Effectiveness Of Offline Versus Online Classes On Learning Of B.Sc. Nursing Part III Students

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Abstract

Background: Online classes emerged as a game-changer during COVID-19 pandemic. In this difficult period, online classes grabbing the attention of the whole world. This study assess the effectiveness of offline versus online classes on learning of B.Sc. Nursing Part III students. The present study also compares whether online classes is as effective as offline classes.

Objective: The objective was to assess the effectiveness of offline versus online classes on learning of B.Sc. Nursing Part III students.

Methodology: A quasi experimental post-test only design was used in this study. The study was conducted at 6 private nursing colleges of Kota Rajasthan. Total 300 nursing students were chosen by purposive sampling technique for the study, 150 students for offline classes and 150 for online classes. Regular 5 days offline and online classes were taken with lectures and power point presentations. Offline classes were taken in class room of colleges and online classes were taken by zoom platform. On the 6th day post-test was taken by using structured knowledge questionnaire and data were gathered by both modes of classes.
Results: Offline classes scores in this study showed that 8.7% of students reporting moderate effectiveness and 91.3% reporting very effective level of learning as compare to the online classes with 77.3% of students reporting moderate effectiveness and 22.7% reporting very effective level of learning. The t-test showed that there is a significant difference between the Online and Offline classes (df = 298, t = -17.212, p < .001). The results findings showed that offline classes were significantly effective than online classes.
Conclusion: The study's findings indicated that offline classes is more effective than online classes on learning of B.Sc. Nursing Part III students.

Keywords: Effectiveness, offline classes, online classes, learning.

INTRODUCTION

The sudden outbreak of Covid-19 in various part of the world in 2020 has severely affected the educational institutions in various countries. Students were affected in the way to accept the hybrid form of learning and also grasp the interest towards the classes that were conducted online. The study aims to investigate the effectiveness of online and offline education in higher education. The study was carried out in India, Indonesia, Malaysia and other countries with 100 respondents among which major responses were from the youth population studying in Bachelor's program, Diploma and Master's mostly. The findings indicated that the

effectiveness of online education is dismal, as students find it difficult to adjust to the online mode of education and the offline mode of education remains the most preferred mode of education.[1] The students prefer the offline mode of learning over the online mode of learning. Students can interact with the teacher and clear their doubts during classes. Hence, they feel motivated. They also feel competitive as they interact with students also which is not possible during the online ode of learning. They will get a hard copy of study material on which they can highlight the important topic as well. They also more focusing and disciplined during the offline mode of learning because of the learning environment.[2] The landscape of education has undergone significant changes in recent years, largely driven by advancements in technology. Traditional educational models heavily reliant on in-person instruction have gradually transformed to incorporate digital technologies and online platforms. This shift has revolutionized the way knowledge is accessed, shared, and acquired.[3] The field of education has witnessed significant transformations in recent years, driven by advancements in technology and changing societal needs. Traditional approaches to education, characterized by physical classrooms and face-to-face instruction, have gradually evolved to incorporate innovative teaching and learning methods.[4] One of the most significant developments in education is the emergence and rapid growth of online learning. Online learning refers to the delivery of educational content and instruction through digital platforms, accessible via the internet. It encompasses a wide range of formats, including virtual classrooms, multimedia resources, discussion forums, and interactive simulations.[5] Online learning gained momentum with the expansion of the internet and the availability of digital tools and resources. It offers several advantages over traditional classroom-based instruction. First and foremost, online learning provides flexibility in terms of time and location. Students can access course materials and participate in discussions from anywhere, at any time, using various devices such as laptops, tablets, or smartphones.[6] Online learning has emerged as a powerful force in education, providing learners with unprecedented access to knowledge and learning opportunities. The growth of online learning can be attributed to several factors, including the widespread availability of high-speed internet, the development of sophisticated learning management systems, and the increased demand for flexible education options.[7] There are only few studies were conducted to evaluate the effectiveness of offline versus online classes on nursing students learning. Therefore, the researcher decided to assess the effectiveness of offline versus online classes on B.Sc. Nursing Part III students.

OBJECTIVES

- To evaluate the effectiveness of offline classes on learning of B.Sc. Nursing Part III students.
- To evaluate the effectiveness of online classes on learning of B.Sc. Nursing Part III students.
- To compare the effectiveness of offline versus online classes on learning of B.Sc. Nursing Part III students.

METHODOLOGY

RESEARCH APPROACH: Quantitative evaluative research approach was adopted.

RESEARCH DESIGN: Quasi experimental post-test only design was used for this study.

SETTING: The study was carried out on students of the following selected 6 private nursing colleges in Kota, Rajasthan:- 1. Florence College of Nursing Talwandi Kota 2. M. D. Mission College of Nursing Keshavpura Kota 3. Maa Bharati College of Paramedical and Nursing Education Mahaveer Nagar III Kota 4. Arihant College of Nursing Borkhera Kota 5. Jaiswal College of Nursing Ranpur Kota 6. Sudha College of Nursing Naya Gaon Kota

POPULATION: In present study, population consisted of B.Sc. Nursing Part III students studying in selected nursing colleges of Kota Rajasthan.

SAMPLE SIZE: Total 300 B.Sc. Nursing Part III students was selected for this study.

SAMPLING TECHNIQUE: Convenient sampling technique was used for selection of settings for this study. Purposive sampling technique was used to collect data from samples i.e. students of selected colleges of nursing.

DEVELOPMENT OF STRUCTURED TEACHING PROGRAMS: Based on the part of the syllabus of B. Sc. Nursing part III, subject Child Health Nursing was selected and 5 topics on congenital malformations were chosen. Hence 5 structured teaching programs of 40 minutes and power point presentations of each topic were prepared. The topics selected for classes on congenital malformation were following: 1. Hydrocephalus 2. Tracheo-Oesophageal Atresia & Fistula 3. Tetralogy Of Fallot 4. Hypertrophic Pyloric Stenosis 5. Spina Bifida.

PLANNING FOR TAKING CLASSES: For offline student's classes were taken by lectures and power point presentations in the classroom by face to face mode and for online student's the classes were taken by using lectures and power point presentations through zoom platform. The links for classes were generated and sent in the Whats App class groups of the students for taking online classes. 5 days continuous classes were taken by both offline and online modes.

DESCRIPTION OF TOOL: A structured multiple choice questionnaire was considered as a suitable method for data collection. On the basis of objectives of the study, structured knowledge questionnaire were prepared to evaluate the learning of B.Sc. nursing part III students regarding congenital malformations. The structured tool consisted of two sections:

SECTION – A: It consisted of socio-demographic variables of nursing students as follows:-

1. Socio-demographic variables for students attending offline classes includes - Age group of the student, Gender, Marital status of the student, Type of family, Family income per month, Area of residence, present residence.

2. Socio-demographic variables for students attending online classes includes - Age group of the student, Gender, Marital status of the student, Type of family, Family income per month, Area of residence, Present residence, Type of electronics device used for classes, Previous electronics devices & internet operating experience, Attended any online classes previously.

SECTION – B: Structured Knowledge Questionnaire comprised of 50 multiple choice questions on the subject Child Health Nursing and topic of congenital malformations for evaluating the learning of B. Sc. nursing part III students. The topics included were: Hydrocephalus, Tracheo-oesophageal atresia & fistula, Tetralogy of fallot, Hypertrophic pyloric stenosis & Spina bifida

Section-B consisted of 5 parts:-

PART-I:- Consisted of 10 multiple choice questions related to general information.

PART-II:- Consisted of 08 multiple choice questions related to classification and aetiology.

PART-III:- Consisted of 11 multiple choice questions related to clinical manifestations.

PART-IV:- Consisted of 11 multiple choice questions related to diagnostic evaluation and therapeutic management.

PART-V:- Consisted of 10 multiple choice questions related to nursing management and Complications.

PLANNING FOR DATA COLLECTION: 5 days regular classes were conducted for offline (control) and online (experimental) groups of students. On 6th day offline class's students were given their post-test by pen and pencil on paper and for online classes students post-test through google forms was conducted.

LEARNING SCORES INTERPRETATION: In this study Level of the effectiveness of offline or online classes has been categorized in 3 categories as follows:-

a. Less effective - ($< 50\%$)

b. Moderate effective - (50-75%)

c. Very effective - (>75%)

TESTING FEASIBILITY AND RELIABILITY OF TOOL (PILOT STUDY)

Formal administrative permission for pilot study was taking from Principal Government College of Nursing Kota, Rajasthan. The purpose of the study was explained to the nursing students and then verbal and written consent was taken from them. Total 30 students were taken after using random sampling technique. From 30 nursing students 15 students were given offline or face to face classes in the college class room and 15 were given online classes on Zoom platform. Regular 5 days classes were taken for students through both offline and online modes and method of teaching is lecture and power point presentation.

Then structured knowledge questionnaire were administered to nursing students on 6th day. For offline students post-test was taken by pen and pencil on paper and for online students by Google form and link of which was shared in class group. The average time taken for completing the structured knowledge questionnaire was 50-60 minutes. The clarity, feasibility and practicability of the tool was tested. Reliability of the structured knowledge questionnaire was computed by split half method for this study. The reliability quotient 'r' was found to be 0.83 for tool.

RESULTS

Descriptive and inferential analysis of the gathered data were performed with the help of SPSS software.

Table No. 1: Frequency and percentage distribution of sample's socio-demographic variables on offline and online modes.

N=300 (Offline-150 + Online-150)

S. No.	Name of socio-demographic variables	Offline classes mode		Online classes mode	
		Frequency	Percentage	Frequency	Percentage
1.	**Age group of the student**				
	20-21 years 95 63.3	92	61.3	95	63.3
	22-23 years 48 32.0	49	32.7	48	32.0
	24-25 years 7 4.7	9	6.0	7	4.7
	26-27 years 0 0.0	0	0.0	0	0.0
2.	**Gender**				
	Male	125	83.3	122	81.3
	Female	25	16.7	28	18.7
3.	**Marital status of the student**				
	Unmarried	139	92.7	137	91.3
	Married	11	7.3	13	8.7
4.	**Type of family**				
	Nuclear	99	66.0	96	64.0
	Joint	51	34.0	54	36.0
5.	**Family income per month**				
	30000-60000	96	64.0	82	54.7
	61000-90000	41	27.3	57	38.0
	91000-120000	5	3.3	7	4.7
	More than 120000	8	5.3	4	2.7
6.	**Area of residence**				
	Urban	58	38.7	52	34.7
	Rural	92	61.3	98	65.3
7.	**Present residence**				
	Home	32	21.3	36	24.0
	Hostel 6 4.0	9	6.0	6	4.0
	Paying Guest/On Rent 108 72.0	109	72.7	108	72.0
8.	**Type of electronics device used for classes**				

	Desktop			4	2.7
	Laptop			7	4.7
	Tablet			3	2.0
	Mobile			136	90.7
9.	**Previous electronics devices & internet operating experience**				
	Yes			141	94.0
	No			9	6.0
10.	**Attended any online classes previously**				
	Yes			134	89.3
	No			16	10.7

Table No.2: Evaluation of the effectiveness of offline classes on learning of B.Sc. Nursing Part III students in terms of descriptive statistics (frequency, percentage, mean, & standard deviation).

N = 150

S. No.	Effectiveness of offline Learning level	Frequency	Percentage	Mean score	S.D.
1.	Less Effective	00	0.00		
2.	Moderate Effective	13	8.7	41.32	3.35
3	Very Effective	137	91.3		

Table No. 3: Evaluation of the effectiveness of online classes on learning of B.Sc. Nursing Part III students in terms of descriptive statistics (frequency, percentage, mean, & standard deviation).

N=150

S. No.	Effectiveness of online Learning level	Frequency	Percentage	Mean score	S.D.
1.	Less Effective	00	0.00		
2.	Moderate Effective	116	77.3	34.66	3.34
3	Very Effective	34	22.7		

Table No. 4: Represent mean, S.D. and Standard Error of mean for compare effectiveness of offline and online mode of teaching.

Scores	Mode of teaching	N	Mean	Std. Deviation	Std. Error Mean
	Offline	150	41.327	3.3548	0.2739
	Online	150	34.667	3.3472	0.2733

Table No. 5: Showing result of "t-test" statistics

Compare between offline and online mode	t-test for Equality of Means							
	F	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
	2.938	17.212	298	0.0001	6.6600	0.3869	7.4215	5.8985

Based on the results of the t-test, there is a significant difference between the means of the Online and Offline groups (df = 298, t = -17.212, p < .001). The offline group had a significantly higher mean score than the online group, with a mean difference of -6.66 points. The 95% confidence interval for the difference in means is -7.4215, -5.8985.

Therefore, null hypothesis (H01) was rejected and conclusion drawn based on the t-test results, we can conclude that there is a significant difference in mean scores between the offline and online groups, and the offline group had a significantly higher mean score than the online group.

DISCUSSION

The present study was conducted to assess the effectiveness of offline versus online classes on learning of B.Sc. Nursing Part III students at selected colleges of nursing in Kota Rajasthan. The effectiveness of offline classes in this study showed that 8.7% of students reporting moderate effectiveness and 91.3% reporting very effective level of learning as compare to the effectiveness of online classes with 77.3% of students reporting moderate effectiveness and 22.7% reporting very effective learning levels. The comparison of effectiveness between offline and online classes through statistical analysis demonstrated that offline classes had significantly higher learning effectiveness compared to online classes.

This finding corroborates previous research conducted by **Nurul Rachmahet et al. (2020)**, where they reported that students in offline classes achieved better academic performance and satisfaction compared to those in online classes.[8]

The findings of this study are consistent with previous research conducted by **D. Koirala et al. (2020)**, which also found that offline classes were perceived as more effective in promoting learning among nursing students. However, it is important to compare these findings with other studies in order to gain a broader perspective.[9]

The present study findings were more or less similar with the findings of **Tim Klaus et al. (2007)**, where they found that students in traditional classroom settings demonstrated better comprehension and retention of course materials compared to those in online classes.[10]

CONCLUSION

The offline classes was replaced by online classes due to COVID-19 pandemic in all over the world. Thus all educational institutes close offline classes and start online classes to continue learning during lockdown. So it is very essential to assess effectiveness of offline versus online classes on learning of students. When comparing the learning effectiveness between offline and online classes, the results showed difference between the two modes. Offline mode was significantly effective than online mode but the both modes yielded positive learning outcomes. In offline mode, the vast majority of students demonstrated a very effective learning level, while in online mode, the majority showed a moderate effective learning level.

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