

Dissection of Learning Opportunities and Obstacles While Learning Through Video Conferencing Platform (VCP) - During Covid 19 Lockdown

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Abstract

Background- COVID 19 pandemic has influenced our lives in all the aspects, even the younger generations are also not left untouched, specially their studies. Professional courses like nursing has integrated theory with practical learning and due to the lock down situation both aspects of learning - theory as well as the clinical learning are suffering. Though the teaching institutes have come up with the solutions like online lectures, using the video conferencing platform (VCP). This has expanded the horizon of traditional classroom. Though it is widely practiced in developed countries but in India it is still a new trend of learning. Purpose - of this study was to assess learner's satisfaction level while learning through video conferencing platform and various opportunities and obstacles learner's faced were explored. **Methods** – nursing students were the participants and online self-reporting method was adopted for the data collection. Self-developed questionnaire was completed by 138 participants and questionnaire had 36 items to respond on Video Conferencing Platform related to learner's satisfaction, also opportunities & obstacles encountered while learning through VCP.

Results – Majority (63%) of the participants were somewhat satisfied, learning through VCP and 26.1% were highly satisfied. Observation of the opportunities were found to be better learning outcome – brainstorming stimulation, self-motivated learning, able to ask and clear doubts and lecture was reported to be captivating. Another opportunity reported was comfort while learning which included the learning in personal space, no compulsion of physical presence at teaching institute and freedom to choose which lecture to attend. Obstacles reported were related to the classroom environment where the chances avoiding questions and fooling the instructor was reported by majority participants, technical challenges like slow internet disturbed the lecture and made it difficult to articulate lecture and also missed part of lecture. Other obstacles reported were decreased social interaction, participants found learning through VCP to be tiresome as compared to traditional classroom, connectivity issues disturbance create due to the surroundings. Association between the course of study with satisfaction level, opportunities and obstacles were found to be significant, whereas the association between the time spend on VCP was found to be significant only with obstacles.

Keywords: video conferencing platform, learning, nursing students, opportunities and obstacle

Introduction

COVID 19 has tremendously influenced the world in all aspects and education system has not been left untouched. Corona virus pandemic has significantly disrupted various sectors in India, since March 2020 the educational institutions are closed as precautionary and

preventive measures. As per present situation there is an uncertainty when will these educational institutions will reopen. According to UNESCO Institute for Statistics data around 320,713,810 learners are affected in India due to COVID 19 lock down situation.¹

Undoubtedly, this is crucial time for education sector when the entrance exams and university exams are held due to the pandemic, sessions are delayed and struggle to impart knowledge has been a challenge.

Multiple measure has been adopted by the educational institutions and their examining bodies like : Online sessions for teaching , revise the plan of academic calendar and postponing the examination. However, the challenges related to theory could be managed with video conferencing or online teaching. but the and inability to complete the academic requirements like practical or clinical duties.

Developed countries have already been using the web based / online teaching methods but India has adopted the teaching through video conferencing recently. This movement from traditional to internet based education requires engaging the students in their learning space which is compatible to their abilities and surroundings. In addition the teachers also need to innovate about the effective medium for learning, creating and sharing the ideas among learners. This is more feasible when video communication technologies are used and most common method is Video conferencing.

In higher education Video conferencing is the most commonly accessed via internet and it immediately facilitates learner's self directed learning^{2,3}

Video Conferencing : video conferencing technology is a communication medium through which the learner or user is able to share visual and audio in real time. With this users transfer or exchange the ideas and thoughts using the presentations or text or slides through the Video Conferencing Platform (VCP).⁴ However, this is dependent on one variable that is the speed of the internet and computer.

According to Campbell (2006) video conferencing has opened new opportunities for both the parties i.e, teachers as well as learners⁵. Majorly, teachers use this method for inculcating problem solving and competency among learners⁶

Benefits : Application of theory to practice is effectively learnt through video conferencing because it promote students' participation and problem solving⁷. Additionally this method allows learner to record

the session which can be later accessed and reviewed whenever needed, this is not possible in traditional teaching method. The geographical limitation is overcome by this video conferencing method and helps learners to develop cultural competency as they are from different backgrounds⁸.

Challenges: video conferencing limits the response and interaction to one person, only one person is allowed to speak at a time and this may cause lack of interest among rest all learners⁹. Another challenge is lack of infrastructure from learner side like lack of microphones or slow internet speed. Moreover the learners behave the same manner as they are in traditional classroom¹⁰. In addition, it was reported that video conferencing has no effect on the learners' outcome because they faced difficulty to use the equipment and they were not feeling free to express themselves during the session¹¹.

Literature on effectiveness of video conferencing in education have reported that environmental as well as individual factors influence learning experience and outcome of learning. Environmental factors like hardware or the desktop/laptop etc, and individual factors were attitude and knowledge¹².

The current limitation of COVID 19 has revolutionised the movement of higher education towards comprehensive learning experience through internet and most common platform adopted is video conferencing¹³⁻¹⁵.

In view of above the study was conducted to explore the students' perspective related to teaching through video conferencing, in India. Though it is in practice in many countries but it's a new initiative in India. With video conferencing providing different educational environments, still there is lack of notable research to demonstrate the use of this method in nursing education.

Materials and Methods

In this study, during COVID 19 Lockdown - learning through video conferencing platform was assessed among nursing students. As, it was not feasible to reach to the students physically due to lock down situation, therefore, it was decided to collect data using the internet. However, the ethical permission was taken from the institutional ethical committee.

Measure: The tool used for data collection had two sections:

- Demographics details – age, gender, Institution, University, Course
- Video conference Platform related data: - Platform used, Version used, Number of hours spent, Device used, Previous experience.
- Opinionnaire related to learning through Video Conferencing platform. –

It was further subdivide into two opportunities and obstacles:

Opportunities related to :

- i. Learning outcome
- ii. Skill development
- iii. Comfort
- iv. Classroom environment

Obstacles related to :

- v. Learning outcome
- vi. Technical challenges
- vii. Comfort
- viii. Classroom environment

Objectives of the study were:

- Assess the satisfaction level of learner

- Assess the obstacles and opportunities experienced by the learner
- Find out association between satisfaction level of learner and demographic variables

RESULTS & DISCUSSION

FREQUENCY DISTRIBUTION OF DEMOGRAPHIC VARIABLES

Participants in the study were 138 and self-reporting method was adopted, among the 138 participants 102 (73.9%) were female, and 36 males (26.1%). All the participants were **B.Sc. Nursing** students and attended online classes through **Zoom video conferencing platform** 128 (92.8%) other platforms used were webinar and skype and majority participants 120 (87%) used free version only.

Duration spent on Video Conferencing platform majorly between 03-05 hours daily (56.5%) whereas 22.5% participants spent 05-08hours daily.

Device used by majority of the participants was mobile phone (92.8%) rest 07.2% used laptop. Participants (82.6%) had no previous experience of learning through video conferencing platform, on other hand thirteen percent had learn through video conferencing platform. An opinion reported was participants (43.5%) were not sure about the VCP to be safe for use, and 21% reported it to be safe, rest 35.5% did not find VCP to be safe for use.

TABLE 1: FREQUENCY DISTRIBUTION OF DEMOGRAPHIC VARIABLES

N=138

Variable	Frequency (f)	Percentage (%)
Age	Mean±SD(range)= 20.36±1.44 (18-24)	
Gender		
Female	102	73.9
Male	36	26.1

Course		
B.Sc. Nursing 1st year	33	23.9
B.Sc. Nursing 2nd year	37	26.8
B.Sc. Nursing 3rd year	30	21.7
B.Sc. Nursing 4th year	38	27.5
Video Conferencing platform		
Zoom	128	92.8
Webinar	6	4.3
Skype	4	2.9
Version		
Free version	120	87
Provided by institute	14	10.1
Premium version	03	2.2
Paid version	01	0.7
Time Spend on Video Conferencing platform		
Daily 1-2hours	29	21
Daily 3-5hours	78	56.5
Daily 5-8hours	31	22.5
Device Used		
Mobile phone	128	92.8
Laptop	10	07.2
Have you ever learnt earlier through Video Conferencing Platform (VCP)?		
Yes	114	82.6
No	06	4.3
Not Sure		
In your opinion is it safe to use Video Conferencing Platform (VCP)?		
Yes	29	21
No	49	35.5
Not Sure	60	43.5

Satisfaction Level Of Learner

Satisfaction level of learner was assessed through Likert scale and it was found that majority participants (63%) were somewhat satisfied with learning through VCP. Score range for the satisfaction level was 10-50

with mean of 31.86 and Standard Deviation ± 6.30 . Hence, the inference was drawn that learning through the video conferencing platform was somewhat satisfactory and met the needs of learner. Also, 26.1% of the participants were highly satisfied while learning through VCP.

TABLE 2: SATISFACTION LEVEL OF LEARNER

Satisfaction level (score ranges= 10-50)	Frequency (f)	Percentage (%)	Mean	SD (Range)
Dissatisfied (10-22)	15	10.9	31.86	±6.30 (18-48)
Somewhat satisfied (23-36)	87	63		
Highly satisfied (37-50)	36	26.1		

OPPORTUNITIES & OBSTACLES EXPERIENCED

Opportunities and obstacles encountered by the learners were further divided into subsection

- i. Learning outcome
- ii. Skill development/ technical challenges
- iii. Comfort
- iv. Classroom environment

The **opportunities** reported related to the learning outcome were:

- Participants found that VCP instigated **brainstorming** among them (50%) indulged them into **self-motivated learning** (55.1%), and allowed them to **learn adequately** (42.8%), also **clarified the doubts of learner** (63.8%). Moreover participants found the **lecture to be captivating** (48.6%). However a contrasting opinion reported was that 34.8% disagreed that it is **better than a traditional classroom** method.

- Under **Skill development** majority participants agreed that VCP **improved time management skill** (39.9%) among them and improved skill of using e learning methods (56.5%)

- **Comfort** was reported in terms of **VCP being user friendly** (49.3%), allowed **learning in personal space** (58.7%). Also, **VCP provided freedom** to choose which lecture to attend (40.6%) and **no compulsion of physical presence** at the teaching institute (50.7%).

- Related to Classroom environment, participants (34.8%) reported that **chances of avoiding the question**

or fooling the instructor was possible through VCP and **opportunity to disturb** classmates was easier (34.1%).

The **obstacles reported** related to the learning outcome were:

- Under **learning outcome** the obstacle reported was **Lecture to be monotonous** y (41.3%) and **difficulty to articulate** lecture mixed response was reported (agreed - 37%)(neutral – 36.2%).

- **Technical challenges** reported were **slow internet** (62.3%) and **connectivity of other** students created disturbance(40.6%).

- Obstacles related to comfort reported were **VCP being tiresome** (31.2%) and **lack of interaction between friends**(47.8%), **interaction with family and leisure time** also decreased (37.7% and 36.2% respectively).

- Obstacles related to classroom environment reported were **difficulty to concentrate** (41.3%) due to the **disturbances from surrounding** at learner's place (55.1%) and also from others' surroundings (50%). One of the **major obstacle** reported was **missing the part of the lecture** due to the connectivity/ environmental disturbance/ other students speaking (53.6%)

Observation of the mean of the opportunities clearly depict that comfort was the most rated opportunity with mean of 13.09 and overall the mean of all the opportunities was found to be 50.36. Among obstacles classroom environment was found to have highest mean 11.11 and overall obstacles were found to have mean of 29.44.

TABLE 3: MEANS OF OPPORTUNITIES & OBSTACLES PROVIDED BY VCP

Opportunities (Score range)	Mean ±SD (Range)	Obstacles (Score range)	Mean ±SD (Range)
Learning outcome (Score ranges=6- 30)	19.71 ±4.25 (11-30)	Learning outcome related (score ranges =2-10)	5.12 ±1.61 (2-8)
Skill development (Score ranges =2-10)	7.03 ±1.88 (2-10)	Technical challenges (score ranges =2-10)	3.85 ± 1.64 (2-10)
Comfort (Score ranges = 4-20)	13.09 ±2.07 (5-18)	Comfort (score ranges =4-20)	9.35 ± 3.20 (4-16)
Class room environment (score ranges =2-10)	5.68 ±2.13 (2-10)	Classroom environment (score ranges =5-25)	11.11 ±3.55 (5-21)
Overall Opportunities (score range = 14-70)	50.36 ±6.59 (29-66)	Overall Obstacles (Score Range=13-65)	29.44 ±8.14 (13-52)

Hence the inference was drawn that the better learning outcome and comfort were the opportunities while learning through Video Conferencing Platform and obstacle was related classroom environment.

**ASSOCIATION OF SELECTED DEMOGRAPHIC VARIABLE WITH
LEVEL OF SATISFACTION , OPPORTUNITIES & OBSTACLES**

Association of satisfaction level, opportunities and obstacles with year of study was calculated & it was found these variables were associated as the calculated values (for satisfaction level -13.59, opportunities - 17.34 and obstacles -10.99) were found to be significant.

TABLE 4

ASSOCIATION OF SELECTED DEMOGRAPHIC VARIABLE WITH LEVEL OF SATISFACTION , OPPORTUNITIES & OBSTACLES						
Variables → ↓	Satisfaction level		Opportunities		Obstacles	
B.Sc. Nursing	Mean Rank	Chi Square (df) P value	Mean Rank	Chi Square (df) P value	Mean Rank	Chi Square (df) P value

Cont... Table 4

1st year	70.45	13.59	73.33	17.34	52.20	10.99
2nd year	88.57	(3)	90.01	(3)	82.99	(3)
3rd year	57.07	0.004	57.30	0.001	66.57	0.01
4th year	59.92	significant	55.83	significant	73.71	significant
Time Spend on VCP Daily	Mean Rank	Chi Square (df) P value	Mean Rank	Chi Square (df) P value	Mean Rank	Chi Square (df) P value
1-2hours	61.88	1.79	60.07	2.18	76.83	10.37 (2)
3-5hours	73.16	(2)	72.90	(2)	74.84	0.006
5-8hours	67.42	0.4	60.07	0.3	49.21	significant

However, association of time spent on video conferencing platform was found to be significant only with obstacles (10.37)

Conclusion

The study revealed the different aspects in terms of opportunities and obstacles faced by the learners while learning through the Video Conferencing Platform. As VCP is new method adopted by the teaching institutes due to COVID 19 lockdown situation. Study brought out the fact that VCP brings better learning outcomes with learning at learner's comfort, whereas disturbance of surroundings and internet speed to be most reported obstacle. This study would act as base for the future learning process through virtual classroom which would be based on video conferencing platform.

Ethical Clearance was obtained from the institution's research & ethical committee

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Conflict of Interest - Nil

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