



DIGITAL SKILLS AND
RESEARCH METHODS

Impact of VLEs in UWTSD

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Introduction

“Virtual education refers to instruction in a learning environment where teacher and student are separated by time or space, or both, and the teacher provides course content through course management applications, multimedia resources, the Internet, videoconferencing and so on” Kanimozhi (2018). It allows teachers the access of an integrated set of tools, allowing for an easy upload of materials, accessible at any time, from any workstation and accommodates users own speed promoting creativity and inspirational challenge. Additionally, remove students' dependence on teachers and at the same time can use and apply what they learned independently, it also, it minimises and eliminates the use of a classroom.

This research paper will address the Moodle user experience as to determine the influence of the platform in the student's academic life. It will draw information form the available literature to explore and analyse elements of VLE in the context of higher education institutions and applied quantitative research questionnaire to understand the importance of using VLE in institution, particularly the Moodle.

Literature Review

In searching for new and improved educational systems a great importance was placed in finding new strategies based on information and technological communication, in which, digital platforms have taken precedence over the analogue. Consequently, institutions for higher education have adopted online platforms aiming at promoting and improving teaching and learning, through Virtual Learning Environment (VLE). The virtual environment has been used in both distant and onsite learning and its strong institutional implementation has validated the concerns about its influence on students (Boulton et al; 2018).

The Importance of VLE in Education

VLE can be considered as an active concept attributed to the continual evolution of the technological features and potentialities, and its importance in online environments and learning processes. It provides an educational system based in an online platform that are being implemented in varied number of universities across the country, as to incorporate the technological systems in the courses as well as a complementation of face-to-face classes (Alhogail and Abdulrahman; 2011)

Although, these systems harvest a huge amount of data, it makes valuable when analysing the course subjects and student usage. VLE incorporates the use of technology and digital resources becoming an intermediary in the learning process through the interaction and inter-relation in a continuously communication system and by it enhancing the structure and reconstruction on knowledge, habits, attitudes and meaning within a platform that is familiar to the ones in the educational process (Jackson and Fearon; 2014).

VLE can create a competitive advantage through the use of methods aimed to increase knowledge and promote individual learning, providing a set of devices that supports the production and delivery of the content, information and assess the teaching and learning systems (Alhogail and Abdulrahman; 2011).

Service and Technology provided by VLE

VLE feature and potential transforms it into spaces allowing to test, promote and support the new teaching and learning approaches, however, it needs a constant observation of the use and changes of its resources, allowing it to be considered in the structure of the learning process. Moreover, the VLE enhances and originates the advance of innovative experiences, in other hand, this is mainly focussed on the production and distribution of material and information (Jackson and Fearon; 2014). As its main replicates the traditional distribution of content, messages and notices, in the online teaching communicative system through networking. Also, the implementation of technological networking allowed to fill some of the limitations and enabled the creation of new interactive and learning environment and by that challenging teachers and researchers find a more student-centred educational approach (Boulton et al; 2018).

E- learning platforms combine the implementation of hardware's, software's theoretical and educational theory to facilitate learning. Requires the use and management of technology and learning resources to improve performance, therefore, being the critical element "learning", according with Nagi and Vate-U-Lan (2009: 16) new technologies are transforming the essence and quality of learning. Currently, many schools are adopting alternative platforms to gather students, teachers and technological means in an effective way (Alhogail and Abdulrahman; 2011)

VLE Challenges and Benefits

In addition, to breaking geographical barriers, to more flexible schedules and saving time, digital education tools encourage interactivity between people, offer more autonomy to users, allow access to personalized content according to the needs of students and educational systems and optimizes the use of the internet (Al-Hosan and Oyaid; 2012).

Thus, VLE supports teaching and learning activities through a multidirectional and tightly timed operational system within various locations and at same time maintaining essential aspects of a traditional teaching and learning such as assessments and communication (Norbert and Daly; 2011). For instances, it connects students, teachers and parents, from various locations under a VLE platform (Moodle) that delivers content such as additional guidance from teachers or library materials and can deliver interactive classrooms that can to be assessed anywhere through internet connection (Jackson and Fearon; 2014).

The implementation process can be time-consuming in adaptation to the necessary and adequate web structure for the tool to work correctly and the additional need of a constant training of employees to feed and update the solutions. However, the access of technology is not always in reach of all, tools of this type need fast Internet and updated devices. In addition, not everyone involved knows how to operate on these systems and deal with the available resources and use them to their advantage and development. However, one of the main challenges of educational platforms is being able to keep up with the speed of innovations in the digital world. These changes happen all the time and are essential to gain competitive advantages (Norbert and Daly; 2011).

Aims and Objectives

The aim of this research is to gather the functionalities to assist the understanding of the relations between the use of the UWTSD VLE platform (Moodle) and the performance of everyone who uses the platform.

The main objectives of this research are to:

- To define the functionalities that should exist in a virtual learning environment, to support the process of distance education.
- To demonstrate the importance of virtual learning environments for distance education.
- To understand the VLE in education.
- To identify the impact of VLE in students' performance.

Methods

Qualitative research seeks to understand human phenomena, seeking to obtain a detailed and complex view through a scientific analysis of the researcher. This type of research is concerned with the meaning of social phenomena and processes but being a specialized analysis of subjectivity also considers the motivations, beliefs, values and representations found in social relationships. The basic assumptions of this type of research are the main concern with the processes, not being directly preoccupied with the result and the product but on how people report their experiences (*Creswell; 2014*).

Quantitative research works on a human or social problem, it is based on the test of a theory and is composed of variables quantified in numbers, which are analysed in a statistical way, with the objective of determining if the generalizations predicted in the theory are supported or not. In this sense, quantitative research is linked to immediate data and seeks to measure opinions and information using the resources of statistics(*Creswell; 2014*).

In this context this report used, as a primary means of data collection, a questionnaire of 15 questions sent from forms.office.com and applied to the users of UWTSD (teachers, students). The survey was a mix of close-ended and open-ended questions as to allow some space for self-expression. It was collected 15 samples through that were analysed as followed in the Results and Discussion section.

This report was founded in the combination of existing literature related to VLEs. The secondary data was extracted from a differentiated number of textbooks, e-books, journal, articles from both UWTSD library, e-library and independent research sources.

The questionnaire's template is attached on the appendix of this report

Results

The questionnaire's results were stored in tables and in different types of charts:

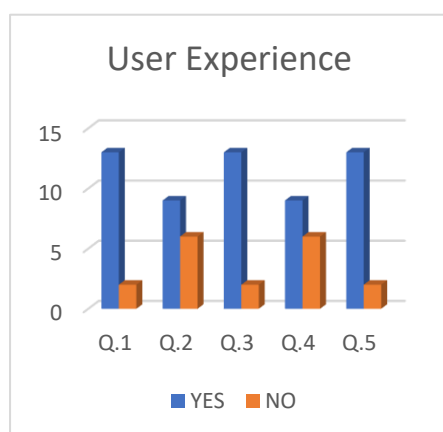
QUESTIONS	YES	NO
Q.1	13	2
Q.2	9	6
Q.3	13	2
Q.4	9	6
Q.5	13	2

QUESTIONS	POSITIVE	NEGATIVE
Q.13	5	10
Q.14	9	6
Q.15	12	3

QUESTIONS	1-2	3-4	5-6	7-8	9-10
Q6	0	1	6	3	5
Q7	1	4	2	6	2
Q8	2	2	3	5	3
Q9	0	1	4	7	3
Q10	0	3	3	7	2
Q11	0	6	3	4	2

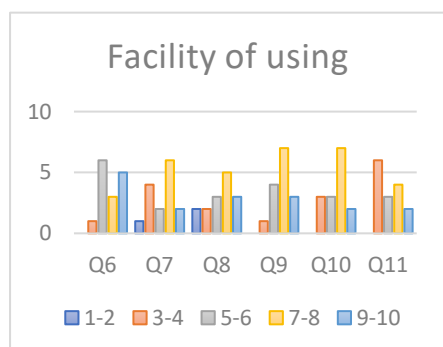
QUESTIONS	0-2	3-4	5-7
Q.12	2	6	9

The data stored is now explained in line with the respective tables and charts.



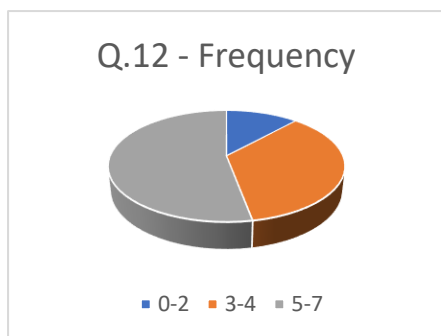
In relation to **Q.1**, 13 users improved their digital skills by using Moodle against only 2 that answered negatively and on **Q.2**, 9 users received training before starting login in University platform, but 6 gave a contrary answer. Moreover, in **Q.3**, 13 users recommend Virtual Learning Platform out of only 2 negative responses and in **Q.4**, 9 felt their studying's productive increased with this new method, but 2 prefer the old fashion way of learning. Related to the **Q.5**, 13 people believe that E-learning is the future of the education, however, 2 do not share

the same opinion.



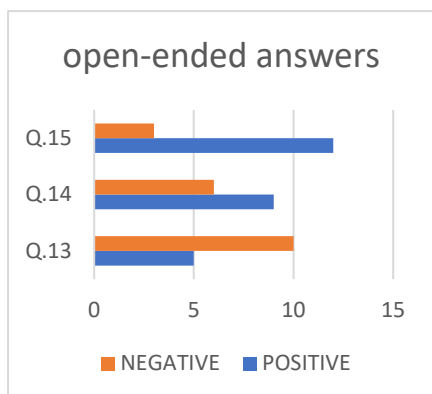
Question between 6 and 11 were classified with stars where 1 star means the lowest rate and 10 stars the top mark. The results are an average rate mark. In relation to **Q.6**, the rate given on how secure they felt their data is protected is 7.20 stars and on **Q.7**, 6.13 stars was the classification given related with the instructions to access online meeting.

In addition, **Q.8**, communication between University's users was classified with 6.62 stars, and **Q.9**, 7.13 rate the usefulness of Moodle. **Q.10** got 6.73 stars is how practical are the modules through Moodle. Nevertheless, in **Q.11**, online library was classified with 5.93.



In relation of **Q.12**, 2 users claim that login in Moodle until 2 times a week, while 6 confirmed that the login is done between 3 to 4 times a week and 9 users' login 5 to 7 times a week.

The last set are open-ended answer grouped as negative and positive.



As reported in **Q.13**, as positive point 5 users claim that Moodle do not need improvements, however, 10 believe in improvements, organization and content on e-library. In **Q.14**, as positive point 9 users have nothing to say about e-library, but 6 users are divided in "everything" and the need of more resources. **Q.15** is related to online classes' interaction where 12 users are positively satisfied but 3 see it as complicated and challenging.

Discussion

Table1 shows that, many respondents (9 out of 15) felt that they were properly trained before using Moodle and the same amount felt their productivity levels increased within VLE instead of traditional teaching methods, considerably, 6 out of 15 is still a high number of that, not only feel unconfident using Moodle but also do not feel productive in a VLE. Moreover, for the majority e-learning will be the future of education, they would recommend it and feel that their digital skills have improved by using Moodle. One's perception is that, these results reflect a high support of the VLE towards in regards helping them navigate the online platforms and prove an increase of individual performance within all UWTSd sectors (teachers, staff and students).

Table2 demonstrate that, although, most people are fairly content with UWSTSD VLE structure and find easy to follow instructions and work through Moodle platform, it can be seen that some areas need improving such as the library.

Table3 shows a higher frequency in logins, in my opinion, with most respondents (9 out of 15) longing in 5-7 days a week, and an average of 6 regular usage of 3-5 days, however, one most to wonder the validity of these findings in relation to the transfer of classes to a virtual environment forcing many to adapt in this pandemic moment.

Table 4, that most respondent are happy with online classes although some show preference to the face to face interaction and again shows the importance to improve the e-library, as the main challenges were to navigate and find relevant material in the library.

The most negative record in the table is the improvement needed in Moodle, where most participants think that there is a considerable room for improvement.

The results obtained allowed to conclude positively about the adoption of virtual environments, namely the Moodle, mainly due to the advantages identified in terms of interaction, access to content, resources and services. My main recommendation would be to adapt both Moodle and e-library to become user friendly and increase the materials or supports in finding the existing ones, either by an extra library induction or a virtual platform where students can have help.

Conclusion

Within the literature was observed that, VLE importance has increased dramatically in the last decade and has become a crucial factor in institutions that aim to obtain competitive advantage. Although, some benefits were identified so major constraints especially for those with limited access to technology or are in disadvantage in technological skills. The analysis of 15 survey samples demonstrate an elevated amount of positive reviews in regards many aspects of the Moodle structure, however, it also demonstrated the need to modify some structures as to be more user friendly and increase student's productivity and performance.

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Appendix

Questions

15

Virtual Learning Environment

Impact of Virtual Learning Environment on University of Wales Trinity Saint David

1. Do you have improved your digital skills by using Moodle?

- ☐ YES
☐ NO

2. Did you have training before starting to use Moodle?

- ☐ YES
☐ NO

3. Do you recommend Moodle as an e-learning platform?

- ☐ YES
☐ NO

4. Do you feel more productive using e-learning instead of the usual methods of learning?

- ☐ YES
☐ NO

5. In your opinion is online learning the future of the education?

- ☐ YES
☐ NO

6. How satisfied are you with security data protection of Moodle platform?

7. How easy is to follow the instructions to access online meetings?

8. How easy is the communication online between all involved in University environment?

9. How useful do you think Moodle is as an online interactive platform?

10. How easy is to work in the modules through the Moodle platform?

11. How easy is to find studying material in online library?

12. How many times a week do you login in Moodle?

13. What would you improve in the Moodle online platform?

14. What would you improve on virtual learning resources platform?

15. Describe in 3 words your experience with online classes.

[View results](#)

Respondent

1

Anonymous

Time to complete: 1 minutes and 24 seconds

[01:24](#)

Time to complete

1.Do you have improved your digital skills by using Moodle?

☐ YES

☒ NO

2.Did you had training before starting to use Moodle?

☐ YES

☒ NO

3.Do you recommend Moodle as an e-learning platform?

☐ YES

☒ NO

4.Do you feel more productive using e-learning instead of the usual methods of learning?

☐ YES

☒ NO

5.In your opinion is online learning the future of the education?

☐ YES

☒ NO

6.How satisfied are you with security data protection of Moodle platform?

7.How easy is to follow the instructions to access online meetings?

8.How easy is the communication online between all involved in University environment?

9.How useful do you think Moodle is as an online interactive platform?

10.How easy is to work in the modules through the Moodle platform?

11.How easy is to find studying material in online library?

12.How many times a week do you login in Moodle?

4

13.What would you improve in the Moodle online platform?

Library

14.What would you improve on virtual learning resources platform?

Be more straight forward to use

15.Describe in 3 words your experience with online classes.

Good, useful, practical

[View results](#)

Respondent

2

Anonymous

Time to complete: 3 minutes and 33 seconds

03:33

Time to complete

1. Do you have improved your digital skills by using Moodle?

☐ YES

☒ NO

2. Did you had training before starting to use Moodle?

☐ YES

☒ NO

3. Do you recommend Moodle as an e-learning platform?

☐ YES

☒ NO

4. Do you feel more productive using e-learning instead of the usual methods of learning?

☐ YES

☒ NO

5. In your opinion is online learning the future of the education?

☐ YES

☒ NO

6. How satisfied are you with security data protection of Moodle platform?

7. How easy is to follow the instructions to access online meetings?

8. How easy is the communication online between all involved in University environment?

9. How useful do you think Moodle is as an online interactive platform?

10. How easy is to work in the modules through the Moodle platform?

11. How easy is to find studying material in online library?

12. How many times a week do you login in Moodle?

5

13. What would you improve in the Moodle online platform?

Online library

14. What would you improve on virtual learning resources platform?

More easy to find information

15. Describe in 3 words your experience with online classes.

It's been great

[View results](#)

Respondent

13

Anonymous

Time to complete: 7 minutes and 50 seconds

07:50

Time to complete

1. Do you have improved your digital skills by using Moodle?

☐ YES

☒ NO

2. Did you had training before starting to use Moodle?

☐ YES

☒ NO

3. Do you recommend Moodle as an e-learning platform?

☐ YES

☒ NO

4. Do you feel more productive using e-learning instead of the usual methods of learning?

☐ YES

☒ NO

5. In your opinion is online learning the future of the education?

☐ YES

☒ NO

6. How satisfied are you with security data protection of Moodle platform?

7. How easy is to follow the instructions to access online meetings?

8. How easy is the communication online between all involved in University environment?

9. How useful do you think Moodle is as an online interactive platform?

10. How easy is to work in the modules through the Moodle platform?

11. How easy is to find studying material in online library?

12. How many times a week do you login in Moodle?

everyday

13. What would you improve in the Moodle online platform?

I would like improve for Online Library

14. What would you improve on virtual learning resources platform?

I think that have not enough itens

15. Describe in 3 words your experience with online classes.

Easy, time safe, money safe