

Exploring the Factors in Attitudes Towards Online Education of Under Graduate Students

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ABSTRACT

The present study has been identified and carried out with the objectives to explore the factors in UG Students' attitudes towards online education. A sample of 135 U.G. students (n=135) from different strata was selected by the purposive sampling method to obtain the necessary data. Three major factors i.e. Gender, Locality and Academic Streams have been considered as independent variables to study their effect on dependent variable i.e. Attitudes towards Online Education and the survey method has been employed in the present study. A self-made attitude scale consists of 40 items as a tool has been used to measure the UG Students' attitudes towards online education. Both descriptive and inferential statistics has been applied for analysis of the data. The study revealed that gender was not as factor but locality and academic stream were the factors in Attitudes towards Online Education.

Keywords: Gender, Locality, Academic Streams, Attitudes, Online Education.

1.0: INTRODUCTION

Today there are so many easy ways to get education that learners don't have to go anywhere to get education. If they want to learn, they can learn from the teacher sitting at home from online mode. Technology has also seen many changes in the way of receiving education. The learning material used in online education can be sent from one place to another through online technology. While going to institutions and interacting with teachers, learners find their study boring and tiring but learners are finding it more interesting and relaxing to teach while at home through online mode. Online education is the delivery of instruction, teaching and learning with the help of a combination of electronic media. The purpose of online education is to empower a learner to obtain a degree, certificate without physically attending the School or University. The government of India has introduced different radio and television channels for providing education. The NROER, e-Pathshala, YouTube Channels, INFLIBNET and many other e-platforms are available to everyone. These resources are uplinked by NPTEL, IITs, UGC, CEC, IGNOU, NCERT and NIOS. The UGC, NCERT, NCTE and other agencies and institutions are very keen on developing e-learning. But the learners in all backgrounds are unable to get education in online mode as online mode or e-learning has not been often proved much better in learning than learning in physical classrooms. Recently various studies have been conducted to get the answer of low success of online education mode and studies reported about some factors in online education, Attitudes towards online

education basically students' attitudes has been identified as an important factor in online education. Again students' attitudes are influenced by various factors which have been identified and carried out in present study.

1.1: OBJECTIVES OF THE STUDY

- a) To study the Gender (male and female) as factor in attitudes towards online education of UG students
- b) To study the Locality (rural and urban) as factor in attitudes towards online education of UG students
- c) To study the Academic Streams (Arts, Science and Commerce) as factor in attitudes towards online education of UG students.
- d) To develop and adopt the tools for measuring attitudes towards online education of UG students.

2.0: REVIEW OF RELATED STUDIES: The investigator has reviewed many studies conducted in India and abroad with the purposes to find the effect of learners' gender, localities, demographic background and educational level on Attitudes towards online education. The investigator found various controversial results about the factors in Attitudes towards online education. Some major findings have been depicted in this article.

Gender as a factor: The gender has been found as a factor in realizing the variation in attitudes towards e-learning (Richardson and Swan, 2003; Ong and Lai, 2006; Liaw & Huang, 2011; Dhiman et al. 2014;). Shashaani (1997, p. 37) found that "females were less interested in computers and less confident than males". Katz et al. (1995) in their research reported that there was "no significant difference between the (attitude) scores of men and women". Liaw & Huang (2011) found that male students have more positive elearning attitudes than female students. Kayany and Yelsma, (2000) and Li and Kirkup, (2007) found the greater digital skills of male students. Mumtaz (2001); Volman and van Eck, (2001); and Colley and Comber, (2003) reported that male students are more attracted to computers than girls. **Gender not as a factor:** Some other studies showed Attitudes towards online education as independent concerning Gender (Cuadrado-García et al., 2010; Hung et al., 2010; Suri and Sharma, 2013; Konwar I.H, 2017; Gupta and Sharma, 2018, Thakkar Samir & Joshi Hiren, 2017, Simpson, J.M., 2012; Neither Hong, 2002; Lim, 2001). **Academic Stream not as a factor:** Attitudes towards online education found as independent concerning Academic Stream (Neelam Dhamija, 2016; Kar D. Saha B. & Mondal B., 2014). **Locality as a factor:** Few studies reported significant difference among students with respect to rural and urban residence; and Attitudes towards online education found as dependent concerning Locality (Neelam Dhamija, 2016; Kar D. Saha B. & Mondal B., 2014). **Locality not as a factor:** Attitudes towards online education found as independent concerning Locality (Thakkar Samir & Joshi Hiren, 2017).

After reviewing the previous studies, the present researcher got some knowledge gap and some unexplained as well as controversial findings. To verify as well as to have the better explanation of the facts in online education system, the researcher selected the independent variables like Gender, Locality and Academic Streams as factors to explore their effects on dependent variable like attitudes towards online education. Hence the preset study might be stated as "*Exploring the Factors in Attitudes Towards Online Education of Under Graduate Students*".

3.0: SIGNIFICANCE OF THE STUDY

The study would be helpful for Students, teachers, parents, policy makers, curriculum framers and other academic functionaries in various ways. The result of the study might be helpful to assume the effects of various factors on attitudes of UG students towards online or e-education. The present study would be highly significant for suggesting the measures to enhance the online education as well as online teaching learning process of College going students.

4.0: HYPOTHESIS OF THE STUDY

The null hypothesis formulated for the study were:

- a) There exists no significant difference between Male and Female UG Students in their attitudes towards online education.
- b) There exists no significant difference between Rural and Urban UG Students in their attitudes towards online education.
- c) There exists no significant difference between Arts and Science UG Students in their attitudes towards online education.
- d) There exists no significant difference between Arts and Commerce UG Students in their attitudes towards online education.
- e) There exists no significant difference between Science and Commerce UG Students in their attitudes towards online education.

5.0: METHODOLOGY OF THE STUDY:

5.1: Design of The Study: The methodology of the study comprises research method, population, sample, tool, procedure of data collection and statistical analysis which are as follows-

5.2: Method Employed: The investigator adopted a survey approach for the present study.

5.3: Population and Sample of The Study:

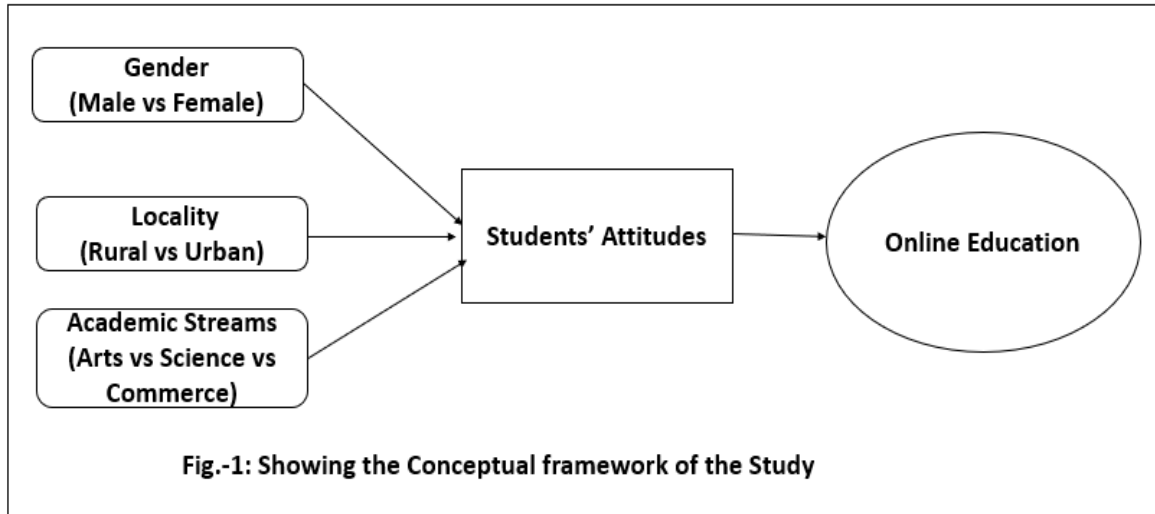
i. Population: Students studied at Under Graduate level in various higher educational institutions affiliated to various Universities in West Bengal is considered as the population for the study.

ii. Sample Design followed: Purposive sampling method has been followed to draw the sample from the target population. U.G. students in various academic streams of some selected institutions affiliated to University of Kalyani and West Bengal State University were considered as respondents. The size of the sample for the study was 135. Sample was selected purposively from different locations in West Bengal (India).

5.4: Variables studied: Three variables studied in proposed study were:

- **Independent Variable:** One Dependent variable: Attitudes Towards On-line Education.

- **Dependent Variable:** Three Independent Variables: Gender (Male and Females), Localities (Rural and Urban) and Academic Streams (Arts, Science and Commerce)



5.5: Tools Used:

In the present study, the researcher developed and standardized the Scale for measuring Attitudes of UG students towards Online Education which is Known as “Attitudes Towards Online Education Scale” (AOES).

5.6: Statistical Techniques Used:

After scoring the data, the investigator has used the following statistical techniques for analysis and interpretation of the data:

1. Descriptive Statistics: Mean, Median, Mode, SD, skewness and kurtosis
2. Inferential Statistics: ‘t’ test
3. Graphs: NPC

6.0: ANALYSIS AND INTERPRETATION OF DATA

6.1: Descriptive Statistics:

Table- 1: Showing the Descriptive Statistics of Attitudes of UG Students towards Online Education:

Statistics									
	All	Gender		Locality		Academic Streams			
		Male	Female	Rural	Urban	Arts	Science	Commerce	
N	135	78	57	46	89	60	41	34	
Mean	34.423	33.744	32.828	36.667	33.176	37.066	32.457	32.429	
SE _M	0.571	0.701	0.903	0.818	0.735	0.711	0.904	1.376	
Median	35.00	36.00	32.00	38.00	32.00	38.00	31.50	32.00	
Mode	34.00	39.00	27.00	39.00	32.00	39.00	28.00	27.00	
Std. Deviation	6.809	6.188	6.226	5.847	7.015	5.549	6.134	8.139	
Variance	46.36	38.297	52.208	34.187	49.213	30.796	37.631	66.252	
Skewness	0.009	-.0212	0.366	-0.835	0.434	-0.682	0.648	0.530	
SE _{Skewness}	0.203	0.272	0.299	0.333	0.253	0.306	0.350	0.398	
Kurtosis	-0.505	-0.394	-0.261	0.170	-0.098	0.383	0.128	-0.120	
SE _{Kurtosis}	0.404	0.538	0.590	0.656	0.500	0.604	0.688	0.778	
Percentiles	P ₂₅	28.75	31.00	27.00	33.00	28.00	33.50	28.00	27.00
	P ₅₀	35.00	36.00	32.00	38.00	32.00	38.00	31.50	32.00
	P ₇₅	40.00	40.00	38.00	41.00	38.00	41.00	37.00	38.00

6.2: Graphical Representation of Data:

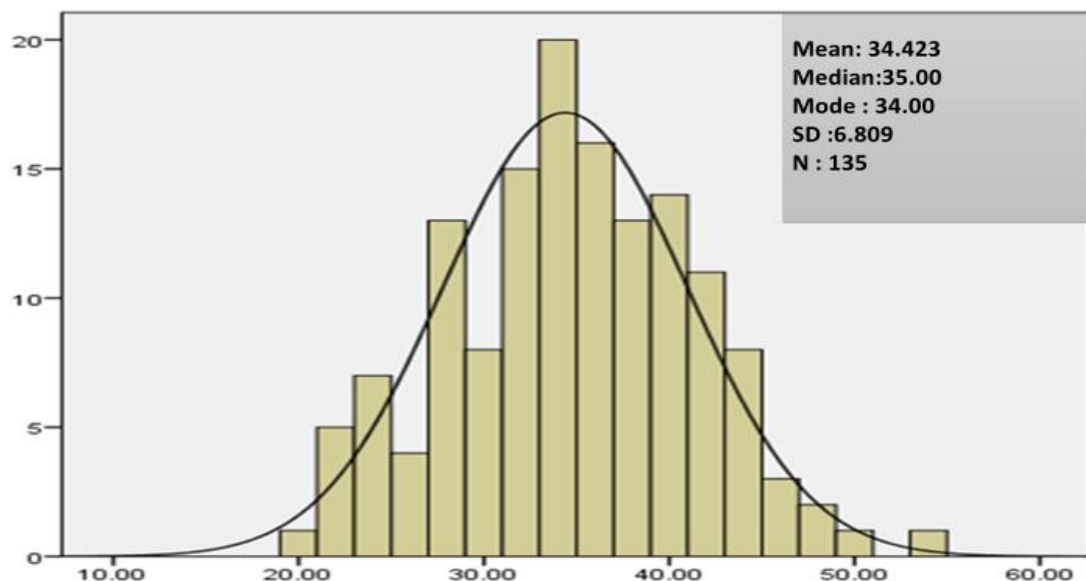


Fig.-2: Showing the NPC with Histogram for the Scale of Attitudes of UG Students towards Online Education

6.3: Assumption of Parametric Data for Attitudes of UG Students towards Online Education:

(i) **Normality of the Distribution:** The normality of the distribution was checked with the help of descriptive statistics along with Histogram and Normal Probability Curve (NPC). A study of the descriptive statistics from

Table-1 revealed that, for the scores of Attitudes of UG Students towards Online Education, the Mean (M= 34.423), Median (Mdn = 35.00) and Mode (Md = 34.00) were almost coincide and the distribution tend to be normality.

6.4. Analysis of Gender as a Factor in Attitudes of UG Students towards Online Education:

H₀₁ There is no significant difference between male and female students in their Attitudes of UG Students towards Online Education

Table-2: Showing the ‘t’ value of attitudes of UG Male and Female students Attitudes of UG Students towards Online Education.

Variable	Category	Count (N)	Mean	SD	SE _M	SE _D	t- value	df
Attitudes of UG Students towards Online Education	Males	78	33.744	6.188	0.701	1.081	0.847**	133
	Females	57	32.828	6.226	0.825			

**The result is insignificant at 0.05 level.

The statistical values showing in the table- 2 established that computed t-value 0.847 with df 133, is less than critical t-value 1.98 at 0.05 level of significance and the two-tailed P value equals 0.3983. Hence, by the conventional criteria, this difference is considered to be statistically insignificant. The formulated null hypothesis (H₀₁) “There exists no significant difference between Male and Female UG Students in their attitudes towards online education.” is retained. It has been proved that the gender is not as a factor in Attitudes towards Online Education. The result is similar to the results reported by the scholars i.e. Lim (2001); Neither Hong (2002); Hung et al., (2010); Simpson, J.M. (2012), Suri and Sharma (2013); Gupta and Sharma (2018); and the results contradicts with the results of Richardson and Swan (2003) ; Ong and Lai, (2006); Liaw & Huang, (2011); and Dhiman et al. (2014).

6.5: Analysis of Locality As a Factor in attitudes of UG Students towards Online Education

H₀₂: There is no significant difference between Rural and Urban UG students in their attitudes towards online education.

Table-3: Showing the ‘t’ value of attitudes of UG Rural and Urban students towards online education.

Variable	Category	Count (N)	Mean	SD	SE _M	SE _D	t- value	df
Attitudes towards online education	Rural	46	33.176	7.015	1.034	1.138	3.068*	133
	Urban	89	36.667	5.847	0.62			

*The result is significant at 0.05 level.

The two-tailed P value equals 0.0026.

By conventional criteria, this difference is considered to be very statistically significant as the t-value is 3.068 which is greater than the critical value (1.98) at 0.05 level, so it is significant at 0.05 level and formulated null-

hypothesis (Ho2) is rejected. Therefore, it has been proved that “There exists a significant difference between UG Rural and urban students in their Attitudes towards Online Education”. Hence, Locality was established as a factor in Attitudes towards Online Education. Kar D. Saha B. & Mondal B. (2014); Neelam Dhamija (2016) and previous scholars found the same results but Thakkar Samir & Joshi Hiren (2017) found the opposite results. The urban students’ showed more positive attitudes towards online education than to their rural counter parts. It might have strong reason that it was due to lack of robust technology infrastructure, a lack of trust and confidence in digital payments, as well a shortage of affordable and reliable internet connectivity options in rural areas.

6.6: Analysis of Academic Streams as a Factor in attitudes of UG students towards Online Education:

H03 There is no significant difference between Arts and Science students in their attitudes towards online education.

Table-4: Showing the ‘t’ value of attitudes of UG Arts and Science students towards online education.

Variable	Category	Count (N)	Mean	SD	SE _M	SE _D	t- value	df
Attitudes towards online education	Arts	60	37.066	5.549	0.716	1.174	3.927*	99
	Science	41	32.457	6.134	0.958			

*The result is significant at 0.05 level.

The two-tailed P value equals 0.0002

By conventional criteria, this difference is considered to be extremely statistically significant. From the observation of the table-3, it was studied that the t-value ($t = 3.927$) is greater than the critical value (1.98) at 0.05 level, so it is significant at 0.05 level and the null-hypothesis (Ho3) is rejected. Therefore, it has been proved that “There exists a significant difference between UG Arts and Science students in their Attitudes towards Online Education”. Hence, Academic Stream is considered as a factor in Attitudes towards Online Education.

H04 There is no significant difference between Arts and Commerce students in their attitudes towards online education.

Table-5: Showing the ‘t’ value of attitudes of UG Arts and Commerce students towards online education.

Variable	Category	Count (N)	Mean	SD	SE _M	SE _D	t- value	df
Attitudes towards online education	Arts	60	37.066	5.549	0.716	1.416	3.275*	92
	Commerce	34	32.429	8.139	1.396			

*The result is significant at .05 level.

The two-tailed P value equals 0.0015

By conventional criteria, this difference is considered to be very statistically significant. From the observation of the table-3, it was studied that the t-value ($t = 3.275$) is greater than the critical value at 0.05 level, so the null-

hypothesis (H_0) is rejected. Therefore, it has been proved that “There exists a significant difference between UG Arts and Commerce students in their Attitudes towards Online Education”. Hence, Academic Stream is considered as a factor in Attitudes towards Online Education. Commerce students showed more positive attitudes towards online education than Arts students at college level, the reason behind such differential attitudes might be that commerce students are more technology oriented due to the nature of their course.

H05 There is no significant difference between UG Science and Commerce students in their attitudes towards online education.

Table-6: Showing the ‘t’ value of attitudes of UG Science and Commerce students towards online education.

Variable	Category	Count (N)	Mean	SD	SE _M	SE _D	t- value	df
Attitudes towards online education	Science	41	32.457	6.134	0.958	1.649	0.017**	73
	Commerce	34	32.429	8.139	1.396			

** The result is insignificant at 0.05 level.

The two-tailed P value equals 0.9865

By conventional criteria, this difference is considered to be not statistically significant. From the observation of the table-3, it was studied that the t-value ($t = 0.017$) is less than the critical value (1.99) at 0.05 level, so by conventional criteria, this difference is considered to be statistically insignificant at 0.05 level and the null-hypothesis is accepted. Therefore, it has been proved that “There exists no significant difference between UG Science and Commerce students in their Attitudes towards Online Education”. In this case, Academic Stream has not been proved as a factor in Attitudes towards Online Education.

7.0: FINDINGS OF THE STUDY :

1. Gender is not a factor in Attitudes towards Online Education.
2. The male UG students hold more positive attitudes towards online education than their female counterparts.
3. Localities is a factor in Attitudes towards Online Education
4. Urban UG students would have more positive attitudes towards online education than rural UG students.
5. Academic Streams not always as a factor in Attitudes towards Online Education
6. Under Graduate Students studying in Arts showed lower attitudes than Science students towards Online Education.
7. There was no difference between Science and Commerce students in Attitudes towards Online Education
8. Commerce students showed more positive attitudes towards online education than Arts students.

8.0: RECOMMENDATIONS FOR FURTHER RESEARCH

1. The study needs to be carried out on a larger and different sections like Schools, Colleges and University level, Degree, Diploma and students studying in various Vocational Courses so as to get a more reliable and comparable results.
2. Besides three variables studied in the present study the other variables like institutional as well as personal and home resources and facilities, Internet knowledge and Computer Literacy, Parental Involvement, etc. would be studied as

9.0: IMPLICATIONS AND COCLUSION OF THE STUDY:

As per the results found in the present study prove that locality and academic streams (in some times) are the factor in Attitudes towards online education. The rural students were not interested in online and technology based education. It is the fact that the rural society are lacking very much the technological support, infrastructure and facilities and other opportunities. Urban society avail all types of amenities and technological supports. Various studies showed a clear rural urban gap in the use of advanced technologies. The rural-urban gap is the greatest in Internet usage and connectivity, local area networks (LAN's), and computer-aided design (CAD) in education, health and in other fields. The programmes and policies may be taken to remove such rural urban gaps. The differential attitudes towards online education among various academic streams as found in present study has also a greater implication in course and curriculum design. The courses in various streams may be designed in such a way that the content delivery and designing the programmes on contents may be easier for the instructors and students can avail the courses in any mode.

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