One of the limitations of the study was the primary data collection from the residents of a particular region of India. So, it can't give a conclusion for whole world. Also, the educational system is different from different countries and so it won't be appropriate to draw a conclusion for the universe. Furthermore, the data was collected through google form so it could reach only the educated and financially stable people, the poor financial background or the uneducated section was being neglected. Their responses might have impacted the results of the present work.

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