

University of Wales Trinity Saint David



Digital Skills and Research Methods (DSR) – BMSW4003

How does VLE (Moodle) impacting students learning -a case study from UWTSD

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2. Introduction

By studying the use of a virtual learning environment, I intend to find out the effectiveness of the Moodle environment by engaging and empathising with my classmates to understand their experiences and motivations, as well as immersing myself in the environment so I can gain a deeper personal understanding of the usefulness and the issues involved.

The aim of this research is centered on the impact of the VLE on student's learning experience and its potency compared to traditional class-based education. The references in this report will follow Harvard Style Referencing System.

3. Literature Review

3.1 Virtual Learning Environments (VLE)

In a virtual learning environment student can review lecture materials, exercise notes, assignments, take part in quizzes, group activities and prepare themselves for examinations or learn new subjects. Most educators today use a blended learning approach. Today, the technology exists to provide the same perhaps even better brain-friendly experience for students by conducting highly interactive virtual sessions as opposed to the traditional classroom-based approach.

3.2 Impact on students learning

VLEs are widely used by teachers to upload learning materials which enable sharing and learning outside the classroom which offers flexibility given the present COVID situation with looming travel restrictions.

Modern VLEs are equipped with tools allowing teachers to set up online discussions and monitor participation, engage with the audience using posts, chats, breakouts, videos, whiteboards etc. In my experience, by forming breakout groups to engage with each other on smaller activities makes individuals feel less shy to communicate, it encourages discussion and creates an environment conducive to express themselves fluently, freely, and more openly.

3.3 Advantages and disadvantages of using VLE

In my opinion, virtual sessions are much more impactful than their classroom equivalent simply due to the fact that it provides access to information on the go. By allowing enough time between sessions for students to digest the material and to think through how to apply the theories learned in their own phase provide a better outcome and the learning is much more likely to retain.

Secondly, universities around the world hold a large amount of content that include lecture materials, books, assignments, test results etc. Without VLEs not only the organisation of the information but also providing access to those resources becomes virtually impossible.

Whether it is a book in a library shelf, an eBook, or a video every content takes-up some space somewhere. VLE not only make this information sharable almost instantly via a link but it also saves terabytes of storage space just by sharing the same material stored in a single location.

Whilst we have had some great teachers who gave us context to remember one of the disadvantages of virtual learning is the lack of direct human interaction. "Context is the basics of long-term memory" (Ravindra G. 2010). In my experience, this often makes online learning harder for many compared to the classroom equivalent.

4. Research Methodology

4.1 Research methods

We collected primary data using a survey questionnaire with a free online tool called SurveyMonkey, and the secondary data was collected from books, peer reviewed journal articles, IT magazines and newspapers as appropriate.

4.2 Research philosophy

I am a constant learner with a genuine passion for technology, and I am dedicated to bringing high engineering standards into developing software applications therefore, my research interests on VLE will focus on what modern VLEs are like, the distinctions between LMS and VLE etc.

I am a firm believer that we should provide students and teachers with the latest technology which is fundamental to providing high-quality teaching and learning. As someone who has used several different eLearning platforms in the past, I will also address my research with what constitutes a good quality VLE, factors to consider when deciding on a VLE for an institution.

There is an important distinction between education and training (Barnes, 2014) and the basic difference between the two is that training is more to do with a particular skill set being

taught. Education is a broader term, more associated with the act of learning. (Richard P., 2014).

4.3 Research design

The design process involves three phases with four key stages which are literature review, the survey, and observation then finally the analysis of data set to guide the conclusions made in this research.

4.4 Sampling

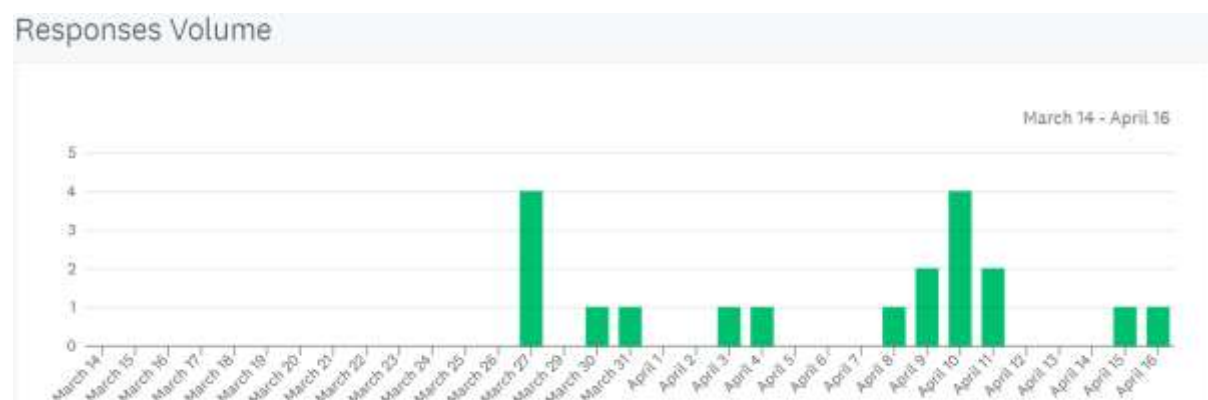
In this research we used single-stage cluster sampling with the size of 20 students from BMSW4003_LON and all students were expected to participate in this survey. Possible future research in this area could comprise a larger sample of students from a variety of courses past and present.

4.5 Data collection methods

The survey questionnaire comprised of 10 closed-ended questions and the types of answers include multiple selection, single selection to measure the VLE usage and effectiveness combined with text-based answers ("other" option) encouraging feedback with the aim of making recommendations. These questions can be found below in the appendix section.

5. Data collection and analysis

A total of nineteen (19) students participated in this survey over a period of month. Observing how the lectures were phased out, student behaviour and the course the level of Moodle usage, familiarity began and gradually increased during this particular period.

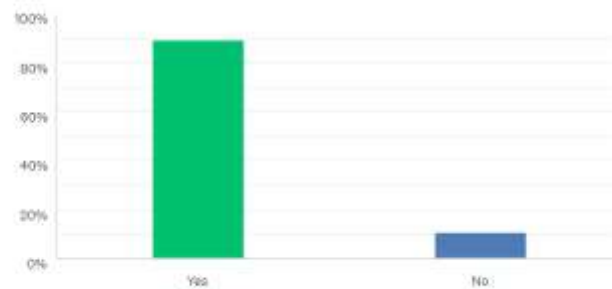


The results presented in Q1 graph below indicate that 89.47% students were familiar with the Moodle environment. Taking into account the time the survey was published, perhaps

the 2 students who have said “no” is not a true reflection of its negative familiarity which means that if the same question was asked towards mid-April (the time the survey ended) the response could have been different.

Q1. Are you familiar with the Moodle environment?

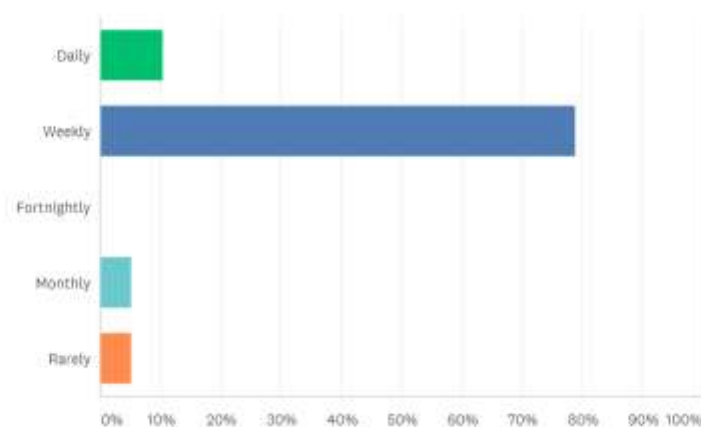
Answered: 19 Skipped: 0



Observing Q2 results, the majority of the students 78.95% indicating that they use the VLE on weekly basis rather than daily, I believe, is a true reflection of eLearning behaviour of a weekend course.

Q2. How often do you use Moodle?

Answered: 19 Skipped: 0

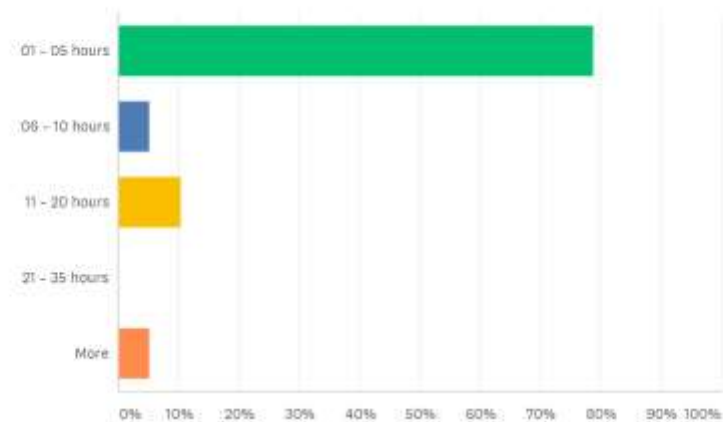


Analysing the relationship between Q2 and Q3, 78.95% identical results further justify my previous argument about the true eLearning behaviour of a weekend class. With the benefit of the hindsight and the two matching results indicate that Q2 was perhaps not necessary.

In general, the students are expected to spend 20-35 hours during the week studying however, the majority spending up to 5hrs weekly perhaps mean that they use VLE to download the materials and study offline.

Q3. How long do you spend on Moodle on weekly basis?

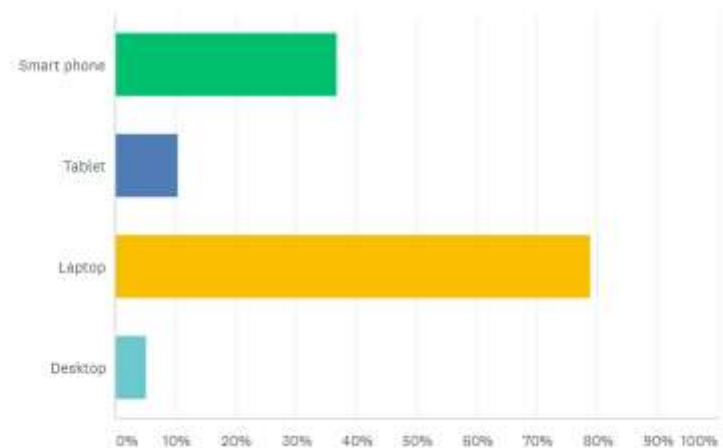
Answered: 19 Skipped: 0



The objective of Q4 was to measure the responsive design of Moodle and its usability across a range of devices students may use to join. The majority 78.95% of students use Laptops to join. A level of 36.84% statistically significant smart phone users perhaps ascertain the mobile friendliness of the VLE which means that Moodle responds or adapts based on the size of screen they are presented on.

Q4. What device do you use to join Moodle?

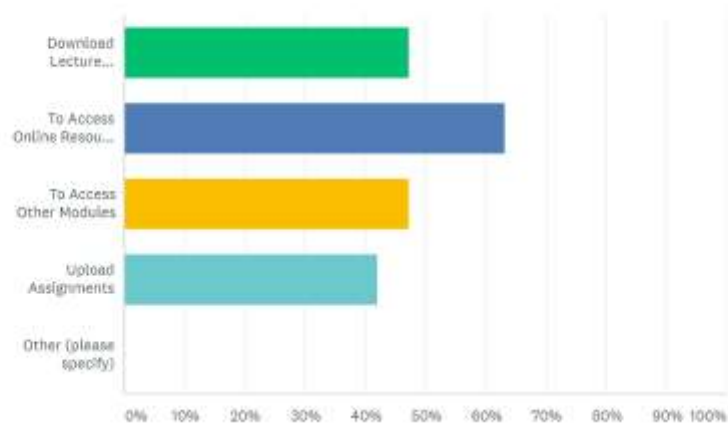
Answered: 19 Skipped: 0



Q5 was to gauge the VLE usage, observing the results it is evident that the students make a good use or wish to use core Moodle functionality such as download lecture material, online resources (63.16%), eBooks, to upload assignments and as an intermediary platform to access other modules.

Q5. What do you use Moodle for?

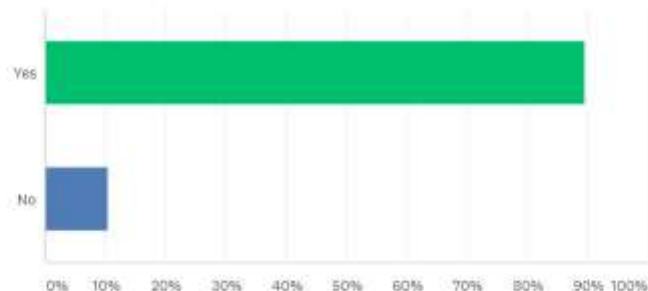
Answered: 19 Skipped: 0



The results presented in Q6 indicate that almost everyone find it easy to find the information they are looking for.

Q6. Do you find it easy to find the information you are looking for?

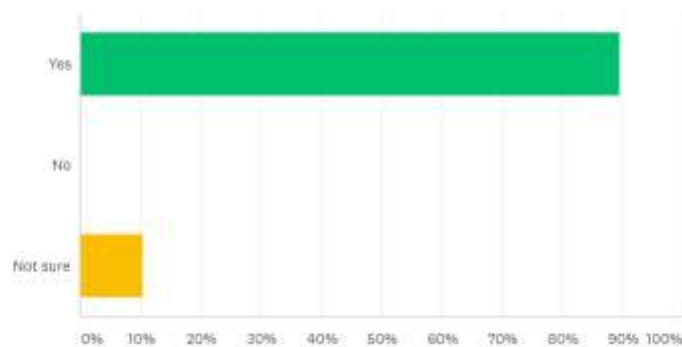
Answered: 19 Skipped: 0



In general, 17 out of 19 have indicated that they think Moodle has an impact on their studies. The 10% who are “not sure” is still a significant value. Perhaps there is room for possible future research in this area with a wider participation.

Q7. In your opinion, do you think Moodle is important or has an impact on your studies?

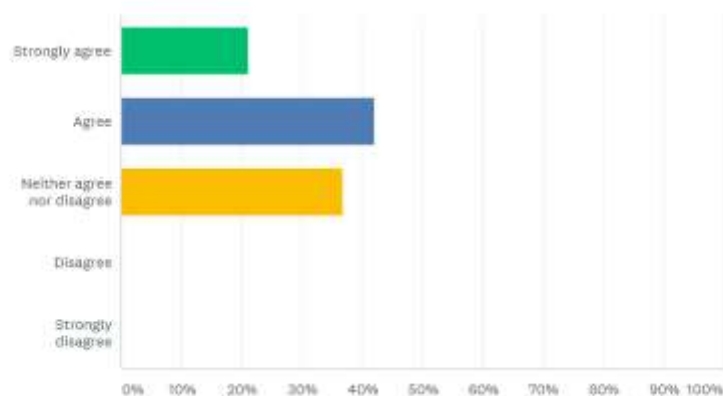
Answered: 19 Skipped: 0



Observing Q8 results, approximately 63% of the participants agree that Moodle provides an extensive learning experience compared to class based equivalent.

Q8. The purpose of this question is to measure the effectiveness of Moodle compared to traditional class-based education. Do you agree that Moodle provides a solid and extensive experience compared to traditional education?

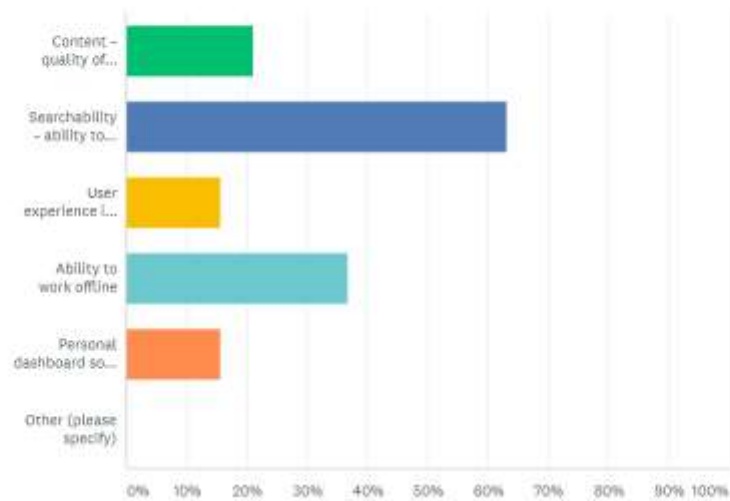
Answered: 19 Skipped: 0



The purpose of Q9 was to identify the areas that Moodle needs improvements and to make necessary recommendations. 63.16% of the students believe that searchability needs to improve or it is not working as expected due to an underlying issue. 36.84% thinks that the ability to work offline would be a wonderful feature to have.

Q9. Which areas in Moodle do you think should further improve?

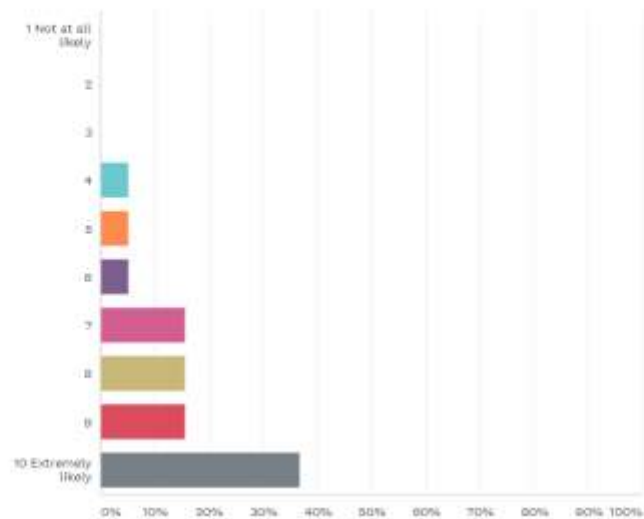
Answered: 19 Skipped: 0



Q10, 36.84% says that it is extremely likely that they would recommend Moodle. 16 out of 19 participants giving a score of 7 or more indicates that the majority of the students makes a solid and extensive use of Moodle.

Q10. Thank you for taking this online survey. On a scale of 1 to 10, how likely it is that you would recommend Moodle as a learning environment to a friend or college?

Answered: 19 Skipped: 0



6. Conclusion and recommendation

6.1 Conclusion

- Hybrid system, partly physical, partly virtual is the way forward in education therefore, how to successfully adopt blended learning for adult education very much depends on the strengths and weaknesses of the VLE.
- Moodle's current usage is limited to learning materials and enables sharing. Today, VLEs are equipped with features to share feedback with students, launch discussions, collaborate with colleagues, single sign-on feature and they integrate easily with your student information system.
- According to Richard P. (2014), VLEs and LMSs have the same features, such as forums, quizzes, breakout sessions and monitoring systems, in my view it is the way they are being used that distinguishes them.

6.2 Recommendation

Related to Q9 above:

Moodle is an open-source solution, practical suggestions backed-up with usage statistics and if contributed towards open sources values Moodle may develop these ideas in feature releases. The following two are possible candidates.

- Searchability - 63.16% believe that they cannot find or has issues looking for contents. This is core VLE functionality and has a direct impact on its usage.
- Ability to work offline 36.84%- with more and more students learning remotely this is perhaps a valuable feature to have.

This research identifies the need to re-evaluate other VLE platforms out there to replace core systems used by UWTSD which might bring significant cost benefits with having to maintain one single platform as opposed to many for example, MS Teams, MyTSD, Service desk etc.

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8. Appendix

How does VLE (Moodle) impacting students learning? -a case study from UWTSD.

Moodle is a free and open-source learning management system. We'd like to hear about your Moodle learning experience, and I have 10 short questions which require less than a minute of your time to answer.

* 1. Are you familiar with the Moodle environment?

- ☐ Yes
- ☐ No

* 2. How often do you use Moodle?

- ☒ Daily
- ☐ Weekly
- ☐ Fortnightly
- ☐ Monthly
- ☐ Rarely

3. *How long do you spend on Moodle on weekly basis?*

- ☐ 01 – 05 hours
- ☐ 06 – 10 hours
- ☐ 11 – 20 hours
- ☐ 21 – 35 hours
- ☐ More

4. *What device do you use to join Moodle?*

- ☐ Smart phone
- ☐ Tablet
- ☐ Laptop
- ☐ Desktop

* 5. *What do you use Moodle for?*

- ☐ Download Lecture Material
- ☐ To Access Online Resource List, eBooks etc.
- ☐ To Access Other Modules
- ☐ Upload Assignments
- ☐ Other (please specify)

* 6. *Do you find it easy to find the information you are looking for?*

- ☐ Yes
- ☐ No

* 7. *In your opinion, do you think Moodle is important or has an impact on your studies?*

- ☐ Yes
- ☐ No
- ☐ Not sure

** 8. The purpose of this question is to measure the effectiveness of Moodle compared to traditional class-based education. Do you agree that Moodle provides a solid and extensive experience compared to traditional education?*

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

9. Which areas in Moodle do you think should further improve?

- ☐ Content – quality of online resources and material
- ☐ Searchability – ability to find what you are looking for quickly and easily
- ☐ User experience i.e. the flow, responsiveness, use of language and clarity
- ☐ Ability to work offline
- ☐ Personal dashboard so that I can see my own usage history
- ☐ Other (please specify)

** 10. Thank you for taking this online survey. On a scale of 1 to 10, how likely it is that you would recommend Moodle as a learning environment to a friend or college?*

- ☐ 1 Not at all likely
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10 Extremely likely

- 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).

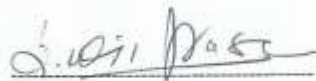
Signature of research participant

Signature of participant

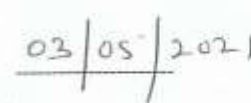
Date

Signature of researcher

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



Signature of researcher



Date