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DSR Term 2 Research Report

IMPACT OF VIRTUAL LEARNING ENVIRONMENT

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1.- Introduction to the research topic (VLE)

OVERVIEW OF VIRTUAL LEARNING ENVIRONMENT

Nowadays, societal groups are changing their needs. Technology is strongly introduced in the way people live. The need to obtain products and services quickly and in a personalized way means that new systems based on essential technologies are being developed in all areas of knowledge and leisure time. Education is one of the fundamental aspects for society and for this reason new learning systems related to technology are appearing.

Pointing on that direction it is very important to conduct a research about “virtual learning environment” to study the advantages and disadvantages of this system and the influence that it has had in Students' Learning.

Attending to Kanimozhi, it is a type of teaching method in which the learning medium is based on the Internet, software and hardware. Through this medium the necessary instructions are sent from the teachers to their students without the need to share the same physical space or even the same time (KANIMOZHI, 2018).

The concept of VLE is linked to the use of the internet, so its appearance dates back to the 20th century. From the beginning, this type of teaching is associated with a dynamic concept due to the constant development of the technological field.

In 2020, due to the Covid-19 outbreak, many teaching places were forced to use this tool to keep supporting students. Although many schools and universities around the world were using these environments to support their students even before.

2.- Background

LITERATURE REVIEW – VIRTUAL LEARNING ENVIRONMENT

This learning system, based on e-learning, requires internet access as a first requirement. Any device that has the ability to connect to the network is required by this type of virtual teaching. Some examples of the technology necessary for its use are smartphones, computers, Ipads ...

Once the requirements for using this technology are known (internet and a device that is able to connect to the network), this research will focus on the types of services provided by the virtual learning environment.

VLE provides a clear, dynamic and structured list of content focused on learning in a specific field. On the other hand it allows communication and support between students, students and teachers and both with management student service (Simkova, Monika & Stepanek, Jiri, 2013).

In order to carry out this type of teaching, a virtual platform is required to develop the tasks described above. In general lines, this platform needs some particular tools to be effective (Sanchez Rodriguez, 2009):

- **Content distribution tools:** spaces where teachers make different content available to students.
- **Communication and collaboration tools:** they allow interaction between participants. Its can be forums, chats, internal messaging, formation of mini groups ...
- **Student monitoring and evaluation tools.**
- **Administration and assignment of permissions tools:** registration of profiles, control of enrollment and access...
- **Complementary tools:** note pad, content search systems...

As one of the main platforms to deliver this type of Virtual Learning it can be cited Moodle, which after being born in 2002 has experienced exponential growth in the number of users. Other platforms in global use are Dokeos and Claroline.

Attending to Arkorful & Abaidoo (Arkorful Valentina & Abaidoo Nelly, 2014) some advantages of an VLE can be enumerated:

- this kind of learning allows students to manage their time. They can choose the time in wich they are ready to study and the place from where they are going to take their lessons. This is a crucial advantage because students are learning a transferable skill that will be relevant in their workplace and, at the same time, they are acquiring knowledge in a certain subject.
- VLE helps to reduce the cost of studing. Neither teachers nor students need to travel to a physical building, reducing travel and rental costs.
- the amount of information made available to students is much more vast using this system.
- it offers a more accessible education to people who are in isolated geographical areas. There are no physical barriers to obtain knowledge of a certain field from anywhere in the world.
- students develop strong writing skills by having to communicate this way most of the time.
- learning process is personalized and allows each student to learn at their own pace.

On the other hand, e-learning offers some disadvantages compared to traditional teaching. In this environment there is a lack of face-to-face personal interactions. The human being tends to communicate his ideas helping the verbal language with the non-

verbal language, ensuring an effective communication. Throughout history, personal relationships have helped human development.

It can also be point out that some students can have difficulties transmitting the knowledge acquired through virtual channels. Considering that some areas of study do not allow distance learning because they need practical skills to carry out a job, such as doctors.

This learning system carries with it new challenges and risks. The biggest challenge for instructors can be adapt, develop and refine a dinamic education system that is effective for the needs of today's world.

Another challenge that virtual education faces is its adaptation to disabled students.

It is necessary to take into account that the two fundamental aspects that would jeopardize the success of the e-learning environment are (Burkle, 2009):

- instructors´digital skills and their predisposition towards change
- students' attitude of commitment towards technological learning

One of the most controversial points of the VLE would be the privacy of the users and how to providing the highest of standards (Policyconnect, 2019).

Regarding privacy, the main Law that the VLE must comply is “General Data Protection Regulation (GDPR)”. Attending to the quality of e-learning, The Defence Awarding Organisation (DAO) published a guidance: “online learning policy”; compliance with its 7 principles can be very beneficial to VLE.

3.- Aims and objectives

AIMS OF THIS RESEARCH

- To find out the main technological requirements for e-learning
- To find potential risks, challenges and opportunities in VLE
- To discover if VLE is able to provide an effective learning
- To gain knowledge about advantages and disadvantages of VLE vs traditional education
- Impact of VLE among students, teachers and administration team at University of Wales Trinity Saint David

OBJECTIVES OF THIS RESEARCH

- Analyse current VLE situation
- Manage a primary and secondary research
- Collect quantitative and qualitative data through a survey at UWTSD

- Evaluate and analyse the research outcomes

4.- Research Methods

During the primary research approach academic articles from journals, conferences and books were used to collect quantitative and qualitative information. All these resources have been referred previously and they have showed information about necessary technologies for the use of VLE, the benefits of this type of teaching, the risks and challenges of this methodology for students, teachers and administration staff. On the other hand, they also provided data about the tools that a digital platform needs to be effective in a virtual environment.

With all these qualitative and quantitative collected data in our primary approach, the secondary approach was carried out. In this part 10 multiple-choice questions and 2 open-ended questions were elaborated and included in a questionnaire. This survey had the purpose of knowing the feedbacks about five different topics in VLE. These topics were: commitment towards VLE, possession and knowledge of required technology, student support, difficulties users are facing and challenges delivering e-learning. For the distribution of the survey, this research was supported by “google forms” (online software tool) for its online distribution. This distribution was made via email. These questions were sent to know feedbacks from people that is studying or working at UWTSD.

All the information collected has been stored in tables to be analysed during the analysis process.

The questionnaire that has been sent to users can be seen below:

A Survey Related to UWTSD Virtual Learning Environment

1.- Do you have the necessary devices to monitor online teaching?

- ☐ Yes
- ☐ No

2.- Do you have a fast internet connection that allows you to connect to virtual platforms from home?

- ☐ Yes
- ☐ No

3.- Do you think that your digital skills would allow you to study in a virtual learning environment?

- ☐ Yes
- ☐ No

4.- Are you committed to using virtual platforms?

1 2 3 4

Very Committed	()	()	()	()	Not Committed
----------------	-----	-----	-----	-----	---------------

5.- Virtual teaching offers me more advantages than traditional teaching.

1 2 3 4 5

Strongly Agree	()	()	()	()	()	Strongly Disagree
----------------	-----	-----	-----	-----	-----	-------------------

6.- How often do you check the content on the moodle platform?

- ☐ Usually
- ☐ Often
- ☐ Occasionally
- ☐ Hardly ever
- ☐ Never

7.- How do you rate the distribution of content in moodle? Is it easy to find the contents?

1 2 3 4 5

Really Easy	()	()	()	()	()	So Difficult
-------------	-----	-----	-----	-----	-----	--------------

8.- Do you think the student support service works efficiently?

- ☐ Yes
- ☐ No

9.- Do you think that the lack of face-to-face communication between students and teachers can impair communication skills?

- ☐ Yes
- ☐ No

10.- How do you rate the student evaluation system in the virtual learning environment?

1 2 3 4 5

Really Good	()	()	()	()	()	Not Good at All
-------------	-----	-----	-----	-----	-----	-----------------

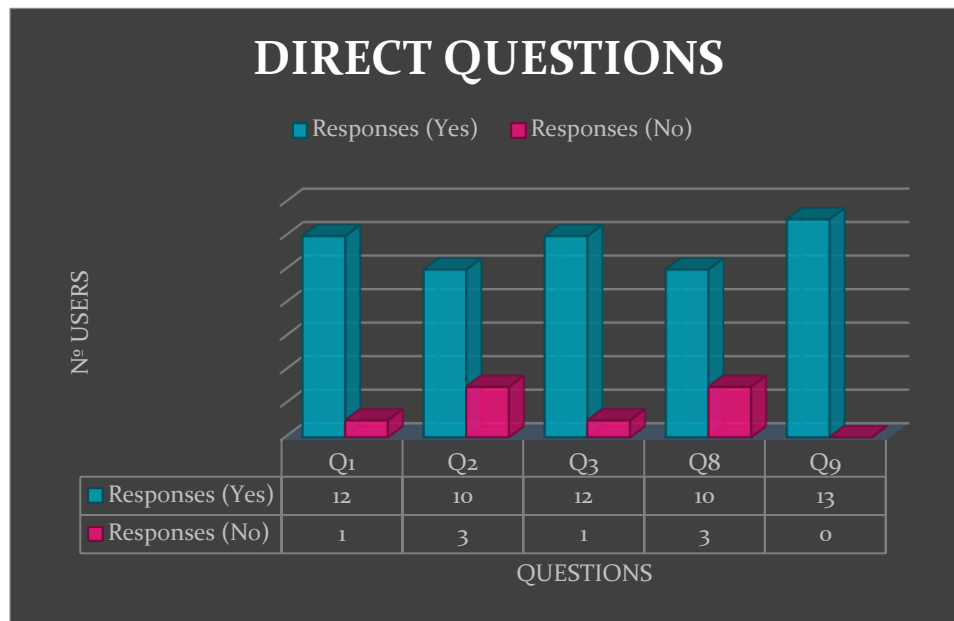
11.- From your point of view, Which are the biggest challenges faced by virtual teaching?

12.- Could you list 2 or 3 suggestions that can help the inclusion of disabled students in the virtual learning environment system?

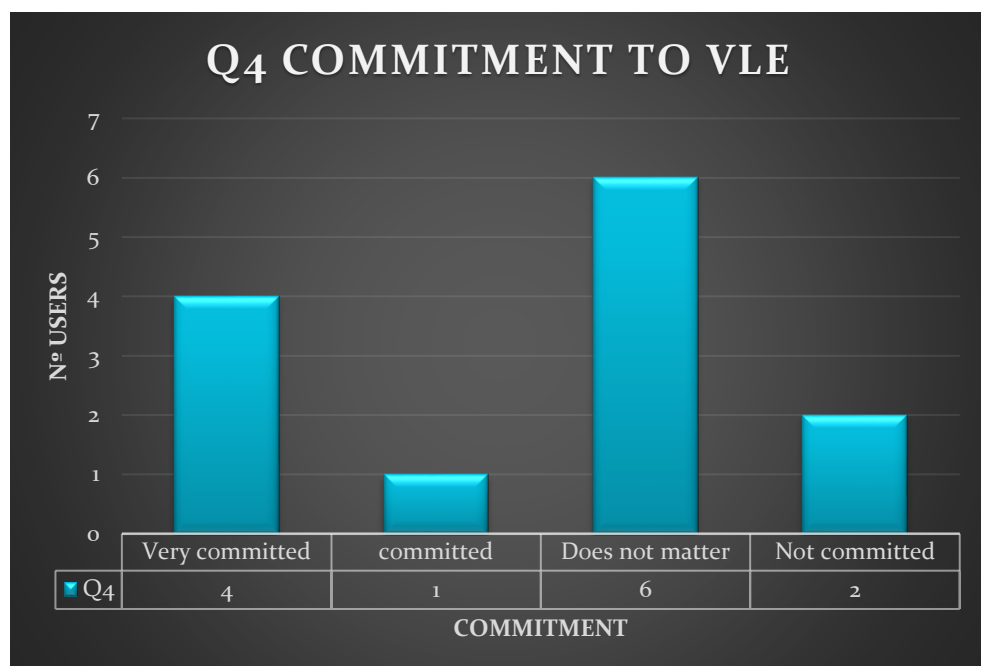
5.- Results

The survey has been answered by a total of 13 people. The results of it are shown below;

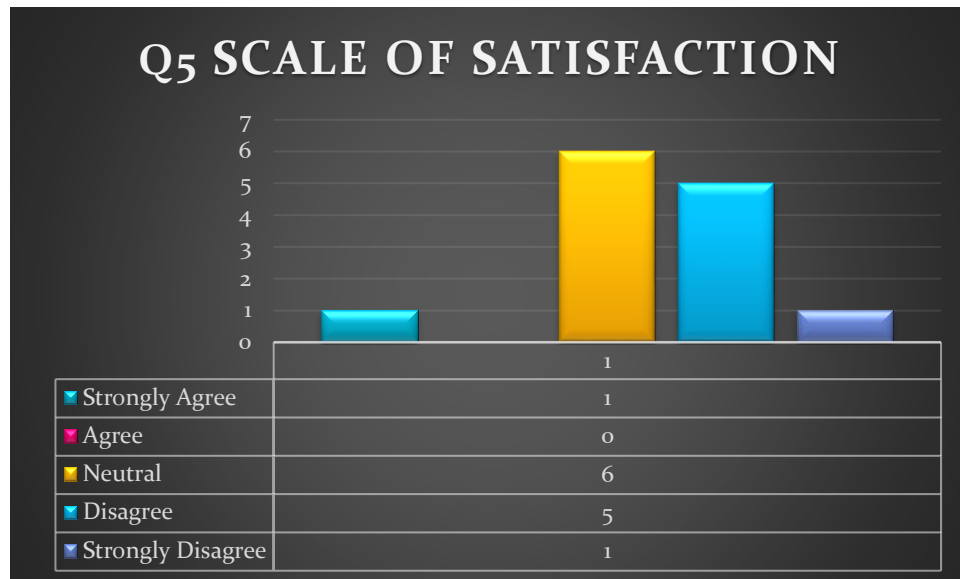
This group of answers are focus on the affirmative and negative answers referring to the questions to questions 1, 2, 3, 8 and 9.



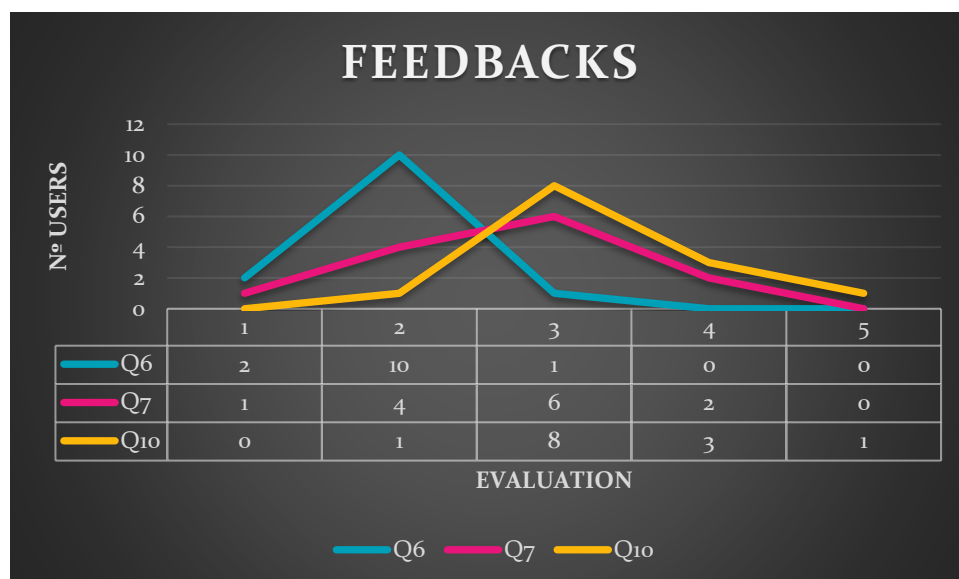
Question 4 reflects the commitment of users to the use of virtual platforms. The results are presented on a scale of values from those who are highly committed to those who are least committed.



Question 5 asks users about their satisfaction with the statement that virtual teaching offers more advantages than traditional teaching



Questions 6, 7 and 10 analyse aspects related to the virtual platform and the evaluation through it on a 5-level scale of values, obtaining the following results



The results for open questions are shown below. Only 10 responses have been obtained for each of them. Therefore 3 of the users have not responded to the final part of the survey.

11.- From your point of view, Which are the biggest challenges faced by virtual teaching?

10 respuestas

appropriate training is required for users.

Digital skills of Users

The motivation to participate in class due to lack of contact

Student support from teachers.

It's more difficult to pay attention

I can't be focus 100%

lack of face to face communication

Internet connections

Is difficult understand certain subjects

To be focus from the students.

12.- Could you list 2 or 3 suggestions that can help the inclusion of disabled students in the virtual learning environment system?

10 respuestas

need to improve VLE with voice and video pretensions

simple pages, teacher support, dynamic learning

Voices in Virtual platforms; Teacher individual support

More training for lecturers and commitment

Student Support and Data Protection security.

Give more information and provide more trading

training for teachers

For siabled person the VLE is very convenient for them to reduce the transportation, but some others might prefer the face to face learning like for example for blind people how would they use VLE?

More preparation and engagement

More activities given from the lecturer and participations from the students.

6.- Analysis and Discussion

In this section, this research seeks to carry out an analysis of the data obtained in the VLE survey. First of all, note that this survey was designed to obtain a deeper understanding of 5 aspects related to the use and development of virtual teaching:

- possession and knowledge of required technology
- commitment towards VLE
- student support,
- difficulties users are facing
- challenges delivering e-learning

Questions 1,2 and 3 are related to the first topic studied. The first question is about owning the necessary devices to study through VLE. Affirmative results were obtained in 92.30% of cases. Question 2 refers to the speed of the internet at users' home. An affirmative answer was obtained in 76.92% of the cases. Question 3 is aimed to users' digital skills for the use of this teaching system. Affirmative answers were obtained in 92.30% of the cases.

With these data it can be affirmed that the vast majority of users have the digital skills and the devices to be able to make good use of the VLE system. These data were expected because we live in the "age of technology" and the vast majority of our young people are fully familiar with its use. It should also be noted that the speed on the internet line is sufficient in 76.92% of cases, that is, 3 out of 4 users. This may be due to economic and social factors of the users, either because the appropriate speed does not arrive at their home or they cannot afford the cost for a faster connection.

Questions 4,5 and 6 are related to the commitment that users would have to implement this teaching system. Question 4 is direct, being able to observe that the positive feedback at its different levels adjust to 85.70%. Question 5 evaluates the advantages of VLE compared to traditional teaching; those who consider that the VLE offers more advantages are 52.30%. Question 6 refers to the use of Moodle; Users consult the platform in 14.30% usually and 71.40% do so often.

It can be affirmed that users are committed to the use of virtual teaching systems, but at the same time, only half of users believe that this system offers more advantages than traditional teaching. In question 9 I found one of the reasons why the majority of users do not believe that the VLE system is more advantageous: the loss of face-to-face communication. 100% of users believe that there is a loss of communication skills.

Regarding student support (question 8), 78.60% of users believe that it works efficiently. With these data it can be affirmed that the UWTSD provides a good support service.

I will analyse the problems that users are facing. Regarding the research of contents on the virtual platform, 85.70% gave positive feedback. For this reason, it can be said that the Moodle platform is very well structured to be able to find the content users are

looking for. As for the online evaluation system, these percentages drop to 71.40%; it's still a pretty acceptable percentage of satisfaction.

Regarding the challenges that the VLE will face (question 11), 5 of the users point out the difficulty of concentration with this system, a high enough number to be an open question. This lack of personal contact and receiving the sessions in a private environment are the main risks for students to being focus. In my point of view, to these causes we would have to add the lecturers' skills to teaching online. It is very important that they have highly developed presentation skills, otherwise, and together with the causes mentioned above, VLE can have a high failure rate.

Regarding question 12, (referred to disabled students) all users focus their answers on people with visual or hearing disabilities; providing solutions such as audios on the platform. A disabled student may suffer from other types of disabilities other than those mentioned above, so according to this research, these questions should be answered by professionals who help integrate all students.

7.- Conclusion

This research has tried to discover the main technological requirements for e-learning as well as the potential risks, challenges and opportunities of the system. Research has also been conducted into the possibility that VLE offers effective learning and some of its advantages and disadvantages. Finally, data has been discovered about its impact among students, teachers and administration team.

8.- Appendix. -

SURVEY

A Survey Related to UWTSD Virtual Learning Environment

As a part of my studies, it is required to create an online survey related to University Virtual Platform and collect feedback from the users. Therefore, I would like to present this survey to you. Please be kind enough to provide your feedback for the following questions. Your support regarding this matter is highly appreciated.

Thank you.

Francisco Gonzalez

Dirección de correo electrónico *

Dirección de correo electrónico válida

Este formulario recopila las direcciones de correo electrónico. [Cambiar configuración](#)

1.- Do you have the necessary devices to monitor online teaching?

☐ Yes

☐ No

...

2.- Do you have a fast internet connection that allows you to connect to virtual platforms from home?

☐ Yes

☐ No

3.- Do you think that your digital skills would allow you to study in a virtual learning environment?

☐ Yes

☐ No

4.- Are you committed to using virtual platforms?

	1	2	3	4	
Very Committed	☐	☐	☐	☐	Not Committed

5.- Virtual teaching offers me more advantages than traditional teaching.

	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

6.- How often do you check the content on the moodle platform?

- ☐ Usually
- ☐ Often
- ☐ Occasionally
- ☐ Hardly ever
- ☐ Never

7.- How do you rate the distribution of content in moodle? Is it easy to find the contents?

	1	2	3	4	5	
Really Easy	☐	☐	☐	☐	☐	So Difficult

8.- Do you think the student support service works efficiently?

- ☐ Yes
- ☐ No

9.- Do you think that the lack of face-to-face communication between students and teachers can impair communication skills?

- ☐ Yes
- ☐ No

10.- How do you rate the student evaluation system in the virtual learning environment?

	1	2	3	4	5	
Really Good	☐	☐	☐	☐	☐	Not Good at All

11.- From your point if view, Wich are the biggest challenges faced by virtual teaching?

Texto de respuesta corta

12.- Could you list 2 or 3 suggestions that can help the inclusion of disabled students in the virtual learning environment system?

Texto de respuesta corta

SURVEY EVIDENCE

The screenshot shows a survey results page with a top navigation bar containing 'DSR TERM2', a folder icon, a star icon, and a purple 'Enviar' button. Below the navigation bar, there are tabs for 'Preguntas' and 'Respuestas' (with 13 responses). The main content area displays '13 respuestas' and a toggle for 'Se aceptan respuestas' which is turned on. Below this, there are three tabs: 'Resumen', 'Pregunta', and 'Individual'. The 'Resumen' tab is selected, showing a list of users who have responded under the heading 'Usuarios que han respondido'. The list includes email addresses: alejandrajarit@gmail.com, 1912612@student.uwtsd.ac.uk, pacogolez@hotmail.com, and kamalkharraj98@gmail.com.

Usuarios que han respondido
alejandrajarit@gmail.com
1912612@student.uwtsd.ac.uk
pacogolez@hotmail.com
kamalkharraj98@gmail.com

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