

Effectiveness Of Virtual Classroom : A Comparative Study Of Theoretical And Practical Papers

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Abstract

Before Covid 19 hit the millennials in 21st century also, the best and most effective way to teaching learning was regarded as face to face learning with real time interaction between the teacher and the class. But Covid 19 which left us all perplexed about the whole situation made us all very techno-savy and increased our acceptance for technology and its usage. Same happened in teaching learning as well. It's a general perception that it is easier to teach theoretical subjects against the practical or the numerical papers but what is ignored is that theoretical lectures may become very boring so it has its own cons. This paper deals with this problem and tried to come up with a conclusion about effectiveness of virtual classes with respect to comparison in theoretical and practical papers.

Systematic literature review was done and then careful primary study was conducted to come to a conclusion about the topic under discussion.

Keywords : virtual learning, online learning, teaching-learning, virtual learning environment, learning effectiveness.

Introduction

Classrooms have always been about an effective communication between the teacher and the students. The classrooms are designed in such a manner that students can sit comfortably and concentrate on the lectures delivered by the teachers. Understanding can be developed in a conducive environment where students can trust the teachers and share their inhibitions and confusions with them. Without such an environment learning cannot take place in an effective manner.

But over a period of time teaching and learning pedagogy has evolved and has transformed in many ways. After usage of personal computers, laptops and internet started all the subjects have been trying to incorporate audio visual mode of teaching and learning in their respective fields. However incorporating audio visual tools in teaching and learning is different but altogether moving the physical classrooms to online classrooms is different. There have been many studies to show the advantages, disadvantages and effectiveness of online classes. Amid all the debate which was going on regarding the online classes, COVID-19 surfaced and the whole scenario changed. Those virtual classes became a reality and only option to deal with the situation. So, all the teachers started exploring different options available to suit their requirement. Some found ZOOM enough, while some took help of LOOM and other such online platform.

At this juncture it is important to discuss Virtual Learning Environment which is most commonly referred to as VLE. As per Britain, Liber (1999) Virtual Learning Environment in technology used in academics is a Web-based platform for the digital side of subjects of study, usually within educational institutions. They present resources, activities and interactions within a course structure and also provide assessment at different stages of course. VLEs also usually report on participation; and have some level of integration with other institutional systems. So basically VLE includes all the platforms where teaching and learning can take place which should also take into consideration assessment of students at different levels of understanding.

When we talk about VLE, a very important question is the effectiveness of lectures into two different types of subjects which can be theoretical subjects and practical subjects. The Theoretical subjects are the ones which can be taught verbally and by power point presentations like law, communication, business management etc. While practical subjects are the ones in which the teacher needs to solve the questions on the board and also clarify the doubts students might have which also requires looking at the sum solved by the students and finding the mistake committed by them. So there is a lot of difference between the approach to be followed for both the types of subjects.

Literature Review

(Paul de Lange, 2010) in an Australia based study on students pursuing undergraduate course which include different subjects in accounting domain opine that the use of virtual learning tools in teaching students has potential to increase motivation to learn the subject and also increase satisfaction while learning which leads to enhanced learning outcomes in students. Bryant and Hunton (2000), in their analysis of the use of technology in the delivery of instruction found that research within the domain of general education could be classified into the following five category - evaluation research, media comparison studies, intra-medium studies, aptitude-treatment interaction studies and alternative research designs. Reeves (1997) observed that many institutions have adopted distribution of study material in soft copy through internet. Faculties in the domain of accounting have also started experimenting with new VLE tools incorporating them in traditional setting. Butler and Mautz, (1996) wrote a review paper and observed that most of the research already done in

this field was mostly descriptive and worked only on the perceived benefits of incorporating VLE in accounting education. Richardson (2000) concluded that the motivation and interest of the students in the material and subject play a major role in his capacity to absorb the content circulated and taught through VLE material. His findings were based on literature review done by him on the works of Craik and Lockhart (1972), Dahlgren (1975), Marton and Saljo (1976), and Svensson (1977). (Baldwin and Howe, 1982; Eskew and Faley; 1988; Gul and Fong, 1993) as per them the association between motivation in students to earn the subject, their goal commitment and enhanced learning outcomes is not real and more of an intuitive appeal of the researchers. Koh and Koh (1999) did another research in the same field to find the association between motivation and learning and found that the conclusion drawn by Baldwin and Howe were more of a methodological problem and that their lies an association between motivation and enhanced learning.

Variables of the study

Respondents were asked to evaluate the Virtual Learning Environment (VLE) for the provision of lecture quality, lecture notes availability and effect, discussion forums and self-testing, VLE Effectiveness and the problems faced in both the practical (accountancy, taxation, mathematics etc.) and the theoretical papers (business organisation, law, human resource management etc) classes. The lecture quality section contained questions based on the content, quality and sequence of the lectures. The lecture notes section contained questions that specifically sought information relating to the availability of notes and enhancement of learning with notes. The discussion forum section focusses on the questions related to enhance comfort and engagement in dialogues with teachers and peers, In the self-test section, enhance communication skills and easy interaction, questions related to the usefulness of the self-tests, whether they should contribute to the final mark for the course, and the extent to which students actually use the self-tests were asked.

Objectives of the study

The objectives of the study is to compare

1. The VLE of both practical and theory papers.
2. The effectiveness of VLE in theory and practical papers.
3. The problem faced by the students while taking virtual classes of theory and practical papers.

Hypothesis of the study

Ho1: There is no significant difference between the VLE of both practical and theory papers.

Ho2: There is no significant difference between the effectiveness of VLE in theory and practical papers.

Ho3: There is no significant difference in the problem faced by the students while taking virtual classes of theory and practical papers

Research Design and Data Collection

The descriptive research design is used for the analysis and it is essentially a fact-finding approach. Primary data has been collected through a structured questionnaire from 220 commerce and management students of IIS (deemed to be University), Rajasthan.

Demographic Profile of Respondents

	Frequency	Percentage
Age		
< 19	69	31.4
19-21	137	62.3
21>	14	6.4
Course Perusing		
Under Graduate	198	90.0
Post Graduate	22	10.0
During this COVID-19 lockdown period, are you attending the virtual classes?		
Yes	220	100
No	0	0
How often do you use virtual learning in your studies in a week		
< 4 Hours	145	65.9
4-8 Hours	56	25.5
8-12 Hours	10	4.5
> 12 hours	9	4.1
The number of times you logged to virtual classes during Lockdown		
Everyday	153	69.5
2-3 times a week	56	25.5
Once or twice a week	8	3.6
Very Rarely	3	1.4
How do you access virtual classes?		
Computer	1	0.5
Laptop	50	22.7
Tablet	2	0.9
Mobile	167	75.9
Have you also been evaluated online?		
Yes	188	85.5
No	32	14.5

Almost 90% of the students are of the age **below 21 years**. 90% of the student respondents are pursuing an **undergraduate** degree in commerce or management and only 10% of the students were from post graduate courses. When asked about attending virtual classes during COVID-19 lockdown all the **220 respondents** gave a positive reply and agreed that they have been attending virtual classes during lockdown period. So, 100% of the respondents had an experience of studying through an online platform very recently. Almost 65% of the students have been spending less **than 4 hours** in virtual learning which has also got the maximum percentage of the time spent in virtual learning by the students in the sample. Only a 4% of students are indulging in more than 12hours of virtual learning. While almost 30% of the students are spending 4 to 12 hours online in virtually learning the contents of the subjects. 70% of the students have attended virtual **classes everyday** in the week which signifies that the faculties have been regularly taking the classes for the students on a regular basis to keep the students on track. A mere 5% of the students responded that they rarely or only once or twice in a week attended virtual classes. 76% of the students access the virtual classes through the **mobile phones** and around 23% by their laptops. Only 3 students or just 1.5% of the students access virtual classes through a tablet or a desktop. This is a very important as this signifies that the ease with which a phone can be handled has shifted people from tablets and laptops to smart phones. 85% of the students have also been evaluated online by the faculties.

Results and Analysis

Reliability test

Cronbach's alpha measures the internal consistency or reliability of a data set. The analysis of the reliability of variables yielded satisfactory Cronbach alpha values of 0.67-0.908 across all variables

Independent Samples t-Test

Hypothesis	Type of Papers	Group statistics			Levene's Test		t-test for Equality of Means			
		N	Mean	Std. Deviation	F	Sig.	Equality of variance	t	df	Sig. (2-tailed)
Ho1=: VLE practical =VLE Theory	Practical	220	2.8284	1.17658	49.606	.000	Assumed	7.239	438	.000
	Theory	220	3.5065	.73914			Not Assumed	7.239	368.562	.000

H02 :Effectiveness of VLE practical= Effectiveness of VLE Theory	Practical	220	3.6076	.80841	.066	.798	Assumed	- .243	438	.808
	Theory	220	3.6263	.80471			Not Assumed	- .243	437.991	.808
H03: VLE problems in practical= VLE problems in theory	Practical	220	3.5709	.88741	3.007	.084	Assumed	3.596	438	.000
	Theory	220	3.2727	.85160			Not Assumed	3.596	437.259	.000

The above table shows the group statistics, Levene's Test and Independent sample t test. It is observed that while testing Hypothesis 1, it is observed that in **group statistics**, there is a difference between our sample means. VLE in practical papers have an average score of 2.8284 whereas in practical papers the average is 3.5065. The **Levene's test for equal variances**, tests the homogeneity assumption shows the sig. value < 0.05. Hence, equal variance not assumed. The **t- test for equality of means** provides the result for the actual independent t test. Since the $p < 0.05$, null hypothesis is rejected and concluded that the mean VLE of practical and theory papers is significantly different.

While testing Hypothesis 2, it is observed that the it is observed that in **group statistics**, there's only a small difference between our sample means. Effectiveness of VLE in practical papers have an average score of 3.6076 whereas in practical papers the average is 3.6263. The **Levene's test for equal variances**, tests the homogeneity assumption shows the sig. value > 0.05. Hence, equal variance is assumed. The **t- test for equality of means** provides the result for the actual independent t test. Since the $p > 0.05$, null hypothesis is accepted and concluded that no significant difference is found in the mean effectiveness of VLE in practical and theory papers.

In Hypothesis 3, it is observed that in **group statistics**, there is a small difference between our sample means. Problems faced by the students in practical papers have an average score of 3.5709 whereas in practical papers the average is 3.2727. The **Levene's test for equal variances**, tests the homogeneity assumption shows the sig. value < 0.05. Hence, equal variance not assumed. The **t- test for equality of means** provides the result for the actual independent t test. Since the $p < 0.05$, null hypothesis is rejected and concluded that there is a significant difference in the problems faced by the students in VLE of practical and theory papers.

Conclusion

There is a significant difference found in the VLE of practical and theory papers. It is found that the students are very regular in attending these virtual classes. For both the practical and theory papers, the students found virtual classes quite effective and interesting. Students feel that the content in the virtual lectures were structured, easy to understand with logical sequencing. Lecture notes were also provided to the students which enhanced their learning. The strongest contributing predictor of effective VLE is Discussion Forms as dialogues assists in learning and shy students are also able to interact with teachers and peers. The online tests are also being seriously taken up by the students and they agree that these test results should contribute to the final marks of their course.

When the effectiveness of VLE for theoretical and practical papers was examined it was realised that there is a difference in the effectiveness of virtual classes for both these types of papers, which is obvious because the approach for both kind of papers is different. Practical papers need step by step clarity while in theory papers overall understanding of the subject is most important.

Overall, the results show that, Virtual learning environment is an effective technique for communicating with the whole class and for doubts clarification. Although there are some technical issues in connecting to the virtual classroom, which has been the biggest problem faced by the students, followed by too many distractions like muting- unmuting of audio & video, unrequired showing of hands, lack of seriousness in students during classes etc but still at this time VLE has been the connecting link between the students, teachers and their courses. While being the primary platform to deliver the lectures, it has also been a platform for better coordination and communication between the teachers and the students and has kept the syllabus on track.

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