

University of Wales Trinity Saint David

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

The advancements in the communication technologies are being used in many new areas such as the educational systems. It is used to deliver learning to a widespread student population. The efficiency of the new systems are related to reducing costs and increasing learning flexibility.

This research is an investigation of the impact of Virtual Learning Environment Moodle on students learning experience at the University of Wales Trinity Saint David.

The research title is "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 establish what is the Virtual Learning Environment and its attributes
2. To identify what Moodle is and how it operates
3. To investigate the impact of Moodle on students learning experience

The research questions are:

1. What is the Virtual Learning Environment and which are its attributes?
2. What is Moodle and how it operates?
3. What is the impact of Moodle on students learning experience?

Literature Review

The rise of the internet utilisation and multimedia tools towards education determined the creation of the educational environment: Virtual Learning Environment (VLE). The VLE allows the realisation of the learning process without a strict schedule and physical location. The course content that can be found on the VLE is not different than through the traditional teaching methods as all the lectures and study material can be retrieve by all students. This is an advantage of this system because allows students to access it at their own convenience and needs (Pakala, 1997).

One of the objectives of the Virtual Learning Environment is to contribute towards the rise of education for the vast population “education for all” as it makes the educational process more accessible (Kumar et al, 1996).

When designing a VLE module it can have different aims and functions such as: to be used for admissions department, creating the possibility for students to register to courses, to address queries, to receive confirmations, descriptions; to be used for teaching and coursework, to realise interactive lectures; to be used for students testing and assignments; to be used for teacher student communication and students communication (Research Gate, 2020).

Moodle is the most popular VLE, it is free and it is used for different types o learning. VLE Moodle is used in the higher education by many colleges and universities. Moodle is the acronym Modular Object-Oriented Dynamic Learning Environment and is defined as the online platform designed to provide learning environments for students. One of the most important feature is that it can be customised according to lecturers and students needs. Through Moodle the lecturers share the teaching materials, manage the content, give the students tasks and assignments, provide feedback for their work, communicate. Students can communicate with fellow students, with the lecturers, with the administration support, they can access the class calendar, take quizzes and answer questionnaires, access videos, they can submit assignments and receive grades in a secure online environment (Tech Term, 2020).

It is the administration and teachers choice how they use Moodle, for what purposes as it uses a modular designed which can be modified as requested. It can be used on mobile phones through Moodle application, on laptops through Moodle Desktop application or through web interface (Ellsworth, 1994).

Research Methodology

The research topic is the impact of the Virtual Learning Environment: Moodle on students learning experience at the University of Wales Trinity Saint David. For this purpose it will be conducted primary data research along with secondary data research from the literature review (Saunders et al, 2009).

Sampling are the techniques used to make a selection of a group of members or subset of population for statistical research. The sampling is used to select representatives that estimates the characteristics of the whole members or population. Types of sampling can be probability sampling and non-probability sampling. The probability sample is realised randomly where the bias is very reduced or non-existing which gives more accuracy and the non-probability sample is non-randomly and depends on the researcher capabilities which often does not represent the entire target population (QuestionPro, 2020).

This investigation will use non-probability sampling, using a non-randomly selection to obtain a convenience sampling because the researcher aims to select a specific group of students from the Cert HE Skills for the Workplace course. It is used this method of sampling also because of limited resources related to time and cost and it is realised on proximity.

The primary data research aims to achieve the research objectives. The method used for data collection is the questionnaire to investigate students feedback on the VLE Moodle and how it influences their learning experiences. The sample is selected from students enrolled at the University of Wales Trinity Saint David for the Cert HE Skills for the Workplace course. The class has 25 students and the questionnaire is sent through email to all of them.

The questionnaire has 10 questions that are constructed in relation with the secondary data. The questionnaire has a few opening questions “What is your level of knowledge regarding the term Virtual Learning Environment (VLE)?” with two questions that have a yes/no answer: “Are you using VLE Moodle as a student at UWTSD?”, “Do you consider UWTSD Moodle has an easy to use interface?”. The fourth question “How much time per week do you allocate studying using VLE Moodle as a student at UWTSD?” intends to identify the level of student engagement. The next questions refer to the content of Moodle and use likert scale answers “How do you find the experience of accessing your learning materials using Moodle?”, “How do you find the learning experience using Moodle?”, “Do you consider that Moodle improves your learning?”. The closing question refers to students future prospects in relation to their learning aims “How important is for you to obtain a University degree?” and question 9 and 10 intends to profile the participant students by asking their gender and age.

Primary data analysis

The primary data collected using the questionnaire as method of research had 16 respondents out of 25 initial sample size. The respondents replied with their answers to the email sent by the researcher in which was attached the questionnaire. A copy of the questionnaire can be found in Appendix 1. A record of data collected is illustrated in Table I in Appendix 2.

Table 1 Rate of response

Number of questionnaires sent	Number of answers received	Rate of response
25	16	16
		64%

Table 1 above represents the rate of response for the primary data research for this investigation. The rate of response represents 64% which is more than half and can be considered relevant.

Table 2 Levels of knowledge of the Virtual Learning Environment term

What is your level of knowledge regarding the term Virtual Learning Environment?	Respondents
I do not know the term	0
I know the term but I do not know exactly what it means	1
I have a basic knowledge of the concept	6
I am familiar with the concept	7
I am well versed over in the concept	2

Figure 1 Knowledge on VLE

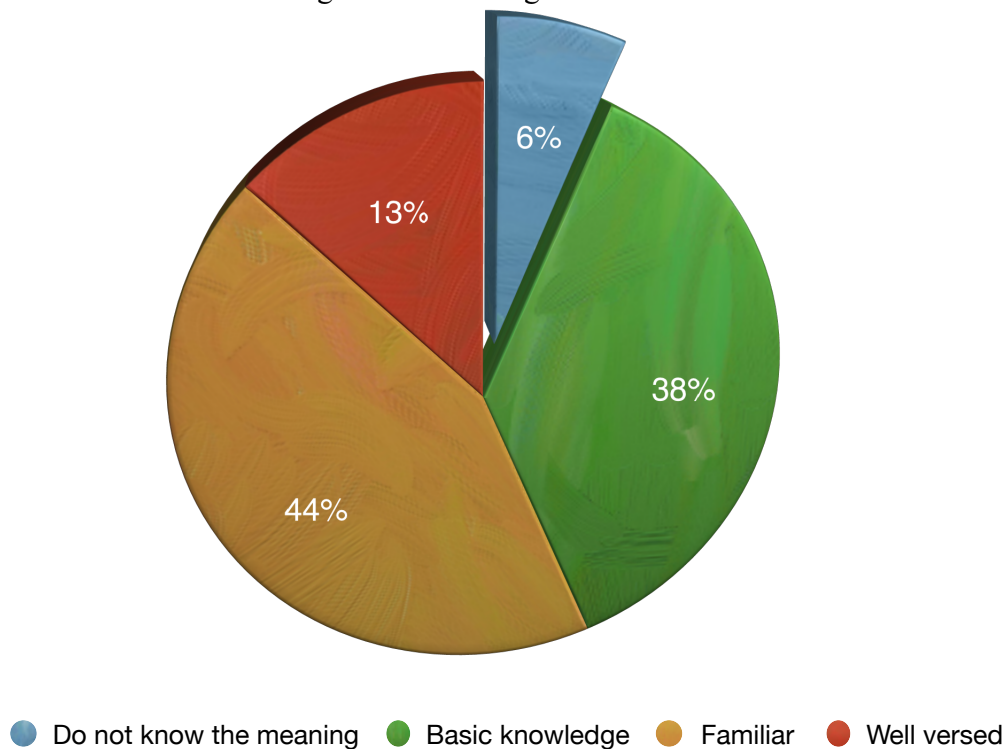


Figure 1 illustrates the values for the levels of knowledge of the term Virtual Learning Environment (VLE) which identified that 38% have basic knowledge, 44% are familiar with the concept and 13% are well versed with the concept. The total sum of 94% means that the respondents know what VLE is and what functions is supposed to have and that gives validity to the collected data as respondents have some knowledge on the them of the questionnaire. Only 6% know the term but do not know the meaning.

Table 3 VLE Moodle usage

Answers	Are you using VLE Moodle as a student at UWTSD?	Do you consider UWTSD Moodle has an easy to use interface?
Yes	16	14
No	0	2

Figure 2 Moodle usage

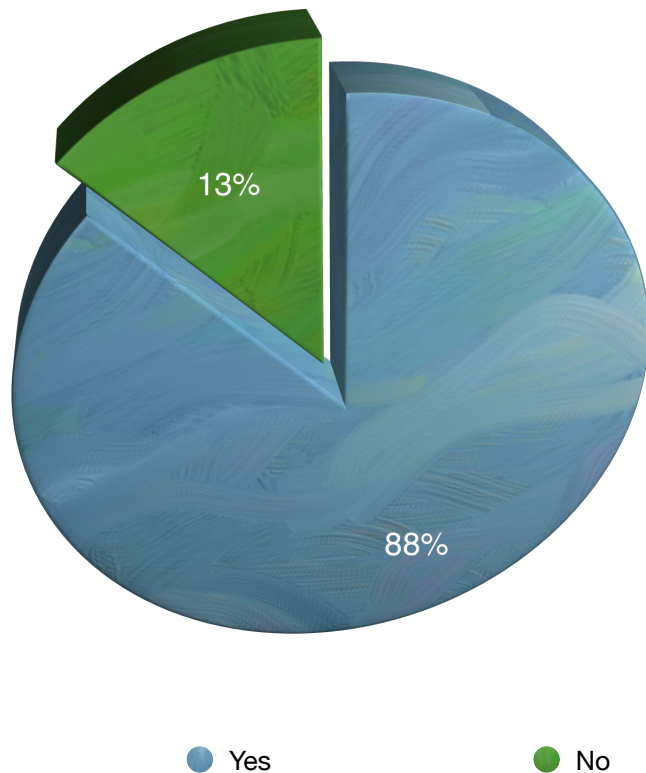


Figure 2 Moodle usage shows that 88% of respondents consider that UWTSD Moodle is easy to use, whilst 13% consider that is not easy. This findings represent students perception over UWTSD Moodle interface who evaluated the design as easy to use and that should ensure a positive experience for them. A segment of 13% do not consider that it is easy to use and although is a small percentage value, in relation to the size of the sample it should require further investigation. As identified in the secondary data it is the administration and teachers choice how they use Moodle, for what purposes as it uses a modular designed which can be modified as requested (Ellsworth, 1994). That is why The University of Wales Trinity Saint David is the decision maker with regards to how the Moodle is presented.

Table 4 Time allocation for studying using Moodle

How much time per week do you allocate studying using VLE Moodle as a student at UWTSD?	Respondents
0 -10 hours	13
11- 15 hours	3
16 - 20 hours	0
21 hours or more	0

Figure 3 Hours spent on Moodle per week

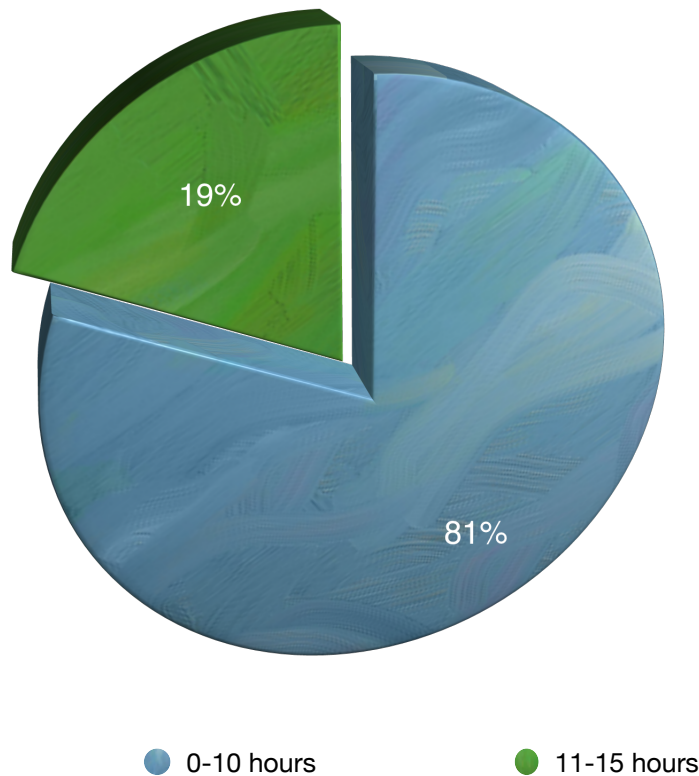


Figure 3 above shows that 81% of the respondents spend between 0 and 10 hours per week and only 19% spend between 11 and 15 hours per week. The relative small number of hours spent in a week on Moodle can be related to the type of the course which is Cert HE Skills for the Workplace course. Considering that the interval of 0-10 hours per week involves a big segment it can be seen as positive if the respondents considered the higher values of the time interval and if the student considered a lower number of hours 1 to 3, then the university should get involved in making sure the Moodle is more interactive.

Table 5 Learning materials using Moodle

How do you find the experience of accessing your learning materials using Moodle?	Respondents
Not at all satisfactory	0
Not satisfactory	0
Neutral	5
Satisfactory	11
Very satisfactory	0

Figure 4 Accessing the learning materials using Moodle

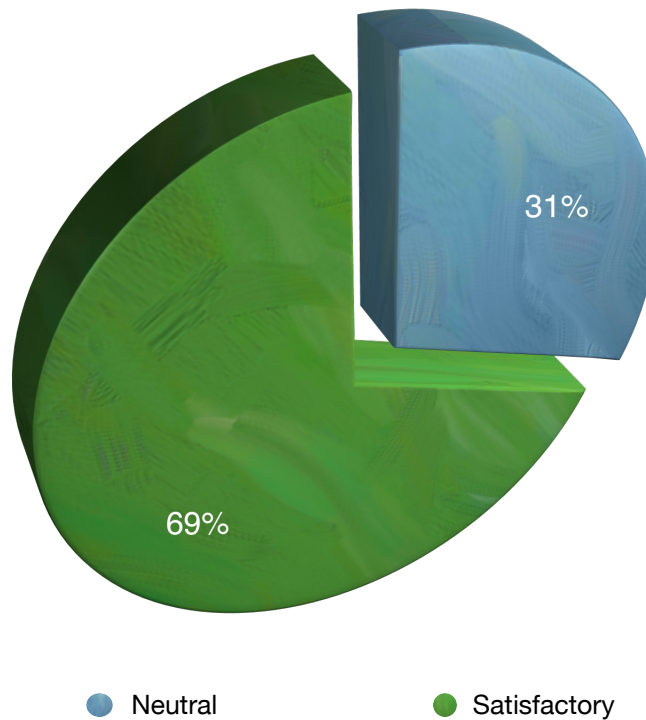


Figure 4 above represents the findings for one of the key questions from the questionnaire. The 69% of the respondents find the experience of accessing their learning materials using Moodle satisfactory and 31% chose to remain neutral. In the evaluation of this findings it can be identified that students are satisfied with this system because it allows students to access it at their own convenience and needs (Pakala, 1997). It means that students needs are fulfilled at satisfactory levels. Although the neutral segment is quite large it can not be assessed to be positive or negative feedback.

Table 6 The learning experience using Moodle

How do you find the learning experience using Moodle?	Respondents
Very poor	0
Poor	1
Neutral	3
Efficient	12
Very efficient	0

Figure 5 Learning experience using Moodle

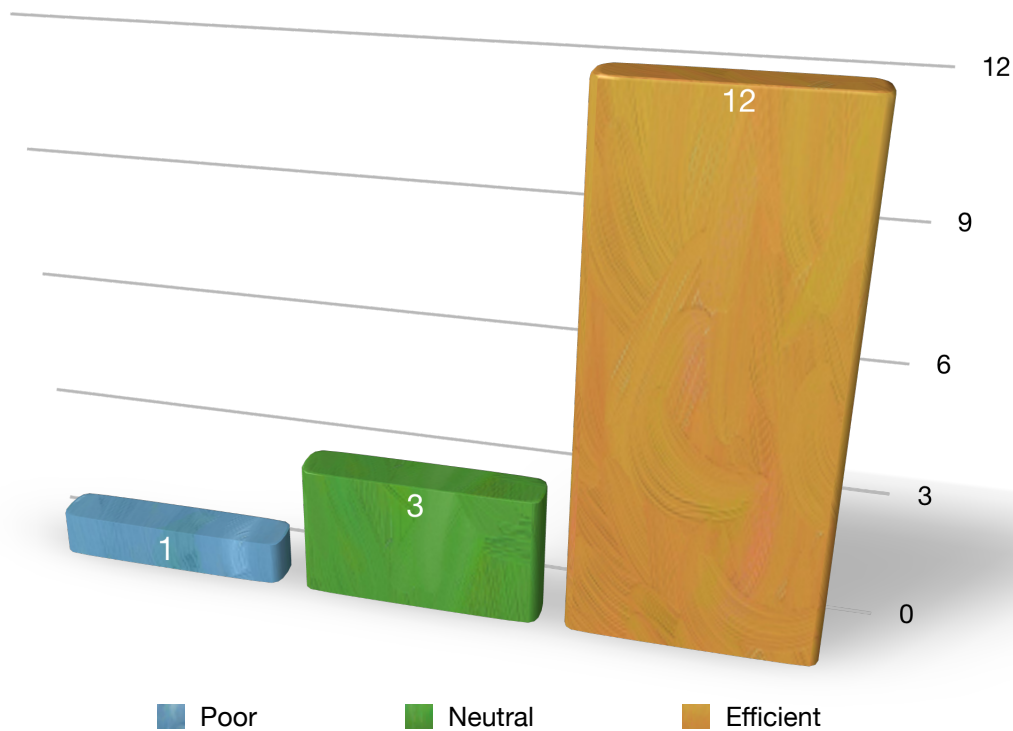


Figure 5 above represents the findings for another of the key question from the questionnaire regarding students feedback of the impact of Moodle on their learning experience. A very prominent segment in the figure marked with yellow colour represents the number of students that consider it Moodle very efficient. Through Moodle students can communicate with fellow students, with the lecturers, with the administration support, they can access the class calendar, take quizzes and answer questionnaires, access videos, they can submit assignments and receive grades in a secure online environment and this functions enriched their experience and makes it efficient.

Table 7 Students view on Moodle's input on their learning

Do you consider that Moodle improves your learning?	Respondents
Strongly disagree	0
Disagree	0
Neutral	6
Agree	10
Strongly agree	0

Figure 6 Students view on Moodle positive input on their learning

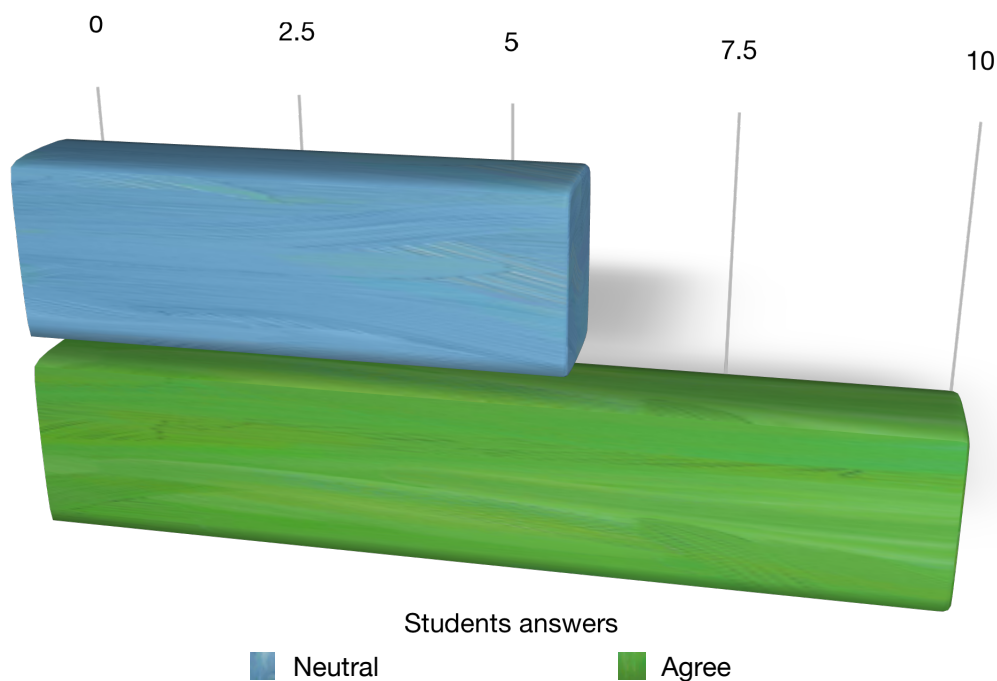


Figure 6 above has two distinctive segments related to students view on Moodle positive input on their learning. Majority of the respondents agrees that Moodle improves their learning experience, whilst other chose to remain neutral. It was no negative feedback in the findings, which for this key question represents that the impact of Moodle on the learning experience can be considered positive. As researched in the secondary data through Moodle the lecturers share the teaching materials, manage the content, give the students tasks and assignments, provide feedback for their work, communicate and this functions contribute greatly to the learning experience (Tech Term, 2020).

Table 8 Importance of a University Degree

How important is for you to obtain a University degree?	Respondents
Not important	0
Not so important	0
Neutral	0
Important	5
Very important	11

Figure 7 Importance of obtaining a University Degree

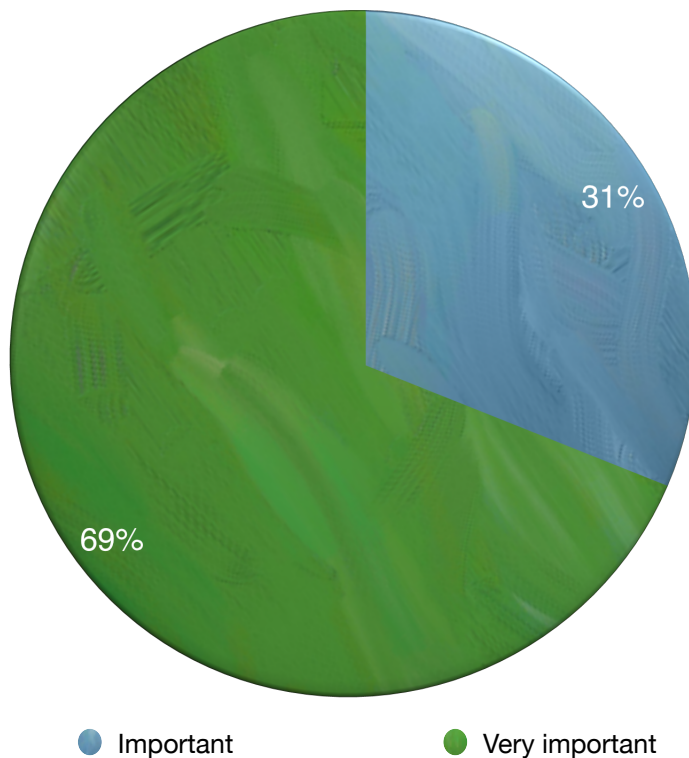


Figure 7 above identifies students future prospects regarding their learning aims and has only two sections that both represents positive findings. This means that the Cert HE Skills for the Workplace students from the University of Wales Trinity Saint David are highly motivated to continue their studies, as a value of 100% stated that is important and very important to obtain a Degree.

Table 9 Age and gender

Gender	Under 18	18-25	26-30	31-40	41-50	51-60 (or more)
Female	0	4	2	1	2	0
Male	0	1	3	2	1	0

Figure 8 Age and gender

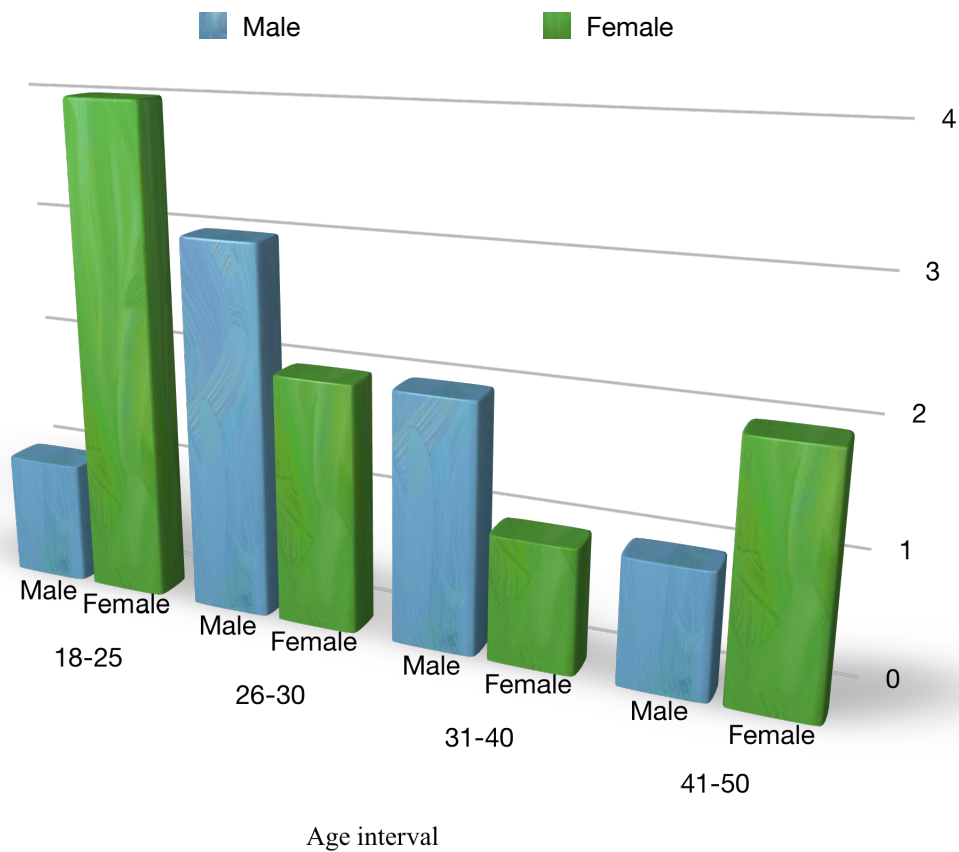


Figure 8 above illustrates a variety of age intervals with respondents under 20 years old to above 40 years old. According to Kumar et al (1996) one of the objectives of the Virtual Learning Environment is to contribute towards the rise of education for the vast population “education for all” as it makes the educational process more accessible and the variety of students can be an indicative for achieving the objective.

Conclusions and recommendations

In conclusion Moodle influences positively the learning experience as identified through secondary data and primary data research. It is considered that the investigation achieved its research objectives through data research using secondary and primary data.

The findings from the primary data research highlighted positives activity of University of Wales Trinity Saint David Moodle.

The students gave positive feedback, but the findings did not identified maximum levels of satisfaction and efficiency and if the university wants to excel with their Moodle they need to make improvements according to students needs.

That is why further research is recommended as many students chose to remain neutral which is not know if could influence negatively or positively their feedback.

References

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Appendix 1

Questionnaire: The impact of Virtual Learning Environment- Moodle on students learning experience at the University of Wales Trinity Saint David (UWTSD)

1. What is your level of knowledge regarding the term Virtual Learning Environment (VLE)?
 - I do not know the term
 - I know the term but I do not know exactly what it means
 - I have a basic knowledge of the concept
 - I am familiar with the concept
 - I am well versed over in the concept
2. Are you using VLE Moodle as a student at UWTSD?
 - Yes
 - No
3. Do you consider UWTSD Moodle has an easy to use interface?
 - Yes
 - No
4. How much time per week do you allocate studying using VLE Moodle as a student at UWTSD?
 - 0-10 hours
 - 11-15 hours
 - 16- 20 hours
 - 21 hours or more
5. How do you find the experience of accessing your learning materials using Moodle?
 - Not at all satisfactory
 - Not satisfactory
 - Neutral
 - Satisfactory
 - Very satisfactory
6. How do you find the learning experience using Moodle?
 - Very poor
 - Poor
 - Neutral
 - Efficient
 - Very efficient
7. Do you consider that Moodle improves your learning?
 - Strongly disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
8. How important is for you to obtain a University degree?
 - Not important
 - Not so important
 - Neutral
 - Important
 - Very important

9. What is your gender?

1. Male

2. Female

10. What is your age?

Under 18

18-25

26-30

31-40

41-50

51-60 (or more)

Thank you for completing the questionnaire.

Appendix 2

Questions Students	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10
1	C	YES	NO	0-10	H	H	H	U	Female	41-50
2	E	YES	YES	0-10	I	M	H	V	Male	41-50
3	D	YES	YES	0-10	H	M	Q	V	Female	18-25
4	C	YES	YES	0-10	I	M	Q	V	Male	18-25
5	D	YES	YES	0-10	I	M	H	V	Female	18-25
6	D	YES	YES	0-10	I	M	Q	V	Female	18-25
7	C	YES	YES	0-10	I	M	Q	U	Female	18-25
8	D	YES	YES	11-15	I	M	Q	V	Female	41-50
9	C	YES	YES	0-10	I	M	Q	V	Male	31-40
10	C	YES	YES	0-10	I	M	Q	V	Male	26-30
11	D	YES	YES	0-10	I	M	Q	V	Male	26-30
12	C	YES	YES	0-10	H	H	H	U	Female	31-40
13	D	YES	YES	11-15	I	M	Q	V	Female	26-30
14	B	YES	NO	0-10	H	L	H	U	Male	31-40
15	E	YES	YES	0-10	H	H	H	U	Male	26-30
16	D	YES	YES	11-15	I	M	Q	V	Female	26-30

A- do not know the term
 B- know the term but do not know the meaning
 C- basic knowledge
 D- familiar
 E- well versed
 F- not at all satisfactory
 G- not satisfactory
 H- neutral
 I- satisfactory
 J- very satisfactory
 K- very poor
 L- poor
 M- efficient
 N- very efficient
 O- strongly disagree
 P- disagree
 Q- agree
 R- strongly agree
 S- not important
 T- not so important
 U- important
 V- very important