



Digital Skills and Research Methods
BMSW4003

A research on the impact of Virtual Learning
Environment- Moodle on students learning experience
at the University of Wales Trinity Saint David

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Introduction

In this time duration, world structure is globalised through the impact of global technology. At present, the ability to use IT and new innovative ways are the fundamentals of survival.

In the following report will be described the research method selected to indicate the results and the proper impact of Virtual Learning Environment (VLE) in the field of learning, communication, and Independent learning process.

On the contrary, the VLE originated from a centre and is accepted by all communities, with different beliefs. In this report, several models will arise to indicate the impact of VLE and following the research, the overall situation will be provided through graphs and charts in a mannered way (KALAYCI, 2015).

The *research title* is “A research on the impact of Virtual Learning Environment Moodle on students learning experience at the University of Wales Trinity Saint David”.

The *research objectives* are:

1. To define the concept of Virtual Learning Environment
2. To investigate the functions of VLE
3. To investigate the students view on VLE Moodle whilst studying at the University of Wales Trinity Saint David London Campus

The *research questions* are:

1. What is the Virtual Learning Environment?
2. What are the VLE functions?
3. What is the students view on VLE Moodle whilst studying at the University of Wales Trinity Saint David London Campus

Literature review

Virtual Learning Environment (VLE) is created as a term of learning, teaching, organizing, providing, conferencing, etc. within a network system which is conducted by a specific software system using various tools and activities (Secker, 2016).

VLE can create space during a specific time over the preferred location of the students when they want to complete a task. VLE helps to achieve the goals of students and also a way of developing independent learning which has a very effective impact on learning and increasing students' knowledge and motivation (Chism and Bickford, 2013).

Through Virtual Learning Environment the students can easily access technological materials during a time duration and from any place they can join and able to access through the connection of the Internet (Chou and Liu, 2013).

It was identified in secondary data research that VLE is a way of consuming time and create a strong community among students, teachers and the overall process and increase engaging confidence for learning. To create a Virtual Learning Environment, the relationship between students and teachers, their interest in engaging and proper participation is very important (FIAIDHI, 2016).

VLE helps to build communication, collaboration through engaging the students in professional debating, enhancing Understanding ability, increasing knowledge, proper discussion ability that has an outstanding impact on the co-operative social networking system. From the students' perspective, VLE is a method of building learning styles and strong personality (Jain, 2014).

Moodle is one of the most popular VLE and is used by majority of high education providers. Moodle is the platform that provides an integrated system with modular design to create customised and secure learning environments. The Moodle software can be downloaded by the universities into their web servers and it can be accessed by students using mobile phones and tablets through application usage, on laptops through Moodle Desktop application or through web interface (Moodle, 2020).

Moodle is the VLE used by the University of Wales Trinity Saint David, the selected organisation to realised the primary data research for the students from Health and Social Care course, as it has an easy to use interface, drag and drop functions and is multilingual (UWTSD, 2020).

Research Methodology

There are two types of data: primary and secondary data. This report researched secondary data in the literature review regarding the VLE concept and Moodle platform. For this research it will also be conducted primary data research in order to identify the impact of Moodle on students' learning experience at the University of Wales Trinity Saint David London Campus.

According to Buckler and Walliman (2016) the primary data is the data collected by the researcher first hand it can be qualitative or quantitative. Examples of qualitative data are observations, interview, focus groups etc and examples of quantitative data is the questionnaire which will be used for this research.

Sampling is the process of potential participants selection that occurs when it is intended to be examined a group of members smaller or larger. It can be realised using a random way of selection, a non-random way of selection or using both (Salkind, 2010).

This research is using a non-random way of selecting the sample as the researcher has to take into account several limitations related to assignment requirements. The selected sample are the student from the Health and Social Care course from the University of Wales Trinity Saint David London Campus. The total number of the students is 23 and that is the size of the selected sample.

The research instruments used by the researcher to conduct primary data is the questionnaire. The questionnaire has a total of 10 questions which are constructed in relation with the research objectives. The first question is an opening question which asks the participants if the virtual learning affected them. The next question is in relation to Moodle, how fast the students learn to use it. It continues with questions on online learning. Different questions assess the help provided by the university towards the online learning and for this questions it was used likert scale answers. Question 7 allows participants to describe their online learning experience. The next question asks participants if they like the learning online but it also allows students to give arguments. Question 9 is constructed using likert scale answers and it asks students how they feel about distance education. The last question intends to establish the amount of time spent by students on Moodle. A copy of the questionnaire is available in the Appendices.

Primary data analysis based on questionnaire findings

Subsequent analysis arises following the data collected using the questionnaire. A table with the sum of primary data collected is summarised in the Appendices in Table 1.

Table 2 Rate of response

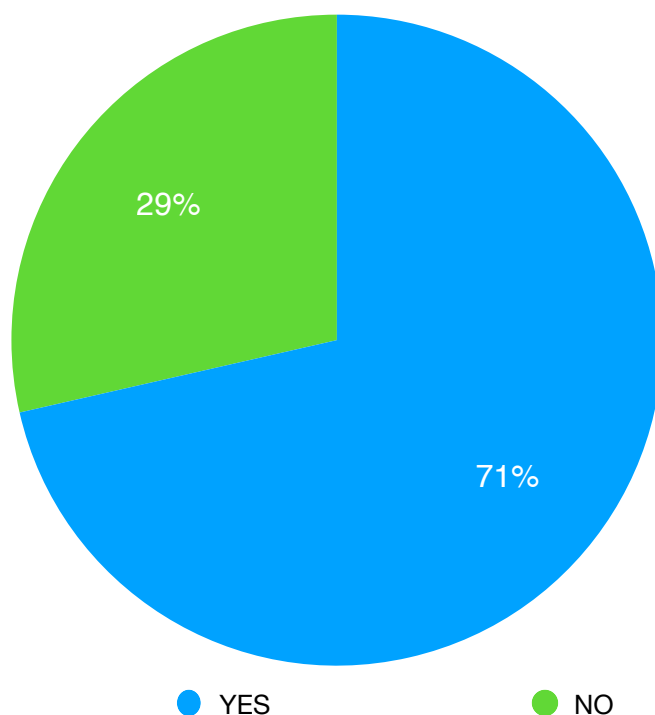
Number of questionnaires sent through email	Number of respondents	Rate of response (%)
23	21	91%

Table 2 Rate of response illustrates that the primary data collection registered a 91% rate of response. This is a very high figure and that will contribute to the relevance of the data as it is considered to be representative for the research.

Table 3 Students view on virtual learning and Moodle usage

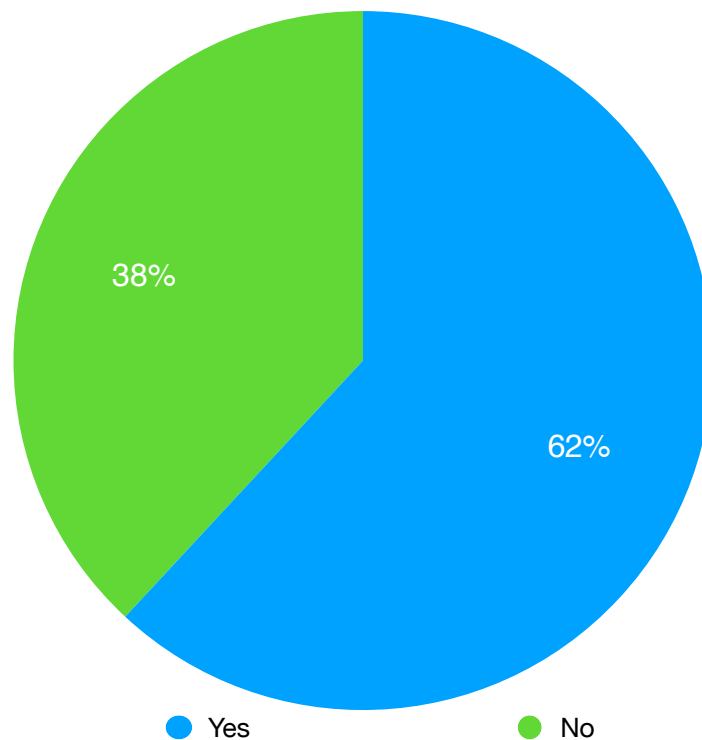
Students answer	Has virtual leaning affected students?	Did you learn fast how to use Moodle?
Yes	15	13
No	6	8

Figure 1 The impact of virtual learning on students



In Figure 1 it can be observed that 71% of the students consider that the virtual learning affected them whilst 29% said it did not. According to Chism and Pickford (2013) VLE can create space during a specific time over the preferred location of the students when they want to complete a task and help them to achieve their goals and also a way of developing independent learning which has a very effective impact on learning and increasing students' knowledge and motivation. Therefore the primary data is in correlation with the secondary data which states that it influences their learning experiences as the the value of 71% can be identified as majority.

Figure 2 Students view of how fast was to learn to use Moodle



In Figure 2 it can be observed that 62% consider they learned very fast to use Moodle which means that UWTSD Moodle has an easy to use interface. A value of 38% said that they could not learn very fast to use Moodle and this could have a negative value for UWTSD Moodle and the university should pay attention to this results and reevaluate their interface organisation.

Table 4 Students view on online learning influence in solving problems

Students answer	Does online learning help you to learn how to solve problems?
Yes	11
No	5
Not enough	1
Not particularly	1
Not yet	1
Not too much	2

Figure 3 Students view on online learning influence in solving problems

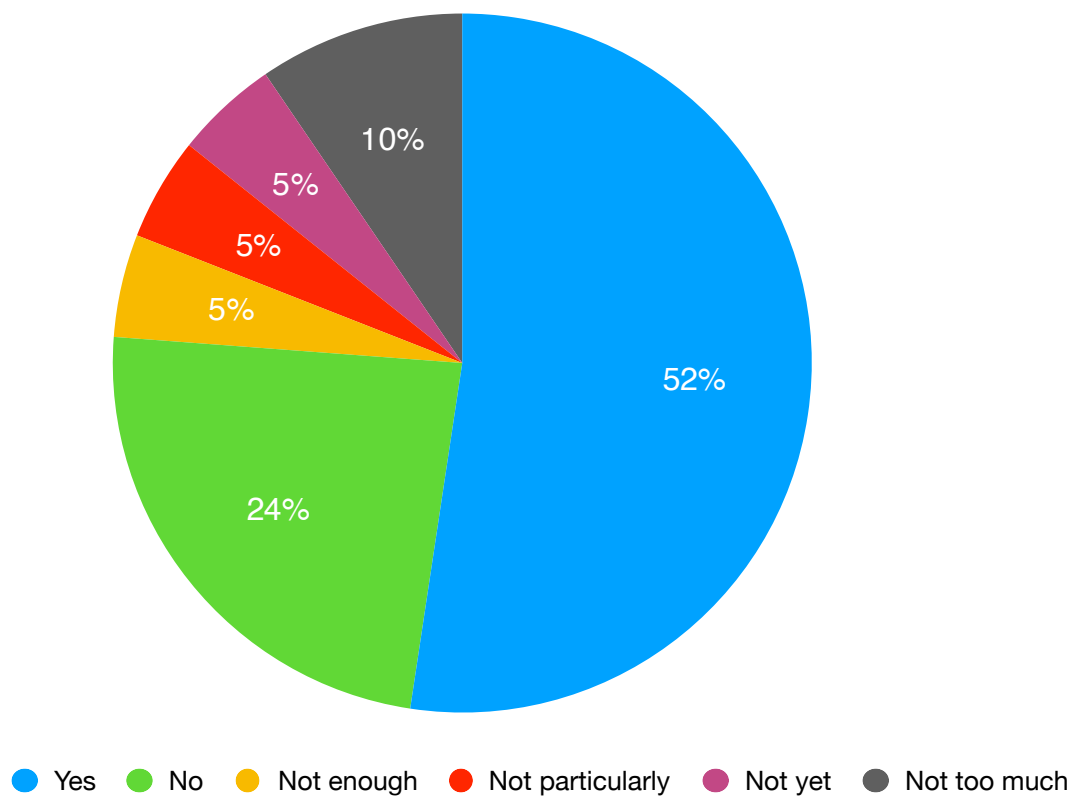


Figure 3 highlights that 52% consider that online learning help them to learn to solve problems whilst 24% consider that it did not help them. The other sections of the pie chart have 5% values and one has 10% value, but all of them represent negative answers and cumulated the findings tend to mean a more positive common view of 52% in contrast to 49% of negative answers.

Table 5 Devices used

Students answer	What device do you use for online learning?
Laptop	18
Desktop	0
Tablet	0
Smartphone	3

Figure 4 Devices used

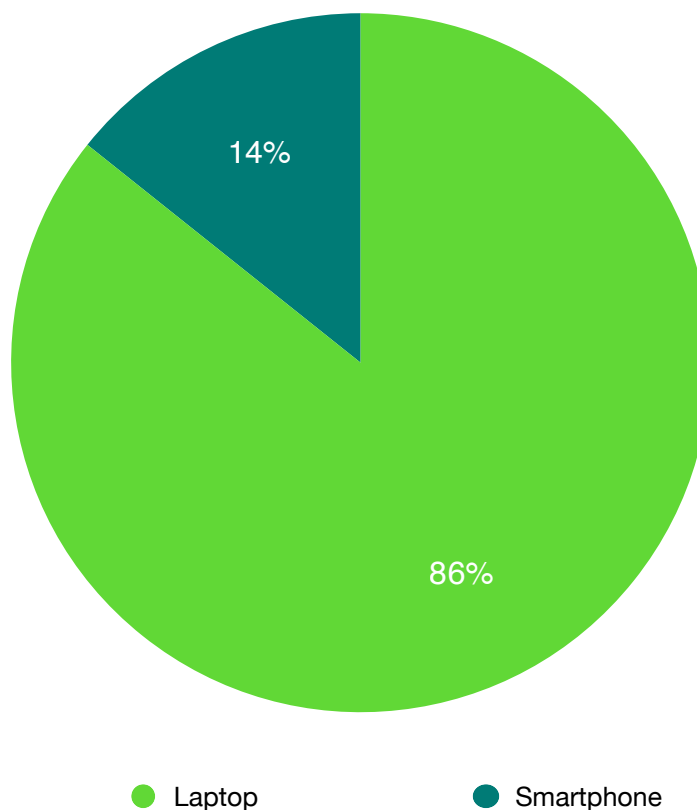
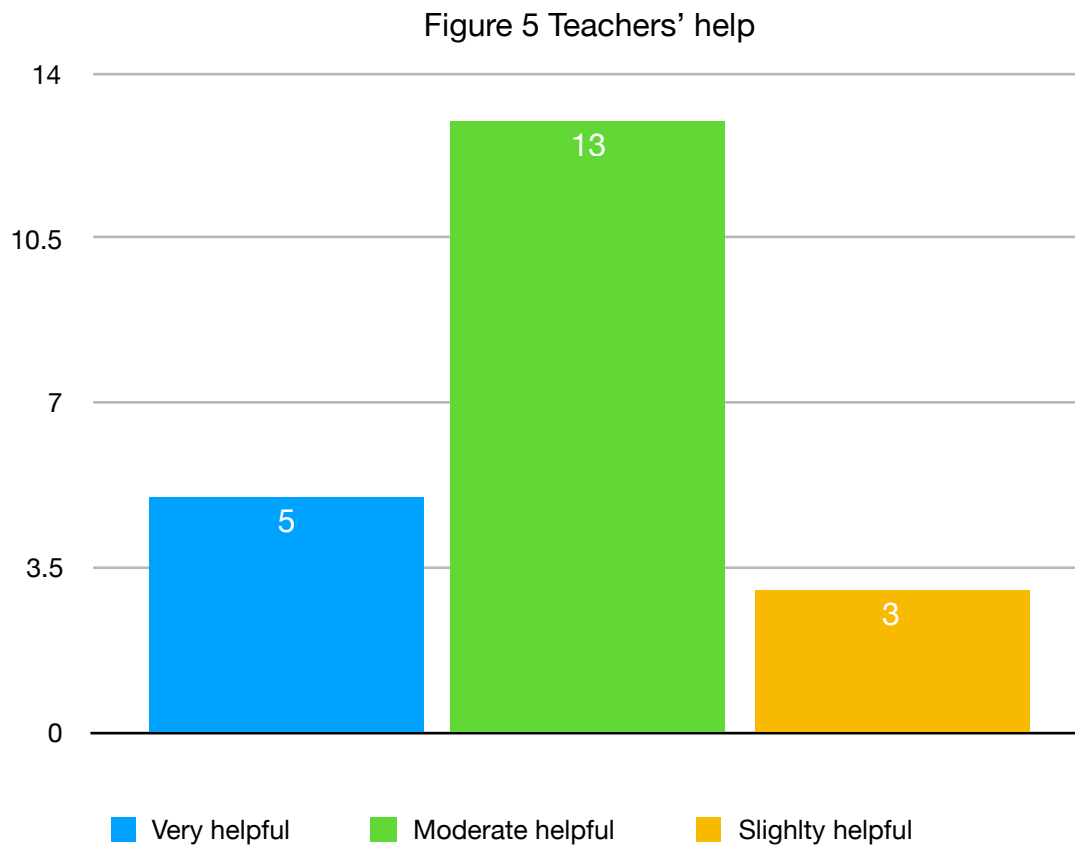


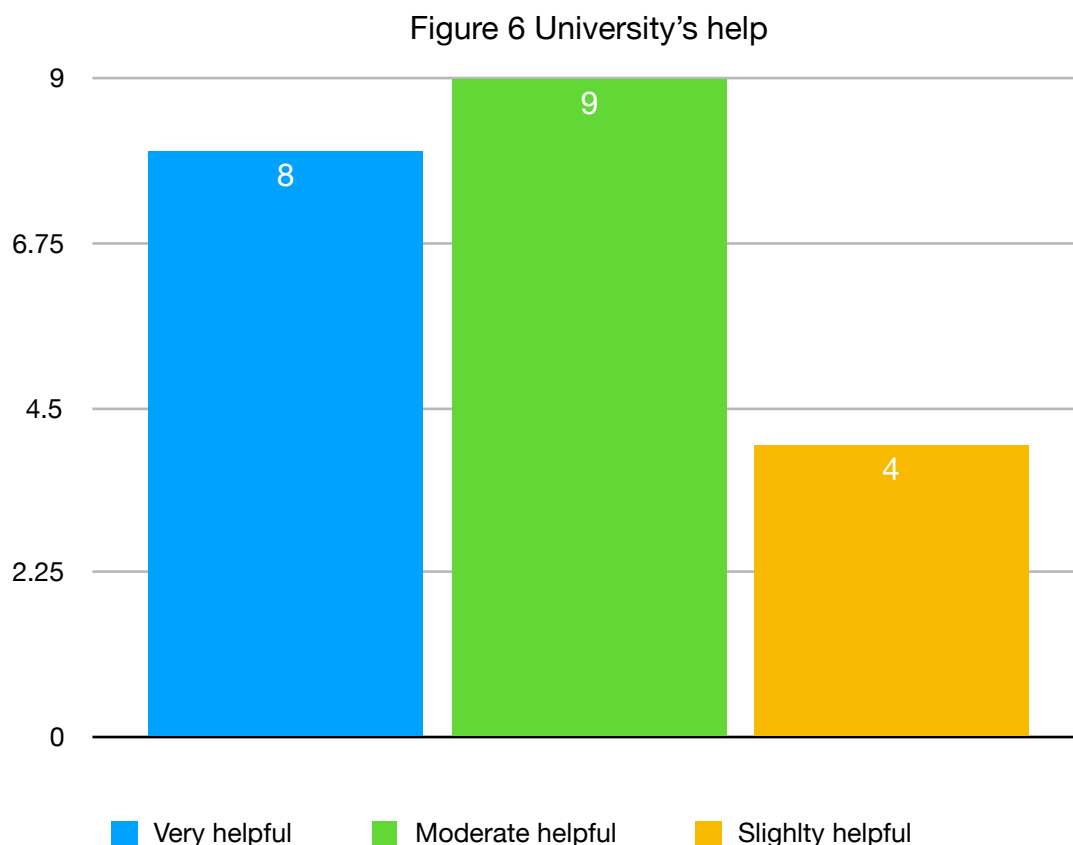
Figure 4 has only two segments and illustrates students preference for specific devices to use for their online learning. 86% use the laptop whilst 14% of the students use their smartphones. As identified in the literature review Moodle can be accessed on mobile phones, tablets and desktops to ensure easy access for the users.

Table 6 Provided help

Students answer	How helpful are your teachers while studying online?	How helpful has been your university offering you the resources to learn from home?
Very helpful	5	8
Moderate helpful	13	9
Slightly helpful	3	4
Not at all helpful	0	0



In figure 5 it can be observed that most students consider that they benefited of moderate help from their teacher whilst studying online, a smaller segment represented by blue collar considered that the teachers were very helpful. Only three students consider that the teachers were slightly helpful. Therefore the students acknowledge the teachers help and this findings are in correlation with the secondary data where it was identified that VLE is a way of consuming time and create a strong community among students, teachers and the overall process and increase engaging confidence for learning. To create a Virtual Learning Environment, the relationship between students and teachers, their interest in engaging and proper participation is very important (FIAIDHI, 2016).



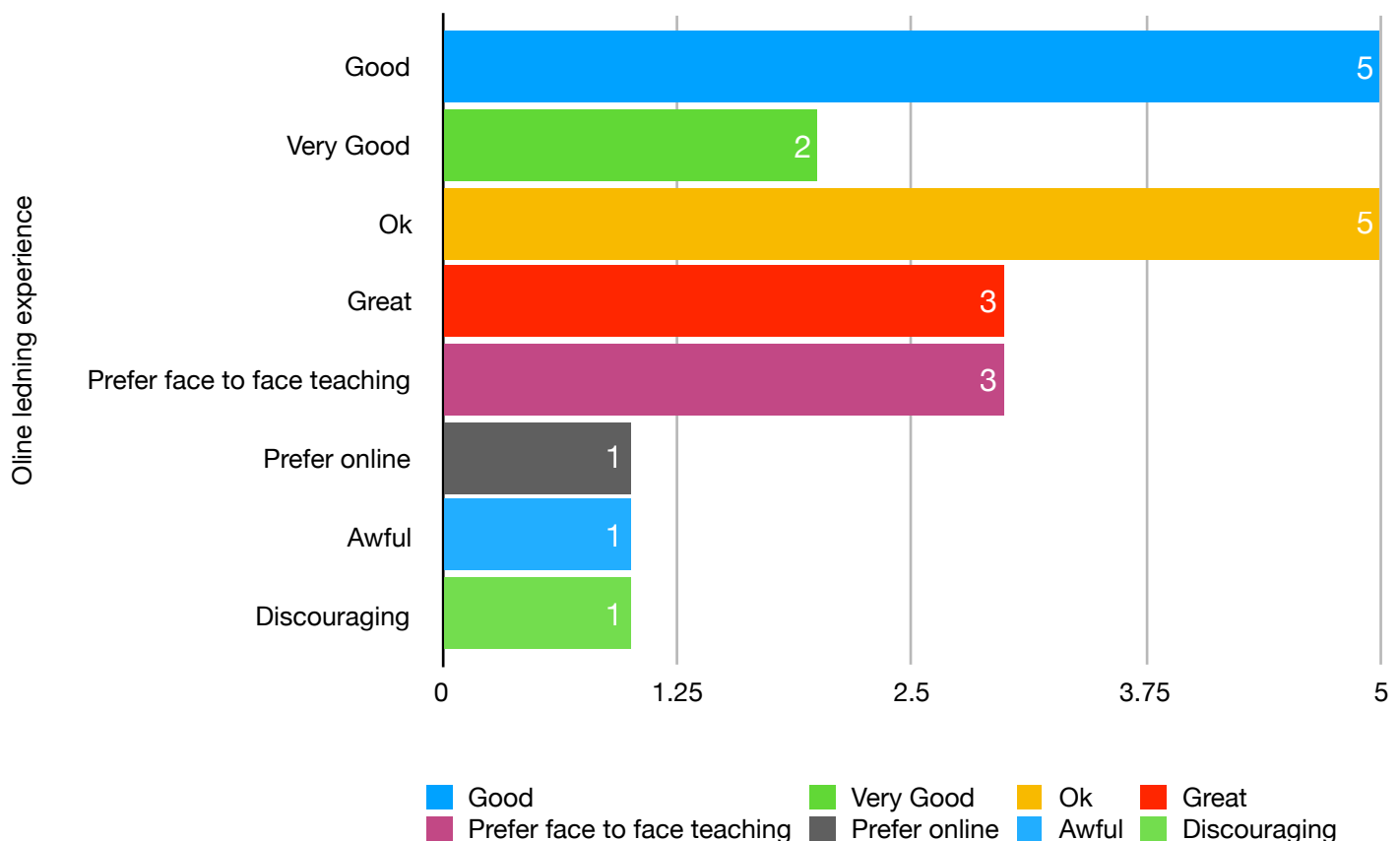
In figure 6 it can be observed that when asked if the university has been helpful in offering the resources to learn from home the majority of students selected the answer “Moderate helpful”, but very close to this findings was the “very helpful” segment which represents good feedback regarding university’s efforts to ensure best learning experience for their students whilst studying from home. According to Chou and Liu (2013) Through Virtual Learning Environment the students

can easily access technological materials during a time duration and from any place they can join and able to access through the connection of the Internet and this secondary data is in correlation with the findings from the primary data.

Table 7 Students online learning experience

Online learning experience short description	Students answers
Very good/ Better	2
Good	5
Ok	5
Prefer campus/classroom	3
Awful	1
Great	3
Discouraging	1
Prefer online	1

Figure 7 Students online learning experience

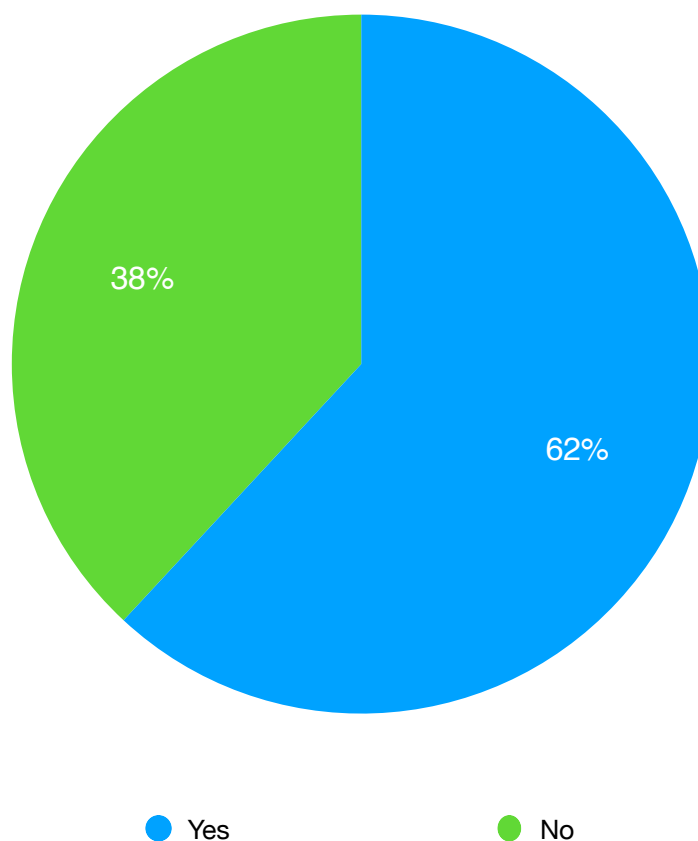


In figure 7 it can be observed that the longest segments in the bar chart represent positive feedback regarding students online learning experience with good, very good, ok and great descriptive words for their online learning experience. It can be observed that some of them prefer face to face teaching and that a very small number of students found the experience negative: awful and discouraging. The findings for this question are encouraging for the university with good feedback on creating a positive experience for their students. According to Jain (2014) VLE helps to build communication, collaboration through engaging the students in professional debating, enhancing Understanding ability, increasing knowledge, proper discussion ability that has an outstanding impact on the co-operative social networking system and this findings researched in the secondary data can be the reason of students considerations.

Table 8 Students' preference to learn online

Students answer	Do you like learning online?
Yes	13
No	8

Figure 8 Students' preference to learn online



In figure 8 it can be observed that 62% of the students like to learn online whilst 38% do not like it. When asked why, the students that selected “yes” had a common answers that it saves them time and cost of the travelling. The reasons for the students to select “no” answers said they prefer face to face learning and that online learning is confusing.

Table 9 Students’ view on distance education

Students answer	How do you feel about distance education?
Poor	4
Average	5
Good	10
Excellent	2

Figure 9 Students’ view on distance education

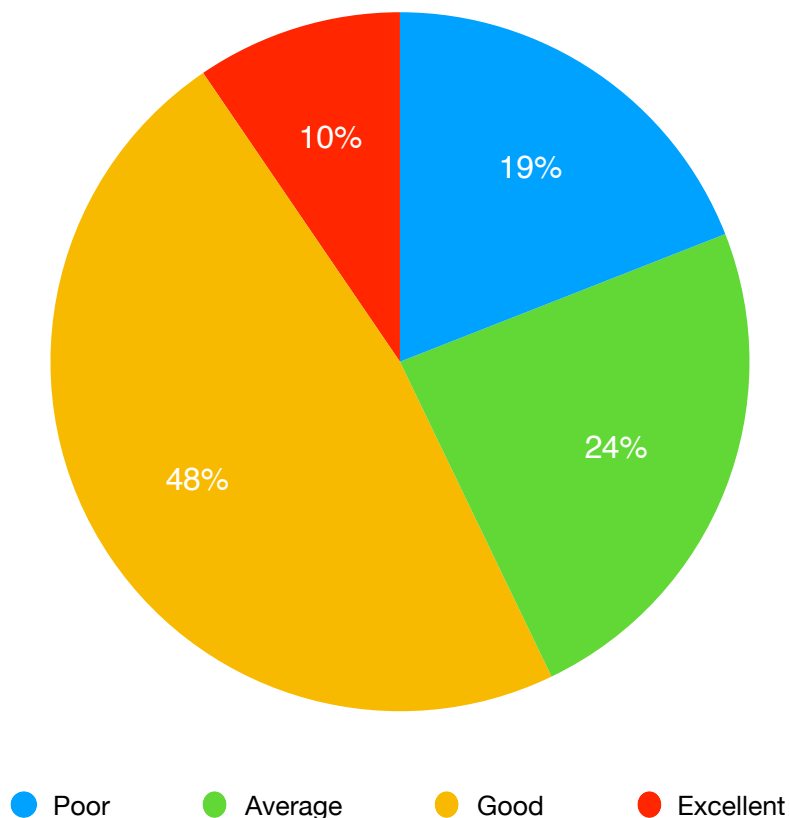
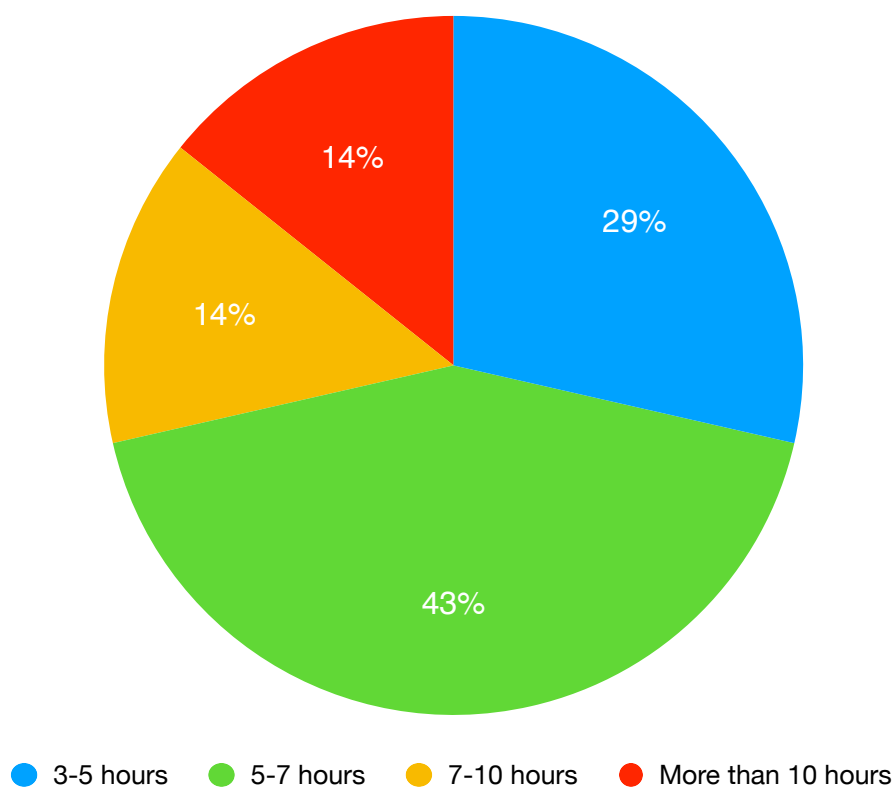


Figure 9 is a repeated question formulated differently to observe if students views are consistent. It can be observed similar values with previous questions, students placing their online learning experience as average and good with the highest value 24% and 48% and only 10% are super satisfied with this type of learning. A small percentage of 10% consider the experience poor.

Table 10 Number of hours spent on Moodle

Students answer	How much time do you spend on average on Moodle?
3-5 hours	6
5-7 hours	9
7-10 hours	3
More than 10 hours	3

Figure 10 Number of hours spent on Moodle



In figure 10 it can be observed that 43% of students spend 5 to 7 hours on Moodle which is highest section in the pie chart and can be considered that is the average of time that the students spend on Moodle. This is evaluated as a positive value and contributes to the positive perception of the UWTSD Moodle.

Conclusion and recommendations

In the world of technology, Virtual Learning Environment is the way of modern phenomena where the higher and secondary education program relates it frequently in the academic field (Chou and Liu, 2013). VLE is used all over the world in all universities and the technology is upgrading day by day to create effective and efficient learning. Virtual Learning Environment also influencing every sector of the society and the overall learning process is going under advanced technology.

This research report developed using the overall features using VLE and Moodle analysis. Also, the VLE primary research over learners shows a good result of the impact of VLE.

The overall data confirms that the Independent Learning opportunity will be developed through the Virtual Learning Environment (VLE). Based on the flexibility of the students VLE also enhance a strong motivation to learn, develop communication.

Also, from the findings from the questionnaire, some recommendations arise about VLE Moodle like the direct use of VLE should be increased and aspects such as Moodle interface should be reevaluated to make it more easy to use. Another recommendation is that the university provides more interactive content.

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Appendices

Questionnaire on the impact of Virtual Learning Environment: Moodle on students learning experience

1. Has virtual leaning affected students?

- ☐ **Yes**
- ☐ **No**

2. Did you learn fast how to use Moodle?

- ☐ **Yes**
- ☐ **No**

3. Does online learning help you to learn how to solve problems?

- ☐ **Yes**
- ☐ **No**
- ☐ **Not enough**
- ☐ **Not particularly**
- ☐ **Not yet**
- ☐ **Not too much**

4. What device do you use for online learning?

- ☐ **Laptop**
- ☐ **Desktop**
- ☐ **Tablet**
- ☐ **Smartphone**

5. How helpful are your teachers while studying online?

- ☐ **Very helpful**
- ☐ **Moderate helpful**
- ☐ **Slightly helpful**
- ☐ **Not at all helpful**

6. How helpful has been your university offering you the resources to learn from home?

- Very helpful
- Moderate helpful
- Slightly helpful
- Not at all helpful

7. Describe shortly your online learning experience until now. How do you see your future learning?

.....
.....

8. Do you like learning online? Why?

- Yes
- No

.....

9. How do you feel about distance education?

- Poor
- Average
- Good
- Excellent

10. How much time do you spend on average on Moodle?

- 3-5 hours
- 5-7 hours
- 7-10 hours
- More than 10 hours

Table 1 Primary data summarised

No.	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1	YES	YES	YES	LAPTOP	C	B	VERY GOOD	NO CONFUSING	E	7-10
2	YES	NO	YES	LAPTOP	B	B	OK	YES GOOD NOT TO TRAVEL	H	10+
3	YES	YES	YES	LAPTOP	B	A	GOOD EXPERIENCE	YES COST LESS	G	7-10
4	YES	YES	1	LAPTOP	B	A	GOOD	SAVES MONEY	H	5-7
5	YES	YES	YES	LAPTOP	B	A	GOOD	YES FLEXIBLE	G	3-5
6	YES	NO	NO	LAPTOP	B	A	AWFUL	NO	F	3-5
7	YES	YES	3	LAPTOP	B	B	OK	YES	G	5-7
8	YES	YES	2	LAPTOP	B	A	OK	NO PREFER FACE TO FACE LEARNING	G	5-7
9	YES	NO	NO	LAPTOP	B	B	GOOD	YES NO TRAVELING	G	5-7
10	YES	YES	YES	LAPTOP	A	A	OK	DON'T LIKE IT	E	10+
11	YES	YES	YES	LAPTOP	B	C	PREFER CAMPUS	YES FLEXIBLE	G	10+
12	YES	YES	YES	LAPTOP	B	C	GOOD	NO PREFER FACE TO FACE LEARNING	F	5-7
13	YES	YES	YES	LAPTOP	C	C	BETTER	NO TRANSPORT	F	3-5
14	NO	NO	NO	LAPTOP	C	C	PREFER CLASROOM	YES	E	3-5
15	NO	YES	NO	LAPTOP	A	B	PREFERS ONLINE	YES SAVES TRANSPORT	G	5-7
16	NO	NO	4	SMART PHONE	B	B	PREFERS FACE TO FACE TEACHING	SAVES TRANSPORT AND COST	G	3-5
17	NO	YES	4	SMART PHONE	B	B	GREAT EXPERIENCE	YES	G	5-7
18	YES	NO	YES	LAPTOP	A	A	GREAT	YES	G	5-7
19	NO	YES	YES	LAPTOP	A	A	GREAT	SAVES TRAVELING	F	5-7

20	YES	NO	YES	LAPTOP	B	B	OK	NO	F	7-10
21	NO	NO	NO	SMART PHONE	A	B	Discouraging	DON'T LIKE IT	E	3-5

Abbreviations:

A- Very helpful
 B- Moderate helpful
 C- Slightly helpful
 D- Not at all helpful
 E- Poor
 F- Average
 G- Good
 H- Excellent

1-Not enough
 2- Not particularly
 3- Not yet
 4- Not too much