STUDENTS PERCEPTION'S TOWARDS ONLINE TEACHING: AN EMPIRICAL STUDY IN BERHAMPUR UNIVERSITY

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Abstract

In the Coronavirus disease -19 (COVID-19) response, all the educational institutions have been compulsory to move all teaching and learning activities online at very short time notice by the University Grand Commission (UGC). Consequently, all classes, simulations, practicums, viva-voces, and valuation, etc., were adapted for the online setting. Online education has been at the forefront of discussions as a new and viable option for learning opportunities in higher education. Academic institutions continue to see remarkable growth of online education during COVID-19. Due to the pandemic situation, UGC has instruction with 40 per cent of online learning. Hence educational institutions have been implementing online classes. The article investigates to identify the factors which students perceive significant influence towards online class. From a student perception, there has been adaptation and the prospect to advance new skills, possibly providing online teaching via e-learning or virtual learning. Further, this study sought to provide an investigation of online teaching in University with an intention on how the teaching and learning interaction will affect students 'perceptions relating to their online class preparedness and experiences. The results revealed from descriptive statistics, correlation, and regression analysis that students reported a moderate relationship between the extracted factor scores and overall satisfaction of online teaching. The findings of four factors that affect the students' views about online teaching characteristics instruction seen that student perceptions about online teaching are positively affected by "Perceived Usefulness" of online teaching. The second most important factor is student supportiveness, followed by faculty responsiveness and perceived flexibility. Further, Multiple Regression Analysis has been analysed to inspect the relationship between the various online teaching characteristics and the overall satisfaction from online teaching. Thus, this study may be helpful to teachers in constructing proper pedagogical techniques

which can be suitable and beneficial for learning, understanding and application of the online teaching-learning process.

Keywords: Online teaching, Student perceptions, Instructional strategy, COVID-19, Satisfaction

Introduction

In response to the Coronavirus disease-19 (COVID-19) pandemic situation, UGC has instruction with 40 per cent of online teaching and learning. Hence educational institutions have been implementing online classes. In the rising infection about the current COVID-19 pandemic, most of all universities around the world have either postponed or cancelled all campus events such as classes, workshops, conferences, sports and other activities. Universities have moved quickly to transition various courses and programs from off-line to online delivery mode.

Again, the modern advances in information technologies and the increasing interest of a large number of persons to get higher education have led to the rapid evolution of online education. Teaching online is dissimilar with traditional classroom teaching (Capra, 2011). Once teaching online, teachers have to play a different role from their traditional one (Sammons, 2003). The online instructional strategies that generate and inspire learner's inquiry to grow learning experience of the subject matter, which critical reflection of the learning experience was originated effective in online teaching (Keeton, 2004). For active online education, teachers should be ready to use a variety of instructional strategies (Cuthrell and Lyon, 2007; Dixson, 2010) to adoptive student participation, inspire intellectual growth, and build rapport with students (Brinthaupt et al., 2011). The opinions of Brinthaupt et al. (2011) and Keeton (2004) towards online teaching showing the need for paying consideration to design and delivery of online classes with the up-to-date information technology for creating an instructional setting resembling a classroom situation. COVID-19 and the shift to online learning have created new challenges and opportunities among the students.

Literature reviews

Online teaching is speedily developing in the realm of higher education and gaining adhesion on a global level. The use of online learning technology is infusing higher education at a rapid rate, with over 80% of teachers using online technology in some form (Allen &

Seamen, 2013). The role of the e-learning and teaching systems in higher education is becoming more and more active. The number of teachers that are currently using e-learning and teaching in their professional activities has been increasing in the last years (Moise et al., 2012). Teachers capability to design high-quality online instructional plans and enable student learning were acknowledged as the most important skills for the online teacher (Kim and Bonk, 2006). When instructors redesign their face-to-face classes for online delivery, the major question they encounter is what instructional activities are effective in teaching online. For instance, Hutton (1999) informed that clearly specified learning goals, threaded discussions, and complementary use of technologies such as videos and audios are necessary instructional activities for effective online teaching. The literature reveals various perspectives regarding appropriate instructional strategies for online courses. For instance, Hutton (1999) reported that clearly specified learning goals, threaded discussions, and complementary use of technologies such as videos and audios are necessary instructional activities for successful online teaching. Salas- Morera et al. (2012) revealed that students like quizzes and they had a helpful effect on student learning. If student preferred online instructional activities and their perceived effectiveness are identified, teachers will be able to design online classes to meet student expectations. Ruth and Conners (2012) discussed the results of their study listing two advantages to students taking courses online. The first advantage of online or asynchronous courses is that it offers flexibility in scheduling coursework around family, work, or other commitments as well as flexibility in taking courses from remote locations. Graduate students pointed to the development of the online community and the opportunity to have a deeper understanding of the course material as positive aspects of online learning (Carlson & Jesseman, 2011). With evolving technologies, numerous resources exist for faculty who teach online to creatively engage students and effectively build connections. Several other scholarly papers studied the importance of faculty presence and their effect on online student success and satisfaction. In understanding student needs and preferences, studies show that faculty-student interaction and online relationship play a significant role in student achievement and learning, and successful course completion. Morris and Finnegan (2008) posited that faculty needs to assume a managerial role and pedagogical role in guiding students in navigating course content and layout as well as providing feedback on student participation. Although much discussion has ensued on the advantages of online education with regards to flexibility and convenience with time, schedule, and cost, online instruction also allows students to absorb material at their own pace within a predetermined time frame (Perry & Pilati, 2011). Further, from a curriculum

viewpoint, it is crucial to review how online learning aligns with the pedagogy of the teaching program, and the understanding and well-being of the students. Students in the current online environment have spoken of challenges with self-regulation skills such as time management and motivation, and that they feel isolated and distant from the learning. This experience brings into line with previous findings that student encounters in the online environment of blending learning include: self-regulation; technological literacy and competency; student isolation; technical sufficiency; and technological complexity (Rasheed, Kamsin, & Abdullah, 2020). Therefore, it is needed to keep the focus on the students, their experiences, and their learning. Smith and Hill (2018) highlight that blended learning is only useful when the purpose of the online content is clear with explicit links made to the face-to-face classes off-line classes.

The purpose of this study was to contribute to this knowledge gap. This study provides added insight into the need for faculty's presence to guide students and anticipate their needs from a pedagogical and technological standpoint.

Research Objectives

1. To investigate the perceptions of university students regarding online teaching.
2. To identify the key factors that influence the students' views towards online teaching.
3. To establish the relationship between the factors reflecting students views towards online teaching and overall satisfaction levels of the students.

Research Methodology

Instrumentation

The survey instrument designed for this study, a structured questionnaire having 26 Likert Scale statements along with basic and demographic information was collected through e-mail and WhatsApp groups for primary data collection. The responses were coded and recoded in SPSS software for data analysis. The scale used to record students' attitudes toward online teaching classes contained five items related to online learning with a 5-point Likert scale (1=Strongly Disagree, 5=Strongly Agree). Students' responses to five items were aggregated to get the overall attitude score. A panel of educators reviewed the survey instrument to establish instrument validity. Internal consistency was tested to establish the reliability of the instrument.

Population and Study sample

Post-graduate students enrolled in the Berhampur University at South Odisha State University in 2019-2020 academic year comprised the study population. There were 1056 students in the population frame. The researcher drew a random sample of 226 students out of this student's population.

Data collection

The online survey was administered through the questionnaire, and the survey link was sent with an e-mail and WhatsApp. Students selected for the study were given two weeks to respond to the survey request from 3rd to 17th November 2020.

Data Analysis and Interpretation

All the questionnaires were coded, and data was verified for data analysis. The data were cleaned, and the tables were prepared, and descriptive studies were derived. Frequencies and percentage were calculated. For the reliability of the instrument, Cronbach's Alpha was calculated for the scale items. Cronbach's alpha was 0.936, which suggests fair and acceptable reliability. Factor analysis was applied to find out the factors reflecting the student's perception regarding online teaching. In order to find out the most causal factor affecting overall satisfaction of online teaching, multiple regression analysis was done between the overall satisfaction and extracted factors scores as independent variables.

The demographic profile of the respondents is as follows:

Table-1: Demographic Details (n = 266)

Sr. No.	Demographics	Frequency	Percentage
1	Age group		
	18-24 years	244	91.7
	25-29 years	18	6.8
	30 and above	4	1.5
2	Gender		
	Male	117	44.0
	Female	149	56.0

3	The subject of Online Course		
	Arts & Humanities	98	36.8
	Commerce & Management	36	13.5
	Science	132	49.6
4	Enrolment Status		
	Full-time	266	100
	Part-time	Nil	
5	Place of Living		
	Urban	58	21.8
	Semi-Urban	79	29.7
	Rural	129	48.5
6	Online Class Enter through		
	Android Mobile	219	82.3
	Laptop	36	13.5
	Desktop	11	4.1

From the above table-1, it is shown that 266 respondents were responded to the survey. Out of the 266 respondents, most were between the age group 18- 24 years (91.7%), female (56%), with the highest level of online education was science (49.6%) with full - time enrolment status was 100%. Most of the respondents were living in the rural area (48%) and with the highest number of online classes were enter through Android Mobiles (82.3%).

Table-2 below indicates the descriptive analysis of the scores obtained of 266 respondents on 26 items under study:

Table-2: Descriptive Statistics (n=266)

Sr. No.	Items	Mean	Std. Deviation	Co-efficient of Variation
1	I find online learning classes are useful	3.61	1.104	30.564
2	Using online learning is easier to complete my tasks	3.43	1.114	32.505

3	Online material assists my learning	3.61	0.954	26.442
4	The online learning system can improve teaching & learning process	3.42	1.157	33.795
5	The online learning system can improve my academic performance	3.30	1.187	36.010
6	I find the online learning system easy to use	3.71	1.123	30.239
7	Online learning is user-friendly	3.62	1.120	30.904
8	I intend to do fully online class	3.34	1.178	35.278
9	Online classes are easier	3.48	1.096	31.455
10	Online discussion facilitates my achievement of the objectives of the course	3.39	1.138	33.567
11	Multimedia lectures facilitate my achievement of the objectives of the course	3.51	1.010	28.772
12	Web conferencing facilitates my achievement of the course objectives	3.44	1.045	30.414
13	Web Chatting sessions are useful for clarity of the subjects	3.29	1.090	33.129
14	Online feedback provided is useful for topic understanding	3.60	0.994	27.596
15	The teacher responds promptly to e-mails and other communications	3.90	0.931	23.846
16	The teacher provides useful comments on my tasks by online	3.83	0.918	23.967
17	Online classes offer more flexibility in managing my study time	3.68	1.043	28.364
18	Online classes offer more flexibility in organizing my study materials	3.46	1.099	31.774
19	Online classes offer more flexibility in terms of deadlines	3.54	1.053	29.745
20	Online classes are easy to fit into my schedule	3.45	1.159	33.546
21	I think I could be participative more in-class discussion in an online class	3.45	1.122	32.524

22	I think I would understand more in the online class	3.31	1.193	36.017
23	I think I would engage more in the online class	3.34	1.203	36.038
24	I think I would gain more knowledge in an online class	3.25	1.213	37.312
25	I think online classes have easier assignments	3.50	1.093	31.191
26	I think online classes are easier to follow	3.63	1.060	29.195

The highest means score corresponds to items no.17, which shows that Online classes offer more flexibility in managing my study time. The least mean score is item no. 24, which implies that I think I would gain more knowledge in an online class. The Coefficient of Variation of item no.3 is the least one which indicates that the responses for variable no.3 are most consistent. The Coefficient of Variation of item 23 is the highest one which indicates that the responses for variable no.23 are most inconsistent.

Factor analysis was applied to identify the factors that reflect the student's perceptions of online teaching. In order to test the data appropriateness for factor analysis "KMO and Bartlett's test" was carried out in the Table-3 as below:

Table-3: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.947
Bartlett's Test of Sphericity	Approx. Chi-Square	2999.946
	df	325
	Sig.	0

The value of KMO is 0.947; hence the data is suitable for Factor analysis. In order to test the null hypothesis, Bartlett's Test of Sphericity was applied and disclosed that the significant value was 0.000 which is less than the 0.05 this testified that the sample was appropriate for factor analysis. It may be well-known here that the sample size of 266, which is more than ten times the number of variables twenty-six (26). All these validate the use of Factor Analysis for this study.

In order to test the following hypothesis:

H0: There is no significant relationship between the variables in the population.

H1: There is a significant relationship between the variable in the population.

In the above table-3, Bartlett's Test of Sphericity was applied, which showed that the significant value was 0.000 which is less than the 0.05 and hence the null hypothesis(H0) was rejected, approx. Chi-square value is 2999.946, which is very large and hence it can be concluded that there is a significant relationship between the variables in the population.

Table-4: Factor Analysis

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.941	38.230	38.233	9.941	38.233	38.233	5.623	21.626	21.626
2	1.612	6.200	44.433	1.612	6.200	44.433	4.043	15.550	37.176
3	1.156	4.446	48.879	1.156	4.446	48.879	2.242	8.624	45.800
4	1.041	4.006	52.884	1.041	4.006	52.884	1.842	7.085	52.884
5	0.995	3.828	56.712						
6	0.954	3.670	60.382						
7	0.837	3.219	63.602						
8	0.794	3.053	66.654						
9	0.769	2.958	69.612						
10	0.741	2.852	72.464						
11	0.647	2.489	74.952						
12	0.628	2.416	77.369						
13	0.613	2.357	79.725						
14	0.605	2.328	82.053						
15	0.564	2.168	84.221						
16	0.518	1.992	86.214						
17	0.474	1.823	88.037						

18	0.461	1.773	89.810						
19	0.442	1.701	91.511						
20	0.399	1.534	93.045						
21	0.379	1.457	94.502						
22	0.340	1.308	95.810						
23	0.319	1.225	97.035						
24	0.296	1.140	98.175						
25	0.264	1.016	99.191						
26	0.210	0.809	100						

Table-4 above shows that Principal component method was applied to determine the minimum number of factors that accounted for maximum Variance in the data regarding the student's views about online teaching. As the table shows, all the factors together explained 52.884 % of the total Variance the responses towards the variables that describe the online teaching features.

Extraction Method: Principal Component Analysis

Varimax rotation was applied, and it was determined those factors which are uncorrelated with each other. The rotated component matrix is given in the table-5 below:

Table-5: Rotated Component Analysis

Rotated Component Matrix					
Sr.No.	Items	Component			
		(1)	(2)	(3)	(4)
1	Online teaching facilitates my achievement of the objectives of the course	0.768	0.193	0.186	0.193
2	The online learning system can improve teaching & learning process	0.739	0.411	0.095	0.085
3	Online feedback provided is useful for topic understanding	0.697	0.047	0.241	0.232
4	I find online learning classes are useful	0.695	0.253	0.202	0.214
5	Web Chatting sessions are useful for clarity of the subjects	0.648	0.170	0.279	0.003

6	Using online learning is easier to complete my tasks	0.642	0.294	0.269	0.190
7	The online learning system can improve my academic performance	0.626	0.438	0.106	0.099
8	Web conferencing facilitates my achievement of the course objectives	0.604	0.290	0.341	0.129
9	Online material assists my learning	0.573	0.185	0.309	0.289
10	I intend to do fully online class	0.549	0.389	-0.018	0.046
11	I think online classes are easier to follow	0.254	0.751	0.081	0.099
12	I think I would gain more knowledge in an online class	0.284	0.686	0.109	0.141
13	Online classes are easier	0.275	0.669	0.222	0.145
14	I think online classes have easier assignments	0.091	0.529	0.335	0.120
15	Online classes are easy to fit into my schedule	0.252	0.492	0.055	-0.035
16	I think I would understand more in the online class	0.485	0.486	-0.096	0.173
17	I think I would engage more in the online class	-0.031	0.480	-0.089	0.263
18	Online learning is user-friendly	0.303	0.424	0.059	0.203
19	I find the online learning system easy to use	0.312	0.406	0.228	0.160
20	The teacher provides useful comments on my tasks by online	0.270	-0.007	0.767	0.090
21	The teacher responds promptly to e-mails and other communications	0.219	0.126	0.729	0.143
22	Online discussion facilitates my achievement of the objectives of the course	0.265	0.426	0.460	-0.019
23	Online classes offer more flexibility in terms of deadlines	0.052	0.211	0.280	0.693
24	I think I could be participative more in-class discussion in an online class	0.233	0.090	-0.056	0.637
25	Online classes offer more flexibility in organizing my study materials	0.482	0.140	0.181	0.491
26	Online classes offer more flexibility in managing my study time	0.316	0.327	0.160	0.402

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation.

Rotated converged in 8 iterations.

The factor analysis resulted in a total of four (4) factors that describes the student's perceptions of online teaching. The factors named accordingly the variables that converged within them, which is shown in able-6 below:

Table-6: Factor Matrix

Factor Name	Items	Item Loading	Total Factor Loading	Eigen Value	% of VariVariance
(1) Perceived Usefulness			6.541	5.623	21.626
	Online teaching facilitates my achievement of the objectives of the course	0.768			
	The online learning system can improve teaching & learning process	0.739			
	Online feedback provided is useful for topic understanding	0.697			
	I find online learning classes are useful	0.695			
	Web Chatting sessions are useful for clarity of the subjects	0.648			
	Using online learning is easier to complete my tasks	0.642			

	The online learning system can improve my academic performance	0.626			
	Web conferencing facilitates my achievement of the course objectives	0.604			
	Online material assists my learning	0.573			
	I intend to do fully online class	0.549			
(2) Students Supportiveness			4.923	4.043	15.55
	I think online classes are more comfortable to follow	0.751			
	I think I would gain more knowledge in an online class	0.686			
	Online classes are easier	0.669			
	I think online classes have easier assignments	0.529			
	Online classes are easy to fit into my schedule	0.492			
	I think I would understand more in the online class	0.486			
	I think I would more engage in the online class	0.480			
	Online learning is user-friendly	0.424			
	I find the online learning system easy to use	0.406			
			1.956	2.242	8.624

(3) Faculty Responsiveness	The teacher provides useful comments on my tasks by online	0.767			
	The teacher responds promptly to e-mails and other communications	0.729			
	Online discussion facilitates my achievement of the objectives of the course	0.460			
(4) Perceived Flexibility			2.358	1.842	7.085
	Online classes offer more flexibility in terms of deadlines	0.767			
	I think I could be participative more in-class discussion in an online class	0.729			
	Online classes offer more flexibility in organizing my study materials	0.460			
	Online classes offer more flexibility in managing my study time	0.402			
	Total		15.887	13.57	52.884

Factors affecting Students Perception's regarding Online Teaching Characteristics

The table-6 above shows the four factors that affect the students' views about online teaching characteristics along with the percentage of Variance by each factor that indicates their relative importance in terms of perceptions about online teaching characteristics instruction seen that student perceptions about online teaching are positively affected by "**Perceived Usefulness**" of online teaching. The second most important factor is student supportiveness, followed by faculty responsiveness and perceived flexibility. Online teaching

establishing the relationship between students' perceptions regarding the online teaching characteristics and overall satisfaction levels of online teaching.

Further, Multiple Regression Analysis has been analyzed to inspect the relationship between the various online teaching features and the overall satisfaction from online teaching, which is given in table-7 below:

Table-7: Multiple Regression Analysis

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0.999	0.329		-3.035	0.003
Perceived Usefulness	0.581	0.110	0.392	5.299	0.000
Students Supportiveness	0.278	0.116	0.160	2.397	0.017
Faculty Responsiveness	0.216	0.086	0.137	2.506	0.013
Perceived Flexibility	0.154	0.068	0.132	2.256	0.025
Note: $R^2 = .498$; Adjusted $R^2 = 4.90$; F Value = 64.690; Sig.= .000					
Dependent Variable: Overall Satisfaction					

Predictors: Perceived Usefulness, Students Supportive, Faculty Responsiveness, Perceived Flexibility

Dependent Variable: Overall Satisfaction

The above table shows that the estimated regression model can be presented as:

Overall Satisfaction = -0.999 + 0.581 * Perceived Usefulness + 0.278 * Students Supportiveness + 0.216 * Faculty Responsiveness + 0.154 * Perceived Flexibility.

Thus, “**perceived usefulness**” is the main factor in the overall satisfaction level in online teaching. R squared is the proportion of variation in the dependent variable explained by the regression model. From the above table-7, R squared value is 4.98, which is a moderate relationship between the extracted factor scores and overall satisfaction of online teaching, which suggests that several other factors which affects the online teaching. This may be deal with the other factors such as online teaching environment, teacher students' relationships, course structure, communication and presentation; maybe more contributing factors to their overall satisfaction relatively than the above-stated factors.

Discussion

The study findings support the previous studies that document particular teaching practices rated highly by the students in online teaching. These can be summarized as concern for students, instructor flexibility, teacher responsiveness with regards to students' feedback (Dennen et al., 2007; Fabry, 2012; Jackson et al., 2010), all practices that would be included within the element of teaching presence in the community of inquiry model of online learning (Garrison et al., 2000). The findings from this study begin to expand the understanding of different aspects of online pedagogy, particularly among the university students.

Implications of the Study

This study is useful for the faculty and educators of online teaching. They can understand the student's perceptions regarding the online characteristics that student value most, the factors they consider for their online learning decision. Educational institutions and faculty can formulate their pedagogical strategies according to the student's perceptions to attract more and more online teaching and learning process. Teachers may construct proper pedagogical techniques which can be suitable for accessing, understanding and application of online teaching-learning. This study has also added value for further research utilizing assessment of students learning styles and their effect on student learning in the online courses.

Conclusion

Based on the findings of this study can be concluded that the overall perceptions of the students regarding online teaching had a positive perception among the students. The result states that perceived usefulness, student supportiveness, faculty responsiveness and perceived flexibility have an effect on student perceptions and the overall satisfaction about the online teaching. Perceived usefulness is the most important factor that attracts student towards learning through online mode, and the same factor is also major contributing factors to the overall satisfaction level of online teaching. The findings of this research generally related to previous studies investigating the perceptions of students with regard to the online course (Seok, 2010; Capra, 2011; Fabry, 2012). In future, similar studies can also be undertaken in different regions, states and nations or comparative studies may be undertaken.

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