IMPACT OF BLENDED LEARNING SYSTEM THROUGH ONLINE – PERCEPTION OF STUDENTS – AN EMPIRICAL STUDY

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Abstract :

With the current pandemic induced behaviour on education, the online learning system has become more prominent and is currently in hybrid mode. Several studies earlier have dealt with the aspect of blended learning systems. In this paper, an empirical approach is attempted to study the effect of online learning, mixed with classroom attendance by students. How this new form of learning is being viewed upon by the prime beneficiary – students are being assessed on several factors like comfort, effectiveness, Pedagogy, Engagement in class, Practice sessions and personality development in a holistic manner, and its overall effect on the satisfaction of student in the context of online learning. The authors have adopted a multiple regression approach and examined the role of each of these factors in the overall satisfaction in online learning. The findings indicate Majority of the respondents falling under neutral towards all the cases. Very few respondents disagree with the aspects of online education. It is also found that there is a significant impact of Comfort, Effectiveness, Pedagogy, Engagement in class, Practical Sessions & Personality on Overall Satisfaction.

There is a significant relation between Comfort, Effectiveness, Pedagogy, Engagement in class, Practical Sessions, Personality & Overall Satisfaction in Online learning. The findings are expected to be useful for institutions of higher learning, in taking measures to reduce the limitations and enhance the benefits of learning to students.

Keywords :

Online learning, Student satisfaction, Personality development, Effectiveness of pedagogy, Class engagement

1.   INTRODUCTION

The Pandemic has affected us in a way more than one can imagine. The different sectors of the economy were affected directly and indirectly by the advent of prolonged shut-downs, sporadic and sudden shutdowns announced by state and Central govt – over the last two years. These have had their implications in terms of affecting the business climate, the economic growth, credit available

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to the industrial units, consumption by households and imposed the higher burden of health care costs on the society. The investment in the economy in the long term depends on the growth and effectiveness of one sector and that is the Education sector. The future growth generating group for the economy are in the student population of that country.

In the aftermath of the Pandemic, Education has moved online and had since been like that for past nearly 2 years. It is therefore time to revisit and find out whether at all the current blended learning models in vogue are effective in addressing the need for re-skilling and skill upgrade requirements arising. Particularly as all the tasks are moved up into the digital plane, these skills become more important to enable us to get the necessary learning to perform the activities and deliver outputs of quality and in the specified time window. Today it is becoming more and more imperative to be skilled and able to perform or deliver on the job, or as be industry ready and we seek to examine this aspect in this paper.

2. REVIEW OF LITERATURE:

Blended learning combines instructional modalities, instructional methods, online and face to face instructions. Combining online with face-to-face instruction most likely reflects the correct approach to blended learning, as per (Graham, 2004).

(Graham, 2004) Major issues in blended learning are i) role of live interaction ii) role of learner choice and self –regulation iii) models for support and training iv) finding the balance between innovation and production v) cultural adaptation and dealing with vi) digital divide. It is important to structure for the blended model to support both technologically and from an organisational perspective Digital divide across the economic spectrum creates more challenges and may be difficult to be overcome without compromise in cost, or standard levels given

the audience level catering to.

(Harvey Singh, 2003) Khan's Octagonal framework is a key learning model with eight dimensions, involving institutional, pedagogical, technological, interface design, evaluation, management, resource support and ethical aspects. These factors present the key aspects that need to be addressed and that helps to create a meaningful learning experience.

(Osguthorpe & Graham, 2003) identified six reasons for choosing Blended Learning - i) pedagogical richness ii) access to knowledge iii) social interaction iv) personal agency v) cost-effectiveness vi) ease of revision. They also found that people choose blended learning mainly for i) improved pedagogy ii) increased flexibility iii) increased cost-effectiveness.

(Harvey Singh, 2003) in his article mentioned the continued evolution of learning technologies and delivery media, to evolve and progress, it has been mentioned that BL models are more favoured than a single method or approach.

(Jones, 2006) suggests that the continuum of blended learning is better compared to the stage like continuum model, starting with basic ppt usage, to e- enhanced, e-focused and more e-intensive applications where the delivery of education is done entirely online. It provides flexibility to practitioners and to what point in time, the learner would like to switch from one mode to another or be at a particular level. E-intensive is over 80% online, and hybrid is 30-79% online. focus on classroom interaction as well as online delivery.

(Garisson & Waughan, 2008) have an inquiry framework precisely reflect that reflection and discourse are two key elements of meaningful educational experience, and advise that BL is to be promoted through i) thoughtful integration of f2f and online learning ii) fundamentally revisiting and rethinking learning and teaching

to optimise student engagement. Researchers emphasised that education is neither to memorise nor seek final answers but is a process to enable investigation of the issues involved and arrive at workable solutions to problems. Knowledge is constructed through social collaboration and interaction.

(Croft, 1994) suggested two challenges faced by educators and learners when technology-focus is in place. I) A distinct idea or purpose one wishes to serve II) Maintain flexibility and imagination to adapt the tool to new uses as they may arise, and while BL models serve the latter challenges, but not the earlier one. The need to explore educational theory and its relationship with technology is essential.

(Parcel, Alkalai, & Alberton, 2009) have mentioned the superiority of the BL model, has examined the BL aspect from student achievement and satisfaction. However, there appear to be different views and contradictory reports on the effectiveness of BL and the need for more research is being emphasised. Their study comprised of student's perception of pedagogical and design issues related to a new model used in Open University of Israel, mainly on i) pedagogy ii) textbook format (print V Digital) iii) learning environment usability. The results indicate the importance of completing the pedagogical and visual design

of online learning in advance and suggest ways to bridge the gap between learners and instructors, in a typical online learning setup.

Various studies that have been conducted in the past have already established the importance, relevance and validity of blending learning and it is more pronounced now as compared to earlier.

3. OBJECTIVES:

a) To examine the level of satisfaction of students on blended learning systems through online.

b) To Analyse the perception of students on various factors of blended learning system and examine if the students have been able to learn the key skills for the task to be carried out online – in the current times.

4. METHODOLOGY:

The present study is based on primary data. It is collected by using a structured questionnaire using simple random sampling. The collected responses are processed carefully and found out 80 are fit for the study. Those responses are analyzed by using MS Excel and SPSS 26. The tools used for the analysis is the ratios, for the hypothesis testing, Multiple Regression, and correlation are applied.

5. ANALYSIS & DISCUSSION:

Cronbach's alpha test was conducted and the results proved that questionnaire was reliable (0.924, 28 items).

Table – 1: Demographic details of respondents

| Gender	Count	%		Age Group	Count	%
Male	49	61.25		18 to 21 years	74	92.50
Female	31	38.75		21 to 25 years	6	7.50
Total	**80**	**100**		**Total**	**80**	**100**

(Source: Authors calculation from primary data)

From **Table-1** it is inferred that the majority of the respondents are male (61.25%). From 18 to 21 years age group respondents (92.50%) form majority share in the total respondents.

Table – 2: Perception of respondents towards Comfort of Online education

Particulars		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Total
Being at home	Count	6	8	22	20	24	**80**
	%	**7.50**	**10.00**	**27.50**	**25.00**	**30.00**	**100.00**
No travel	Count	7	12	21	23	17	**80**
	%	**8.75**	**15.00**	**26.25**	**28.75**	**21.25**	**100.00**
Flexibility	Count	4	3	26	32	15	**80**
	%	**5.00**	**3.75**	**32.50**	**40.00**	**18.75**	**100.00**
Costs	Count	5	7	25	22	21	**80**
	%	**6.25**	**8.75**	**31.25**	**27.50**	**26.25**	**100.00**
Total	**Count**	**22**	**30**	**94**	**97**	**77**	**320**
	%	**6.88**	**9.38**	**29.38**	**30.31**	**24.06**	**100.00**

(Source: Authors calculation from primary data)
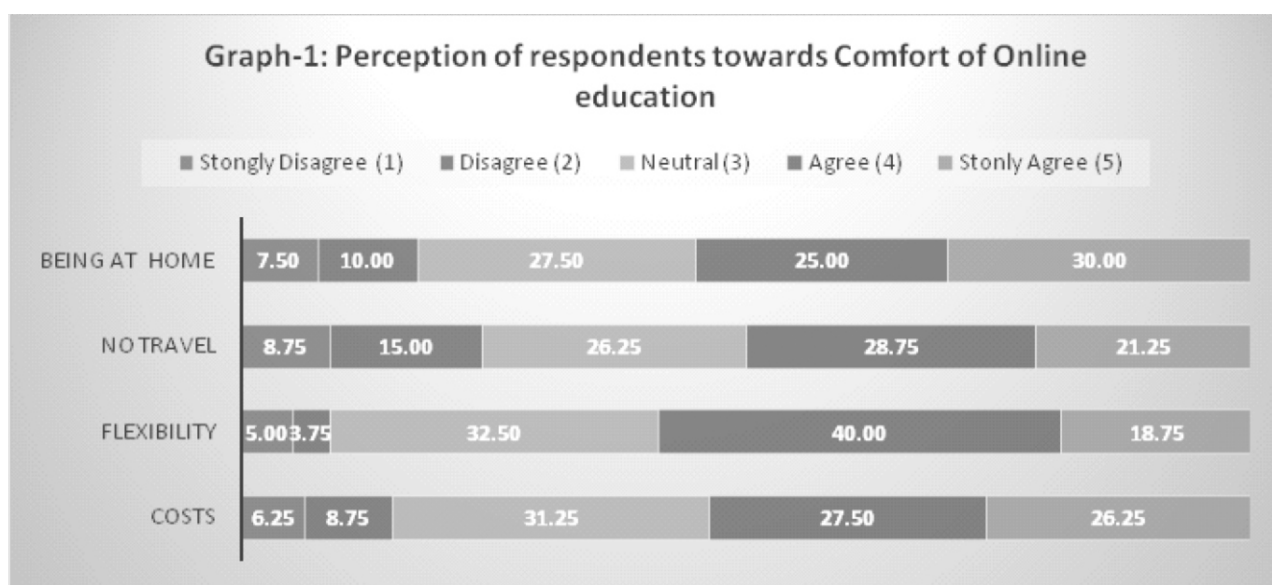
From **Table-2** the overall results of Perception of respondents towards Comfort of Online education show that the majority of the respondents fall under Agree (30.31%) followed by Neutral (29.38%) followed by Strongly agree (24.06%) followed by Disagree (9.38%) and the least are Strongly Disagree (6.88%). From this, it is noted that only 16.26% of respondents are not comfortable with online education and the major portion 54.37% are happy with online education.

Table – 3: Perception of respondents towards Effectiveness of Online education

Particulars		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Total
Understanding complex concepts	Count	11	19	34	10	6	80
	%	13.75	23.75	42.50	12.50	7.50	100.00
Attentiveness in classroom	Count	10	17	31	14	8	80
	%	12.50	21.25	38.75	17.50	10.00	100.00
Easy to absorb concepts	Count	9	13	34	17	7	80
	%	11.25	16.25	42.50	21.25	8.75	100.00
Interaction with faculty	Count	8	16	24	22	10	80
	%	10.00	20.00	30.00	27.50	12.50	100.00
Interaction with students	Count	14	18	22	14	12	80
	%	17.50	22.50	27.50	17.50	15.00	100.00
Assignment work completion	Count	6	8	25	27	14	80
	%	7.50	10.00	31.25	33.75	17.50	100.00
Total	Count	58	91	170	104	57	480
	%	12.08	18.96	35.42	21.67	11.88	100.00

(Source: Authors calculation from primary data)

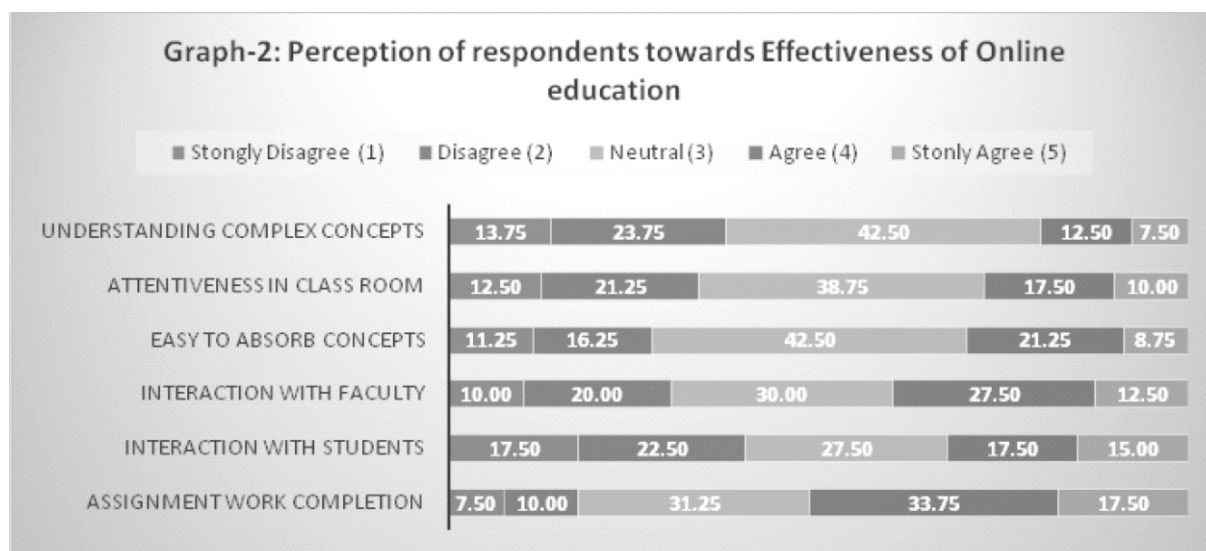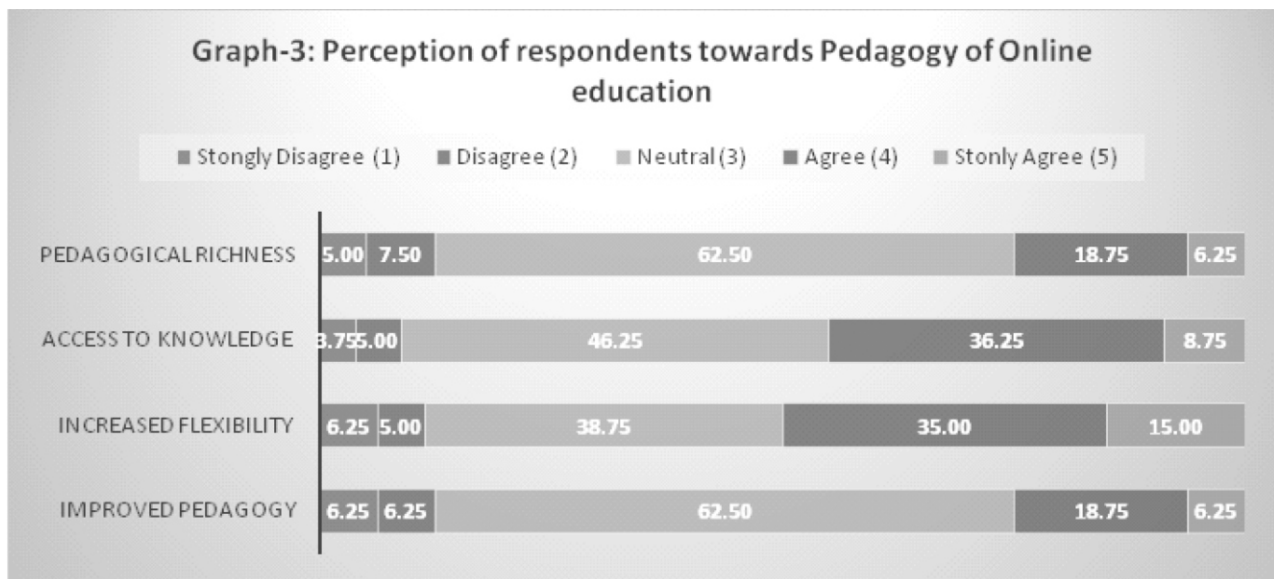Graph-2: Perception of respondents towards Effectiveness of Online education

From **Table-3** the overall results of Perception of respondents towards Comfort of Online education show that the majority of the respondents fall under Neutral (35.42%) followed by Agree (21.67%) followed by Disagree (18.96%) followed by Strongly agree (11.88%) and the least are Strongly Disagree (12.08%). From this, it is noted that only 31.04% of respondents are feeling ineffective about online education and the remaining major portion 68.96% are feeling effective about online education.

Table – 4: Perception of respondents towards Pedagogy of Online education

Particulars		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Total
Pedagogical richness	Count	4	6	50	15	5	**80**
	%	**5.00**	**7.50**	**62.50**	**18.75**	**6.25**	**100.00**
Access to knowledge	Count	3	4	37	29	7	**80**
	%	**3.75**	**5.00**	**46.25**	**36.25**	**8.75**	**100.00**
Increased flexibility	Count	5	4	31	28	12	**80**
	%	**6.25**	**5.00**	**38.75**	**35.00**	**15.00**	**100.00**
Improved pedagogy	Count	5	5	50	15	5	**80**
	%	**6.25**	**6.25**	**62.50**	**18.75**	**6.25**	**100.00**
Total	Count	**17**	**19**	**168**	**87**	**29**	**320**
	%	**5.31**	**5.94**	**52.50**	**27.19**	**9.06**	**100.00**

(Source: Authors calculation from primary data)

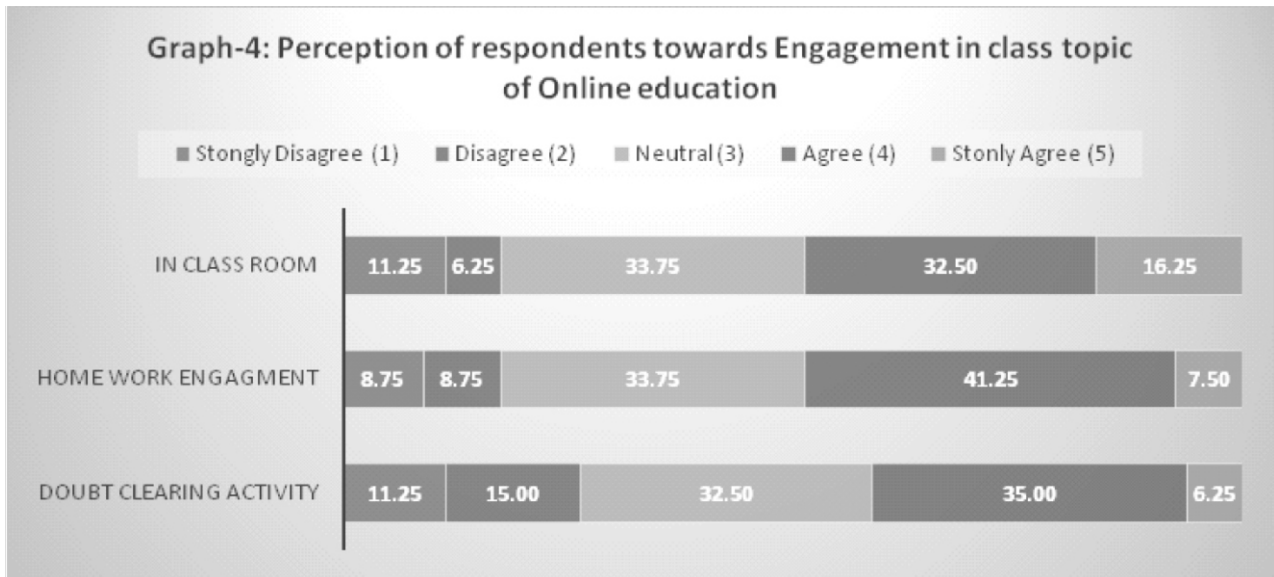Graph-3: Perception of respondents towards Pedagogy of Online education

From Table-4 the overall results of Perception of respondents towards Pedagogy of Online education show that the majority of the respondents fall under Neutral (52.50%) followed by Agree (27.19%) followed by Strongly agree (9.06%) followed by Disagree (5.94%) and the least are Strongly Disagree (5.31%). From this, it is noted that only 11.25% of respondents are feeling pedagogy is not good in online education and the major portion 52.50% are feeling Neutral about online education.

Table – 5: Perception of respondents towards Engagement in-class topic of Online education

Particulars		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Total
In classroom	Count	9	5	27	26	13	**80**
	%	**11.25**	**6.25**	**33.75**	**32.50**	**16.25**	**100.00**
Homework engagement	Count	7	7	27	33	6	**80**
	%	**8.75**	**8.75**	**33.75**	**41.25**	**7.50**	**100.00**
Doubt clearing activity	Count	9	12	26	28	5	**80**
	%	**11.25**	**15.00**	**32.50**	**35.00**	**6.25**	**100.00**
Total	**Count**	**25**	**24**	**80**	**87**	**24**	**240**
	%	**10.42**	**10.00**	**33.33**	**36.25**	**10.00**	**100.00**

(Source: Authors calculation from primary data)

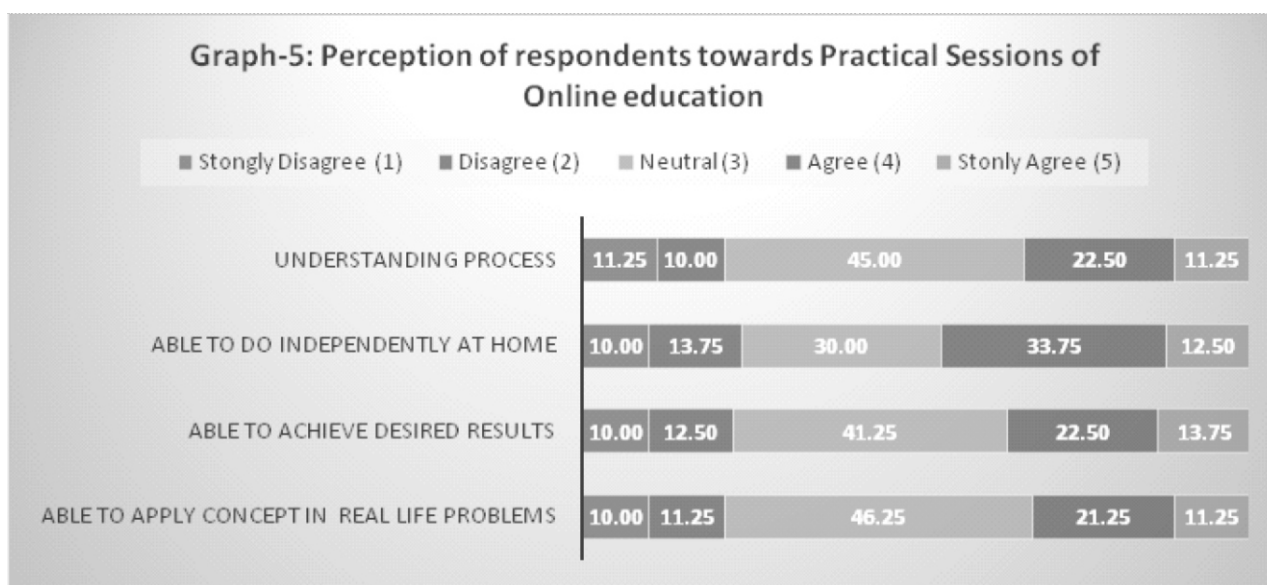Graph-4: Perception of respondents towards Engagement in class topic of Online education

From Table-5 the overall results of Perception of respondents towards Engagement in-class topic of Online education show that the majority of the respondents fall under Agree (36.25%) followed by Neutral (33.33%) followed by Disagree (10.42%) followed by Strongly agree (10.00%) and the least are Strongly Disagree (10.00%). From this, it is noted that only 20.42% of respondents feel dissatisfaction towards Engagement in-class topicswith online education and the major portion 46.25% are happy towards Engagement in-class topics with online education.

Table – 6: Perception of respondents towards Practical Sessions of Online education

Particulars		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Total
Understanding process	Count	9	8	36	18	9	80
	%	11.25	10.00	45.00	22.50	11.25	100.00
Able to do independently at home	Count	8	11	24	27	10	80
	%	10.00	13.75	30.00	33.75	12.50	100.00
Able to achieve desired results	Count	8	10	33	18	11	80
	%	10.00	12.50	41.25	22.50	13.75	100.00
Able to apply concept in real life problems	Count	8	9	37	17	9	80
	%	10.00	11.25	46.25	21.25	11.25	100.00
Total	Count	33	38	130	80	39	320
	%	10.31	11.88	40.63	25.00	12.19	100.00

(Source: Authors calculation from primary data)

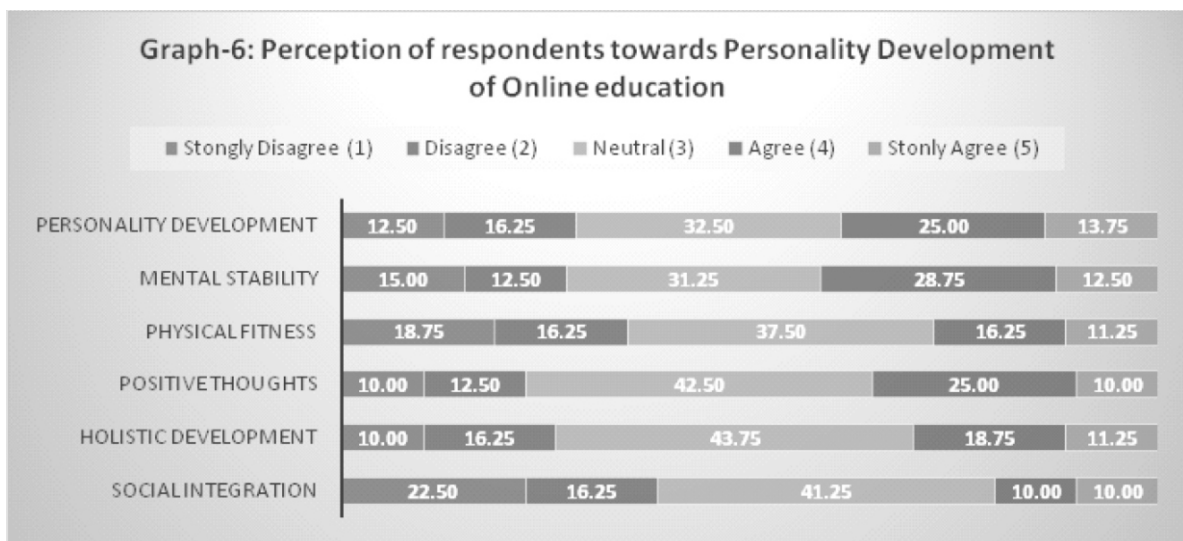Graph-5: Perception of respondents towards Practical Sessions of Online education

From **Table-6** the overall results of Perception of respondents towards practical sessions of Online education show that the majority of the respondents fall under Neutral (40.63%) followed by Agree (25.00%) followed by Strongly agree (12.19%) followed by Disagree (11.88%) and the least are Strongly Disagree (10.31%). From this, it is noted that only 22.19% of respondents feel dissatisfaction towards Engagement in-class topics with online education and the major portion 46.25% are happy towards Engagement in-class topics with online education.

Table – 7: Perception of respondents towards Personality Development of Online education

Particulars		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Total
Personality development	Count	10	13	26	20	11	**80**
	%	**12.50**	**16.25**	**32.50**	**25.00**	**13.75**	**100.00**
Mental stability	Count	12	10	25	23	10	**80**
	%	**15.00**	**12.50**	**31.25**	**28.75**	**12.50**	**100.00**
Physical fitness	Count	15	13	30	13	9	**80**
	%	**18.75**	**16.25**	**37.50**	**16.25**	**11.25**	**100.00**
Positive thoughts	Count	8	10	34	20	8	**80**
	%	**10.00**	**12.50**	**42.50**	**25.00**	**10.00**	**100.00**
Holistic development	Count	8	13	35	15	9	**80**
	%	**10.00**	**16.25**	**43.75**	**18.75**	**11.25**	**100.00**
Social integration	Count	18	13	33	8	8	**80**
	%	**22.50**	**16.25**	**41.25**	**10.00**	**10.00**	**100.00**
Total	**Count**	**71**	**72**	**183**	**99**	**55**	**480**
	%	**14.79**	**15.00**	**38.13**	**20.63**	**11.46**	**100.00**

(Source: Authors calculation from primary data)

Graph-6: Perception of respondents towards Personality Development of Online education

From **Table-7** the overall results of Perception of respondents towards Personality development of Online education show that the majority of the respondents fall under Neutral (38.13%) followed by Agree (20.63%) followed by Disagree (15.00%) followed by Strongly Disagree (14.79%) and the least are Strongly agree (11.46%). From this, it is noted that only 29.79% of respondents feel personality development will not happen with online education and the major portion 38.13% of respondents feel neutral about it.

Table – 8: Perception of respondents towards Overall Satisfaction in Online learning

Particulars		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Total
Overall Satisfaction in Online learning	Count	12	7	39	22	0	**80**
	%	**15.00**	**8.75**	**48.75**	**27.50**	**0.00**	**100.00**

(Source: Authors calculation from primary data)

From Table-8 the Perception of respondents towards Overall Satisfaction in Online learning show that the majority of the respondents fall under Neutral (48.75%) followed by Agree (27.50%) followed by Strongly Disagree (15.00%) followed by Disagree (8.75%) and the least are Strongly agree (0%). From this, it is noted that only 23.75% of respondents feel Overall dissatisfaction with online education and the major portion 48.75% of respondents feel neutral about it.

Hypothesis testing:

The **Coefficients** table provides us with information on each predictor variable. So the regression equation can be framed as:

Overall Satisfaction in Online learning = 0.186 +. 263 (Comfort)
+. 144 (Effectiveness)
+. 029 (Pedagogy)
+. 099 (Engagement in class)
+. 301 (Practical Sessions)
-.013 (Personality)

H_{o1}: There is no significant relation between Comfort, Effectiveness, Pedagogy, Engagement in class, Practical Sessions, Personality & Overall Satisfaction in Online learning.

Table -12: Correlations		Comfort	Effectiveness	Pedagogy	Engagement in class	Practical Sessions	Personality
Effectiveness	Pearson Correlation	.490[**]					
	Sig. (2-tailed)	0.000					
Pedagogy	Pearson Correlation	.635[**]	.633[**]				
	Sig. (2-tailed)	0.000	0.000				
Engagement in class	Pearson Correlation	.544[**]	.622[**]	.655[**]			
	Sig. (2-tailed)	0.000	0.000	0.000			
Practical Sessions	Pearson Correlation	.518[**]	.788[**]	.675[**]	.685[**]		
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		
Personality	Pearson Correlation	.386[**]	.776[**]	.443[**]	.485[**]	.708[**]	
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	
Overall Satisfaction in Online learning	Pearson Correlation	.526[**]	.562[**]	.526[**]	.531[**]	.614[**]	.461[**]
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000
**. Correlation is significant at the 0.01 level (2-tailed).							

The Correlation table indicates that the correlation among the variables significantly well, p< 0.000, which is less than 0.05, and we can say that there is a significant relation between Comfort, Effectiveness, Pedagogy, Engagement in class, Practical Sessions, Personality & Overall Satisfaction in Online learning by rejecting the null hypothesis

H_{02}: There is no significant impact of Comfort, Effectiveness, Pedagogy, Engagement in class, Practical Sessions & Personality on Overall Satisfaction in Online learning.

Table -9: Model Summary			
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.670[a]	.449	.404	.757
a. Predictors: (Constant), Personality, Comfort, Engagement in class, Pedagogy, Practical Sessions, Effectiveness				

Table -10: ANOVA[a]					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 Regression	34.156	6	5.693	9.934	.000[b]
Residual	41.831	73	.573		
Total	75.988	79			
a. Dependent Variable: Overall Satisfaction in Online learning					
b. Predictors: (Constant), Personality, Comfort, Engagement in class, Pedagogy, Practical Sessions, Effectiveness					

Table -11: Coefficients[a]					
	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
Model	**B**	**Std. Error**	**Beta**		
1 (Constant)	.186	.413		.451	.653
Comfort	.263	.129	.237	2.045	.044
Effectiveness	.144	.181	.137	.797	.428
Pedagogy	.029	.181	.022	.158	.875
Engagement in class	.099	.135	.096	.732	.466
Practical Sessions	.301	.160	.313	1.878	.064
Personality	-.013	.134	-.015	-.101	.920
a. Dependent Variable: Overall Satisfaction in Online learning					

(Source: Authors calculation from primary data)

The Model Summary table provides the R and R2 values. The R-value is 0.670, which represents a simple correlation. It indicates a high degree of correlation between Dependent and Independent variables. Since the R2 value is 44.9 per cent approximately for (Independent variables), it shows that sales (Dependent variable) are affected by 44.9 per cent and the remaining 55.1 per cent by some other factor.

The ANOVA table indicates that the regression model predicts the outcome variable significantly well, p< 0.000, which is less than 0.05, and we can say that there is a significant impact of Comfort, Effectiveness, Pedagogy, Engagement in class, Practical Sessions & Personality on Overall Satisfaction in Online learning by rejecting the null hypothesis.

6. CONCLUSION:

Higher education is most important to develop a country and the students play a prominent role in that. Due to the pandemic situation, all the organizations are gone compulsory online education without any choice. But whether the students are satisfied with these classes is a big question. To identify that in the above study students are assessed on several factors like comfort, effectiveness, Pedagogy, Engagement in class, Practice sessions and personality development in a holistic manner, and its overall effect on the satisfaction of students in the context of online learning. The study reveals that the Majority of the respondents falling under neutral towards all the above cases. Very few respondents disagree with the aspects of online education. Finally, it can be understood that online classes are not effective and do not help for the holistic development of students.

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