

Digital Skills and Research Methods

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1. Introduction

Virtual Learning Environment (VLE) is a web-based platform used mainly by the educational institutions and it is designed to enhance the students' learning experience. It has not received so much attention previously as it gets in recent time. Countrywide lockdown and restrictions on movement and social safety followed by covid-19 pandemic made it possible. It is high time to understand about VLE and its impacts on learning. This study is going to do so. The objective of the study is to assess the impacts of VLE on students' learning. This will be done based on a primary research with design of a questionnaire. Qualitative method will be research method.

2. Literature review

2.1 Virtual learning environment (VLE)

A learning environment supported by information and technology where learners and teachers interact virtually in learning, teaching and evaluating the outcomes is called virtual learning environment. According to JISC (2009) web-based software system learning platform designed to teach and learn with the help of technology and tools is defined as a virtual learning environment. It is widely used nowadays in education. Because of covid-19 pandemic, use of VLE increases significantly. All the materials, instructions and communications related to learning and evaluating are facilitated here virtually (Barker and Gossman, 2013). Students are provided related tasks for evaluation purpose which can be done at their own time, place and way but needs to be submitted within deadline. Some tasks are evaluated on real time basis where timing is fixed and have to complete within that time. It is empirically found that VLE has impacts on encouraging learners, developing independent learning and improving their productivity (JISC, 2009).

2.2 Impact of VLE on students learning

Many researchers have tried and are trying to assess the impacts of virtual learning environment on students' learning from different angles. The impact of student activity in VLE on their final mark was studied by Mogus, et al., (2012). They have collected logged activity data of students to know the factors that affect students' virtual learning environment and their productivity. Then the

collected data regarding their activity logs backed by the materials supplied and used by the students on VLE were analysed against their obtained marks in that courses. The activity log data were collected from the perspective of course view, assignment, resources used, uploaded assignment, forum used, frequency of view and finally mark obtained. A total number of 224 undergraduate students were surveyed here who have computer and internet access at their home. They research analysed the collected data and found that there is a significant positive correlation between virtual learning environment and students mark obtained as a measure of their productivity.

Another renowned research in this field was conducted by Barker and Gossman (2013). They have surveyed 248 students from a college who study in second years. The research targeted to be done using three questions related to VLE. First question was “does VLE helps students learning?”. Second one was “does VLE helps develop independent learning?”. Third one was “does use of VLE increase students’ motivation to learn?”. This research was also done based on primary data where 248 participants were selected randomly from 650 students. This research firstly found that VLE impacts student learning positively. Secondly a positive relationship between VLE and students’ motivation to learn was found. However, VLE was not found to develop independent learning of students. Similar study was performed by Alves, et al., (2017) where it was found that there was a positive impact of access to virtual learning environment and students’ performance in their academic learning.

2.3 Advantages and disadvantages of using VLE

VLE has some advantages as found by many literatures. VLE facilitates distance learning which is not possible in case of physical learning (Arkorful and Abaidoo, 2015). This learning allows a student to learn at his own time and location which improves the learning speed. Collaboration and communication among the learners, teachers and instructors are highly encouraged by VLE which enriches communication and collaboration skills side by side academic learning (Mirzakhani, et al., 2010). VLE is an IT enabled learning module which enriches IT knowledge of learners indirectly by browsing, report preparation, mailing, conferencing and communication which must be learnt separately in physical environment (Dung, 2020). Moreover, VLE is useful for real learning, effective time management, global exposure, and equal opportunities for all.

Despite these benefits, VLE has disadvantages. It is costly as VLE setup has a cost which is covered through fees collected from students. This method requires high speed smooth internet access and computer which are not affordable for all (Jefferson and Arnold, 2009). Most importantly, the teachers have no control over the classroom and learning environment in a VLE.

3. Research methodology

3.1 Research method

My research will be conducted using qualitative method to know the depth, insights and thoughts or idea regarding VLE and its impacts on students learning where non-numeric data are collected and analysed (Saunders, et al., 2009). VLE and students learning are both qualitative measures where are not possible to quantified and thereby qualitative research is undertaken. Charts and graphs will be used to present the data and reach a conclusion.

3.2 Research philosophy

Positivism and interpretivism are the two research philosophies. This research is guided to be done in interpretivism philosophy which was evolved as an inadequacy of positivism. It is largely used in social sciences to explore complexities in different areas by meanings of understanding the research question subjectively not objectively (Quinlan, et al., 2019).

3.3 Research design

The research is designed in deductive way which will explore and test existing theory and evidence regarding VLE and its impacts on students learning. It is a survey-based research which will be conducted for a total of 15 students who responded to a SurveyMonkey questionnaire. It aims to analyse the information which is related to the usage, usefulness, satisfaction, recommendation, rating and impact of using VLE.

3.4 Sampling

In qualitative research, sampling size becomes comparatively small unlike quantitative research. Sampling size would be 15 (fifteen) for the research.

3.5 Data collection methods

Questionnaire will be the survey method for data collection purpose which is designed and presented here in appendix. A total of 10 (ten) questions were prepared and asked the respondents to provide the information on different aspects of VLE. The questionnaire includes close-ended questions to make the research easy and interpret the outcome quickly.

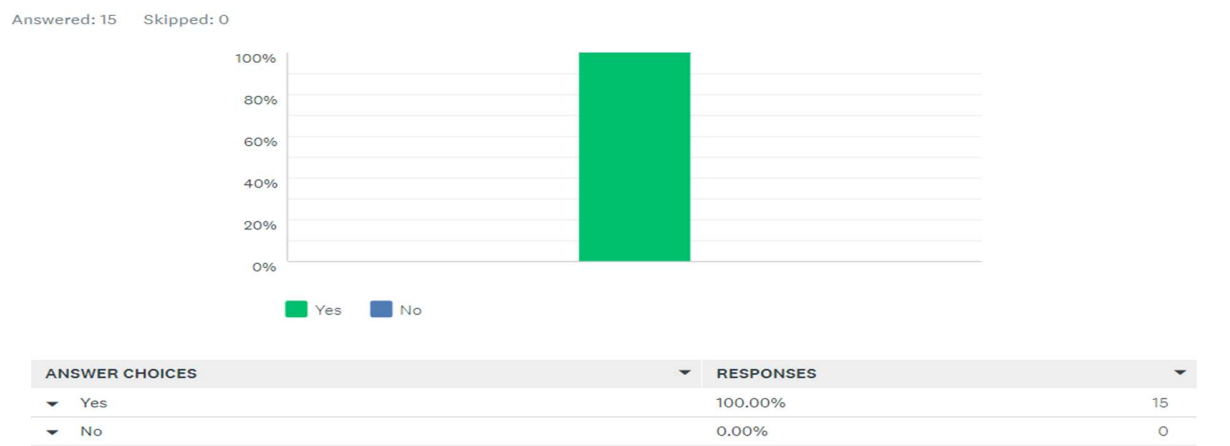
4. Data collection and analysis

4.1 Data collection

Data were collected from 15 (fifteen) students from our study group. The data was collected via SurveyMonkey and then relevant data was presented using the following charts and graphs.

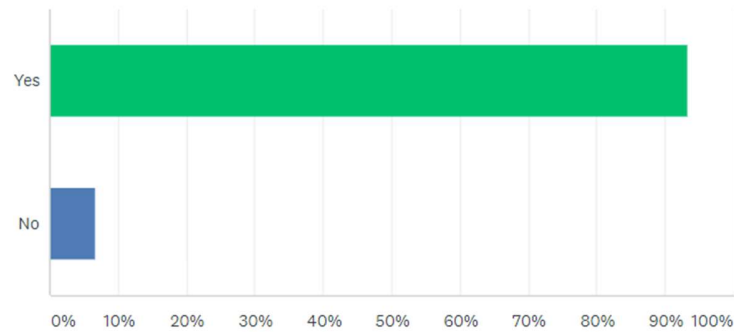
4.2 Analysis

First question was whether they have ever used Moodle (VLE). The answer is presented here using stacked vertical bar. It is found that 100% of the surveyors use Moodle.



Source: SurveyMonkey

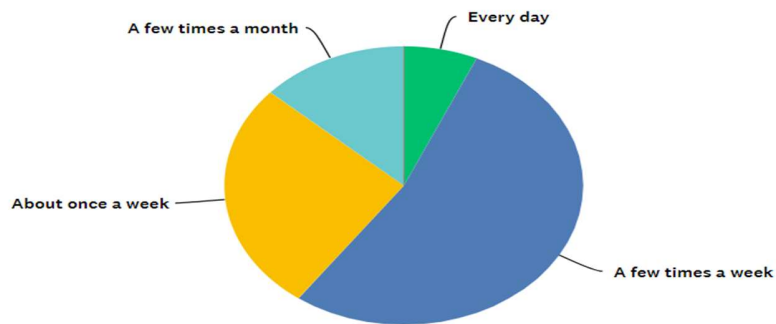
Second question was asked to know the familiarity of users with Moodle. It is found that 6,67% students who uses Moodle are not familiar with it and rest of the 93,33% students are well familiar with it. The type of chart used is Horizontal bar.



ANSWER CHOICES	RESPONSES	
▼ Yes	93.33%	14
▼ No	6.67%	1
TOTAL		15

Source: SurveyMonkey

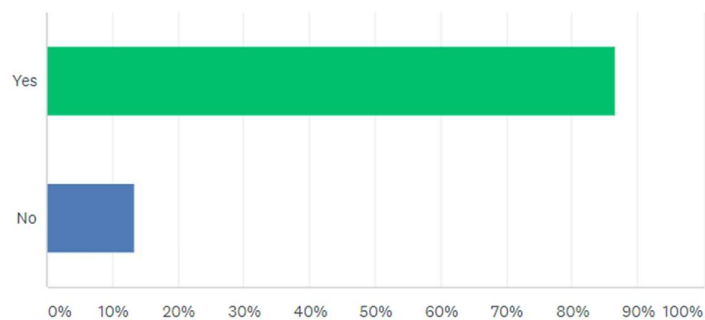
Third question was regarding how often the students use the Moodle for their learning purpose. The results obtained are: 6,67% said they use Moodle every day, 53,33% a few times a week, 26,67% once a week, 13,33% a few times a month, 0% once a month and 0% less than once a month. The answer is presented here using a pie chart.



ANSWER CHOICES	RESPONSES	
▼ Every day	6.67%	1
▼ A few times a week	53.33%	8
▼ About once a week	26.67%	4
▼ A few times a month	13.33%	2
▼ Once a month	0.00%	0
▼ Less than once a month	0.00%	0
TOTAL		15

Source: SurveyMonkey

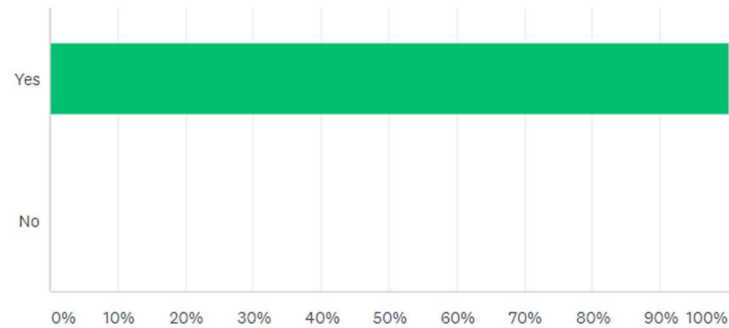
Fourth question was if the students find Moodle easy to use. 86,67% students said yes that they find the Moodle easy to use while only 13.33% said no. The type of chart used is Horizontal bar.



ANSWER CHOICES	RESPONSES	
▼ Yes	86.67%	13
▼ No	13.33%	2
TOTAL		15

Source: SurveyMonkey

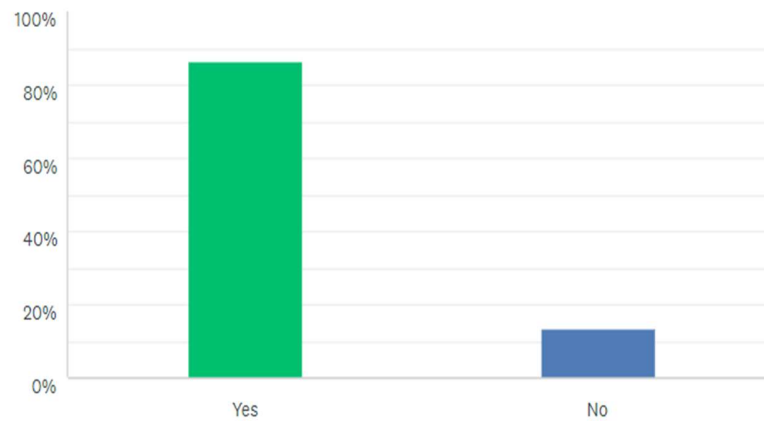
Fifth question was whether Moodle is useful in students' research where 100% said that they find Moodle useful. The type of chart used is Horizontal bar.



ANSWER CHOICES	RESPONSES
Yes	100.00% 15
No	0.00% 0
TOTAL	15

Source: SurveyMonkey

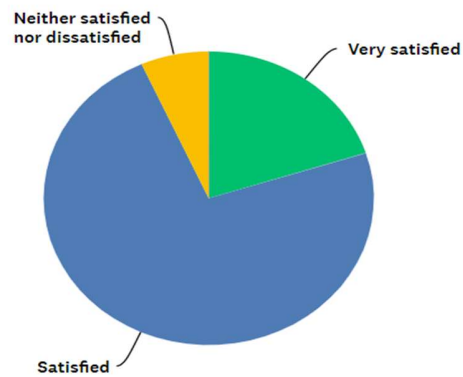
The stacked vertical bar chart below shows the response of students regarding availability of all information on Moodle. The majority of 86,67% students said that they find all the information on Moodle while 13,33% said that they find partial information.



ANSWER CHOICES	RESPONSES	
▼ Yes	86.67%	13
▼ No	13.33%	2
TOTAL		15

Source: SurveyMonkey

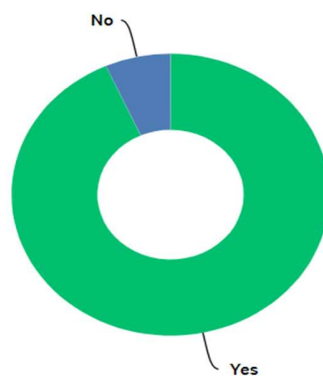
This pie chart below shows the level of satisfaction of students in using Moodle. 20% of the students are very satisfied, 73,33% only satisfied and 6,67% neither satisfied nor dissatisfied.



ANSWER CHOICES	RESPONSES	
Very satisfied	20.00%	3
Satisfied	73.33%	11
Neither satisfied nor dissatisfied	6.67%	1
Dissatisfied	0.00%	0
Very dissatisfied	0.00%	0
TOTAL		15

Source: SurveyMonkey

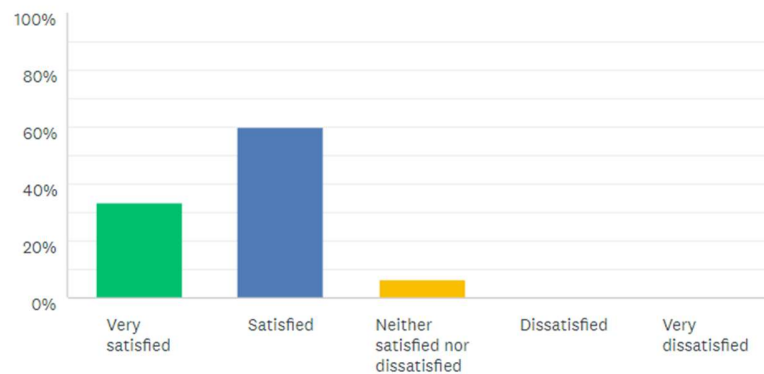
The eighth question shows that 93.33% of the students agree with the statement that they will recommend Moodle to others while 6.67% will not recommend it. The results are illustrated using a donut chart.



ANSWER CHOICES	RESPONSES	
Yes	93.33%	14
No	6.67%	1
TOTAL		15

Source: SurveyMonkey

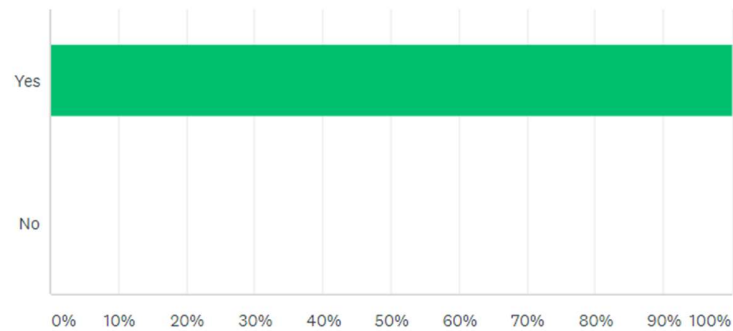
This stacked vertical bar chart shows the rating of Moodle. 33,33 % students rated Moodle with very satisfied, 60% satisfied, 6,67% neither satisfied not dissatisfied, 0% dissatisfied and 0% very dissatisfied.



ANSWER CHOICES	RESPONSES	
▼ Very satisfied	33.33%	5
▼ Satisfied	60.00%	9
▼ Neither satisfied nor dissatisfied	6.67%	1
▼ Dissatisfied	0.00%	0
▼ Very dissatisfied	0.00%	0
TOTAL		15

Source: SurveyMonkey

The last Horizontal bar chart shows that 100% of the students said that VLE impacted their learning, this being the answer required form the whole survey and the purpose of this report.



ANSWER CHOICES	RESPONSES	
Yes	100.00%	15
No	0.00%	0
TOTAL		15

Source: SurveyMonkey

5. Conclusion and recommendation

5.1 Conclusion

The research can be concluded here based on the analysis of collected data in the previous section. It was found that majority of the students who use Moodle are familiar with it. Most of the students use Moodle every day or a few times a week. Moreover, majority of the students find the Moodle easy and useful, the information available and they are satisfied with the Moodle and will recommend it. Overall, they seem to feel very comfortable with Moodle after just one semester of using it.

5.2 Recommendation

Based on the research results, only a small percent of my colleagues cannot find all the information needed or think Moodle is difficult to use. But they all agree they have used Moodle, find it useful and would say it impacted their learning. It proves to be a good system which works efficiently

and serves its purpose. I personally consider it user-friendly and easy to access so far and I would definitely recommend it.

References

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Appendix

Blank Questionnaire

Question 1

Have you ever used Moodle?

R: Yes/No

Question 2

Are you familiar with Moodle?

R: Yes/No

Question 3

How often do you use Moodle?

R: Every day/A few time a week/About once a week/A few times a month/ Once a month/ Less than once a month

Question 4

Do you find Moodle easy to use?

R: Yes/No

Question 5

Do you find Moodle useful in your research?

R: Yes/No

Question 6

Do you find all the information you need on Moodle?

R: Yes/No

Question 7

How satisfied are you using Moodle?

R: Very satisfied/ Satisfied/ Neither satisfied nor dissatisfied/ Dissatisfied/ Very dissatisfied

Question 8

Do you recommend Moodle?

R: Yes/No

Question 9

Rate using Moodle

R: Very satisfied/ Satisfied/ Neither satisfied nor dissatisfied/ Dissatisfied/ Very dissatisfied

Question 10

Do you think using VLA is impacting your learning?

R: Yes/No

Participant Consent Form

This template is designed primarily for those doing qualitative interviews with adults from non-vulnerable populations and dealing with non-sensitive topics.

The form would be different in the case of focus groups or quantitative research. If conducting research with vulnerable populations and / or sensitive topics please see Research Ethics Committee website for further details.

The points listed on the template below are for illustration only. You may alter the wording to suit your project as you see fit.

A consent form is not simply about a person giving you permission to involve them in research, it is an agreement between the researcher and the research participant outlining the roles and responsibilities they are taking towards one another throughout the whole of the research process.

The researcher should retain one copy of the consent form signed by both themselves and the participant. The participant should also be given a copy of the consent form as a record of what they have signed up to.

Even if a person has signed a consent form consent should still be re-established at the point of doing the interview.

Template

[*Title of project*]

Consent to take part in research

- I..... voluntarily agree to participate in this research study.
- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case the material will be deleted.
- I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.
- I understand that participation involves...*[outline briefly in simple terms what participation in your research will involve]*.
- I understand that I will not benefit directly from participating in this research.
- I agree to my interview being audio-recorded.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that in any report on the results of this research my identity will remain anonymous. This will be done by changing my name and disguising any details of my interview which may reveal my identity or the identity of people I speak about.
- I understand that disguised extracts from my interview may be quoted in...*[list all forum in which you plan to use the data from the interview: dissertation, conference presentation, published papers etc.]*.

- I understand that if I inform the researcher that myself or someone else is at risk of harm they may have to report this to the relevant authorities - they will discuss this with me first but may be required to report with or without my permission.
- I understand that signed consent forms and original audio recordings will be retained in [*specify location, security arrangements and who has access to data*] until [*specific relevant period – for students this will be until the exam board confirms the results of their dissertation*].
- I understand that a transcript of my interview in which all identifying information has been removed will be retained for [*specific relevant period – for students this will be two years from the date of the exam board*].
- I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

Names, degrees, affiliations and contact details of researchers (and academic supervisors when relevant).

Signature of research participant

Signature of participant

Date

Signature of researcher

I believe the participant is giving informed consent to participate in this study

Signature of researcher

Date