

DIGITAL SKILLS AND RESEARCH METHODS

**DSR ASSESSMENT 2: Impact of Moodle on Students' Learning Experience at the
University of Wales Trinity Saint David**

Module code: BMSW4004

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Word count : 2102



1.0. Abstract

Virtuality is increasingly attracting the attention of e-learning professionals. For more than ten years, virtual learning has been successfully used in organisations and educational institutions. The educational institutions create VLEs using various open-source sites, for example, Moodle and Google Classroom. Moodle offers a comprehensive learning management system, courses and training development, grades, or study paths. Moodle-based learning adds value to students' learning experiences, even if they have previously been involved in education. This research aims to explore the influence of VLE-Moodle among UWTSD students. In previous studies, the notion about online education system was highlighted in terms of handling enormous number of students. However, this research focuses on the efficacy of Moodle and its acceptance among the students of UWTSD. This research is based on a combination of two research methodologies, the quantitative research was conducted through questionnaire survey, whereas the qualitative data was collected through open ended questions. It was observed that VLE plays an important role in education today. Some students believed that library is the most useful section, lectures are always available, can access email, library, and service desk through Moodle. Most of the students were likely to recommend Moodle to their friends and acquaintances. Moodle is well received and positively influenced by UWTSD students. In the current epidemic, Moodle plays a key role in classrooms and series of tests.

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Impact of Moodle on Students' Learning Experience at the University of Wales Trinity Saint David

2.0. Introduction

The Virtual Learning Environment (VLE) is a tool for universities' integrated online environments where students can register, enrol, and access their courses. For the trainees, a VLE has been created in which face-to-face meetings are recreated, and various tools for joint activities are provided (Ahmad and Al-Khanjari 2011). Learning portals have been created for informal and subject-specific learning. However, the recent outbreak of COVID-19 has prompted companies, including businesses and academia, to implement VLEs that can continue to teach or be taught even when locked (Pererva et al. 2020). Although it has recently become popular and well-known, many schools or other educational institutions have introduced VLE software before the epidemic (Carlotta Olivetti et al. 2020, Torres Martín et al. 2021). In addition to the training environment, many large companies have developed their VLEs to train and retrain new employees.

The educational institutions create VLEs using various open-source sites, for example, Moodle and Google Classroom (Bogusevski et al. 2020). Moodle offers a comprehensive learning management system, courses and training development, grades, or study paths. Moodle-based learning adds value to students' learning experiences, even if they have previously been involved in education. This research aims to explore the influence of VLE-Moodle among UWTSD students. In previous studies, the notion about the online education system was highlighted in handling an enormous number of students. However, this research focuses on the efficacy of Moodle and its acceptance among the students of UWTSD. The main objectives of this research are as follows:

1. Develop better digital skills based on VLE in students
2. Improve the productivity level of UWTSD students in the learning environment.
3. Suggest ideas for overcoming many obstacles in your future virtual curriculum.

3.0. Literature Review

According to Filippidi et al. (2010), informatisation of the educational process at a particular stage leads to the emergence of a new phenomenon; a virtual learning environment as a set of technologies, educational and information resources, and data structures that form a functionally complete system designed to provide all possible forms of user activity (teacher and student) in the learning process. This environment is the carrier of Meta technology and

organisational forms of the educational process. Implementing the principles of consciousness, activity, and independence in learning is one of the essential tasks of modernising the education system (Chui et al. 2020; Corvalán et al. 2020). Its solution is facilitated by the accumulated potential of modern information and communication technologies.

Rungrangtanapol and Khlaisang (2021) emphasised that the e-learning model has been proposed to develop online education systems. Researchers believe that the company is responsible for making educational institutions more efficient to cope with the growing number of students and online courses and that users expect somewhat sophisticated services.

Furthermore, according to Cai et al. (2013) implementation and design of a VU Web-Based System are crucial to the current learning system. In this research article, the author illustrates the North China University of Technology's online virtual university lifestyle. This system helps better to understand the life and organisation of the university. They came up with a Life System framework that includes task management, internal signalling, computer support, player roaming, database management, and more.

Raheem and Khan (2020) noted that the government is taking the necessary steps to ensure students study at home and do not move during epidemics. The authorities recommend that the critical risk associated with the online environment be used in various learning institutions to prevent computer interference. This study explains the concept of e-learning and analyses the role of language in this type of education. The author also addressed the need for such learning during Govt-19 outbreaks. Attempts have been made to address the need for video and e-learning courses during epidemics. During the blackout period, the requirements for online classes can be met.

4.0. Research Method

4.1. Description of Methodology

The research method is a technique for the scientific solution of research problems. The way of scientific learning is understood as research science. It shows the different steps that scientists generally take in researching a research problem and its reason (Phoong et al. 2020). This research is based on two research methodologies, including qualitative and quantitative research methods.

Quantitative research is a type of primary research that examines facts by collecting computational data, including mathematics, statistics, or computational analysis. The quantitative research was conducted through a questionnaire survey. The research population included 12 students from UWTSD currently studying at the university. The questions were based on valuable resources on Moodle, recommendations regarding Moodle, its usage, support in studies, frequency of using Moodle, satisfaction about the virtual learning environment (Moodle) of UWTSD, and others.

On the other hand, the qualitative data were collected through open-ended questions. The questions inquired about the usefulness of Moodle, its assistance in the academic study, recommendations for Moodle, and the relevance of the information provided by Moodle.

4.2. Sampling Method

The sampling method indicates method of selecting research populations to make statistical decisions and assess population characteristics. This study examined 12 students from UWTSD.

4.3. Ethical Considerations

This research preserved the privacy and confidentiality of each participant. Moreover, the participants were allowed to skip any question they did not wish to answer or leave the study at any step. The research has not disclosed any name or personal information of the participants.

1. The full consent of the research was obtained.
2. All information is secure and should not be used for personal reasons.
3. Participants were not forcefully asked to respond.
4. The participants' identity was not published.

5.0. Results

5.1. Quantitative Analysis

The participants were asked if they found helpful resources on Moodle. All students responded with “yes” as they found the resources useful for their learning (Figure 1).

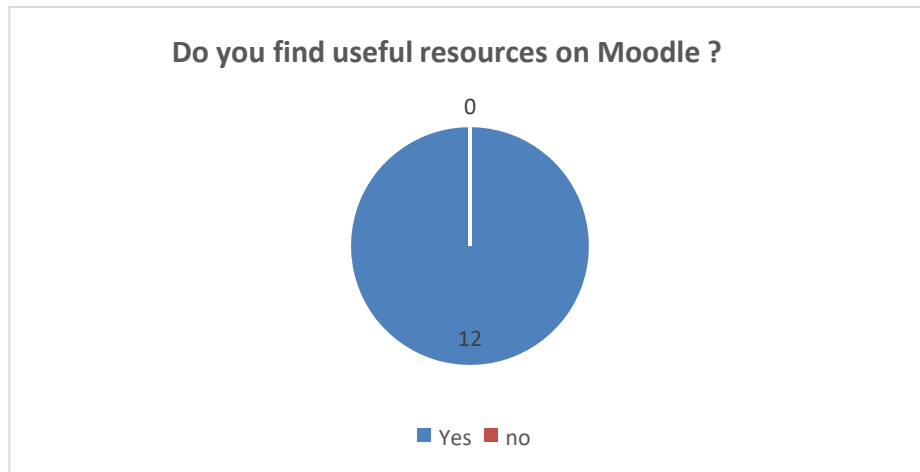


Figure 1: Useful resources on Moodle

Moreover, the students were also asked if they would recommend Moodle to other students from a different university if they did not know about it. All students responded that they would recommend Moodle to other students (Figure 2).

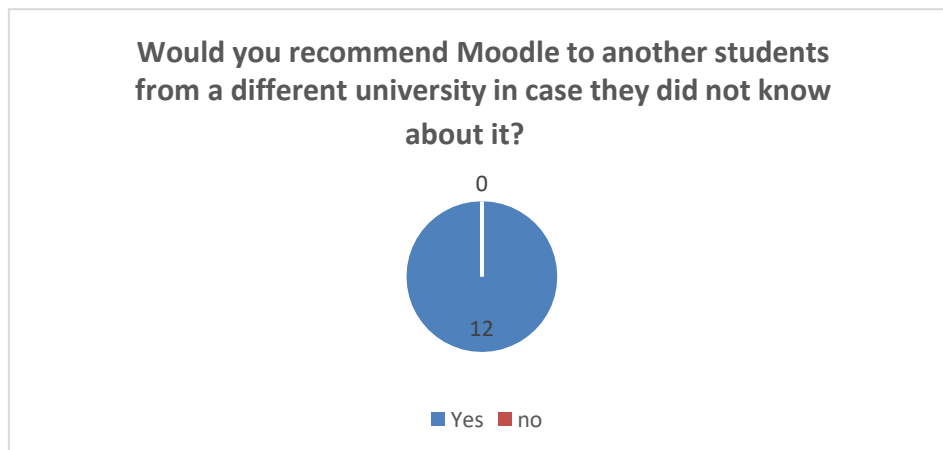


Figure 2: Recommendation of Moodle to other Students

In the third question, students responded to questions if they found Moodle hard during their learning. The majority of the students, i.e., 10 participants, indicated that Moodle is easy to use. However, two students indicated that it was hard to use Moodle (Figure 3).

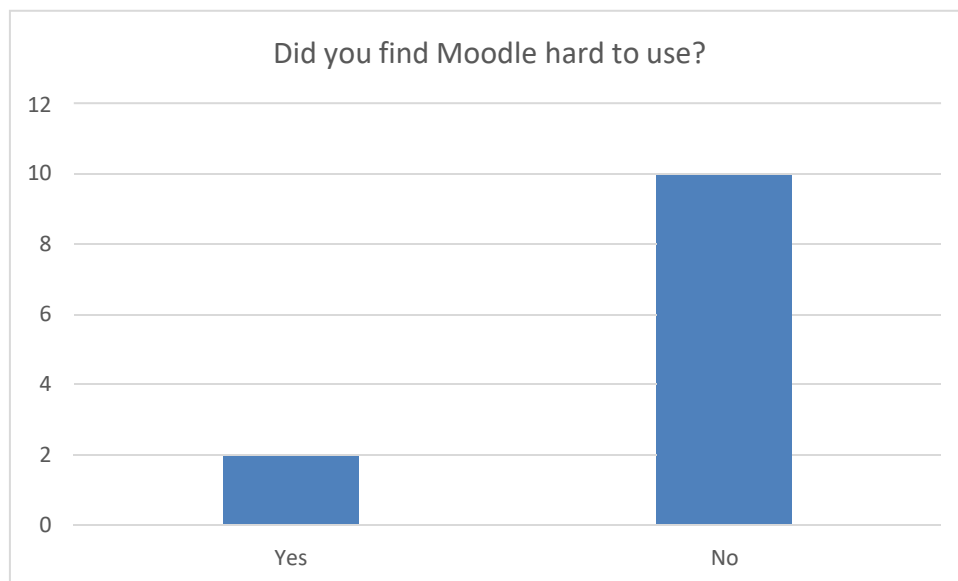


Figure 3: Moodle hard to use

The students were asked if they feel Moodle should provide more information and research points, such as PDFs, books, reports to support their studies.

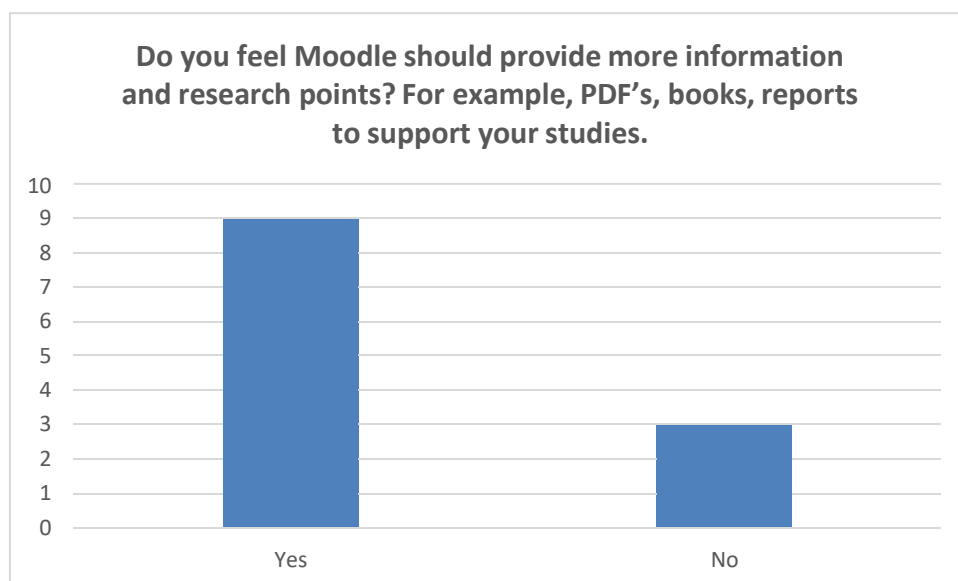


Figure 4: Moodle should provide more information and research points

Later, the students responded that Moodle was an interesting VLE to support their studies. All students (12) indicated that Moodle was an interesting VLE to support their studies (Figure 5).

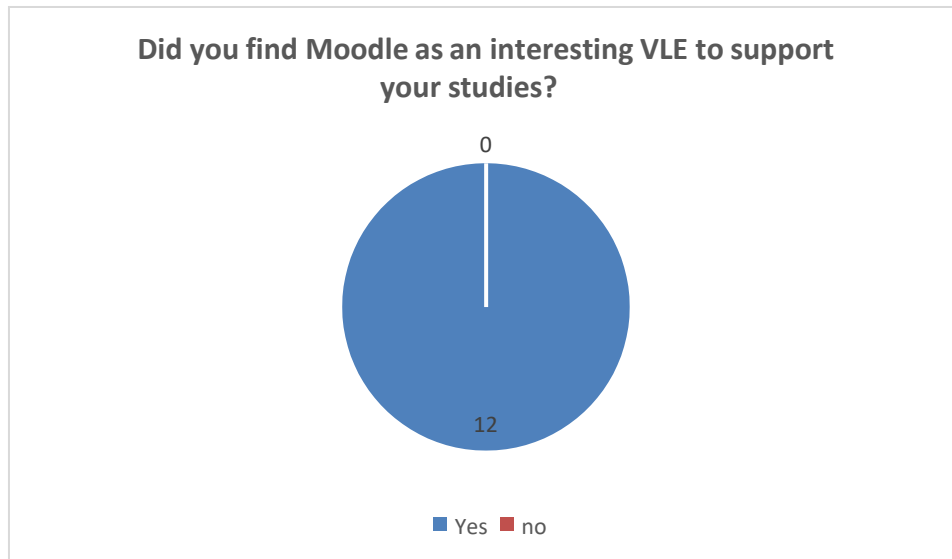


Figure 5: Moodle as an interesting VLE to support studies

Furthermore, students were inquired about the frequency of using Moodle. 5 students indicated that they use Moodle daily, whereas seven students mentioned that they use Moodle weekly.

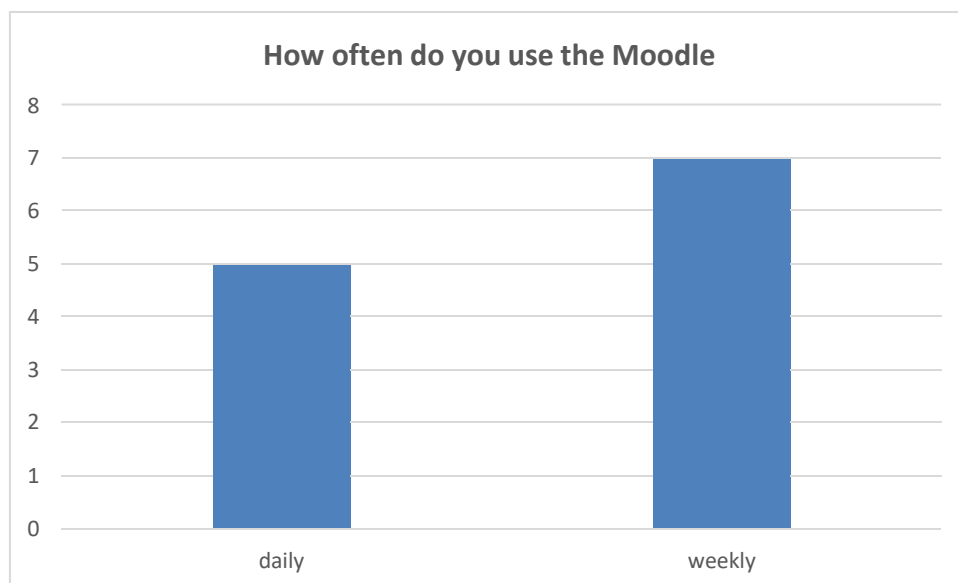


Figure 6: Frequency of using Moodle

In response to the question regarding their satisfaction with using this university's virtual learning environment (Moodle) (UWTSD). 7 out of 12 students indicated they were very satisfied with their university's VLE; three were somewhat satisfied, whereas two were neither satisfied nor dissatisfied (Figure 7).

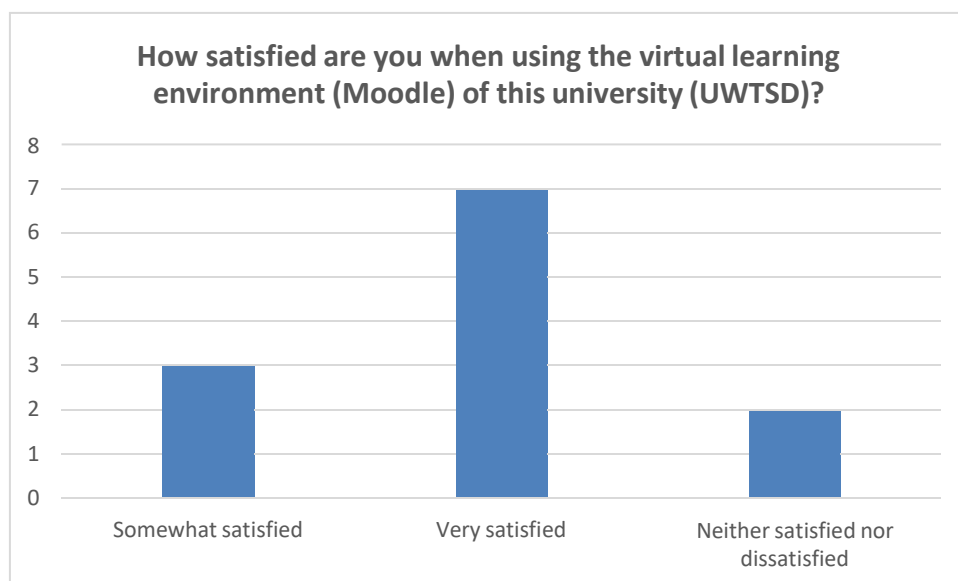


Figure 7: Satisfaction about University's Moodle

The students were asked if they agreed that the information provided in the Moodle is useful, well organised, and easy to find and understand and to what extent they agreed. 3 out of 12 students strongly agreed, whereas two students showed neutral responses (Figure 8).

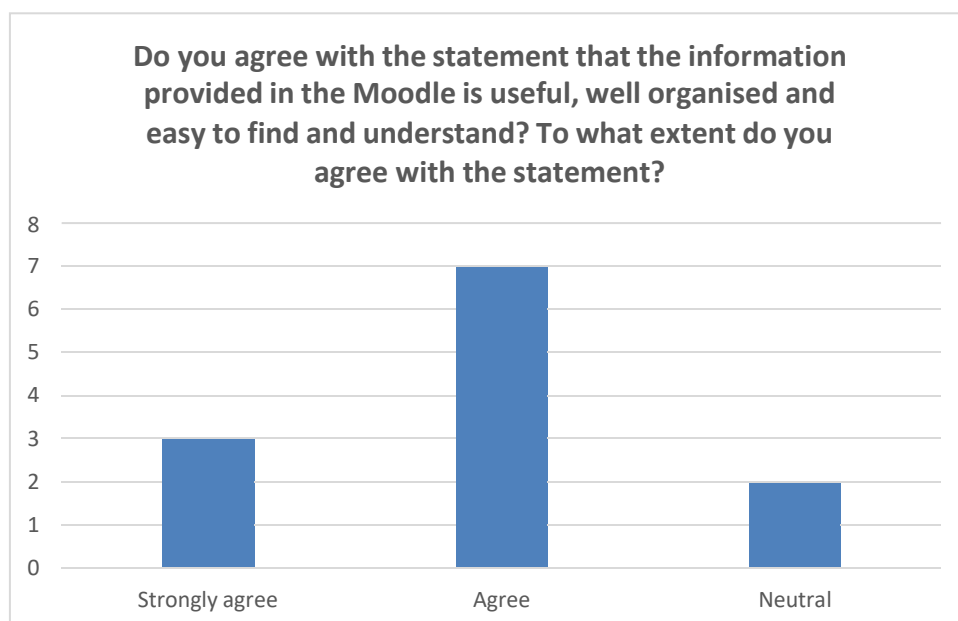


Figure 8: Information provided in the Moodle is useful

Moreover, in response to the question about their experience using Moodle on a scale of 1 to 5, where five is highly satisfying, five students indicated that they are extremely satisfied. However, three were moderately satisfied, whereas four were neutral (Figure 9).

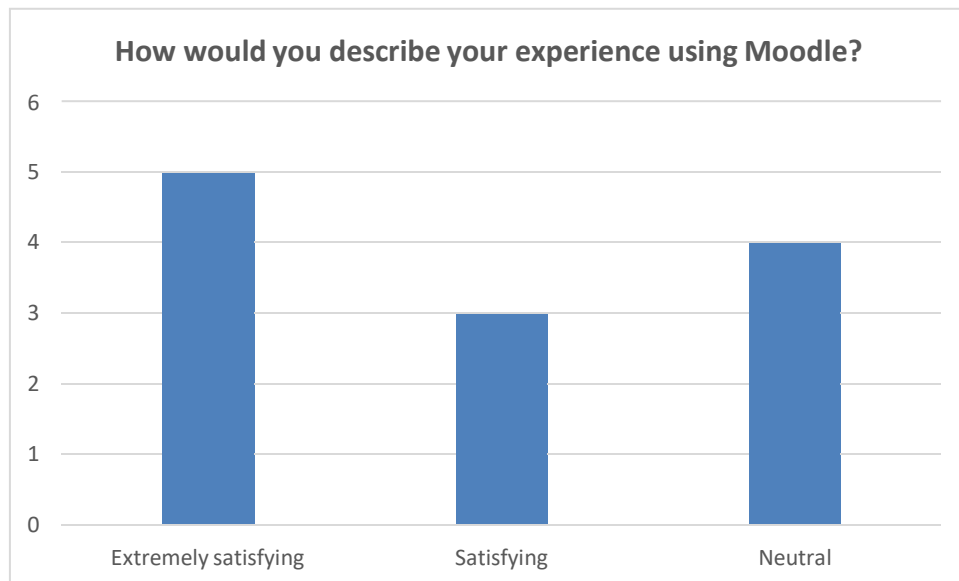


Figure 9: Satisfaction about Moodle

Finally, it was asked if the students would recommend Moodle to their friends. On a scale of 1 to 5, 5 is strongly recommended, and one is not recommended. Five students mentioned that they would strongly recommend Moodle to their friends, four were moderately agreed, and three were neutral (Figure 10).

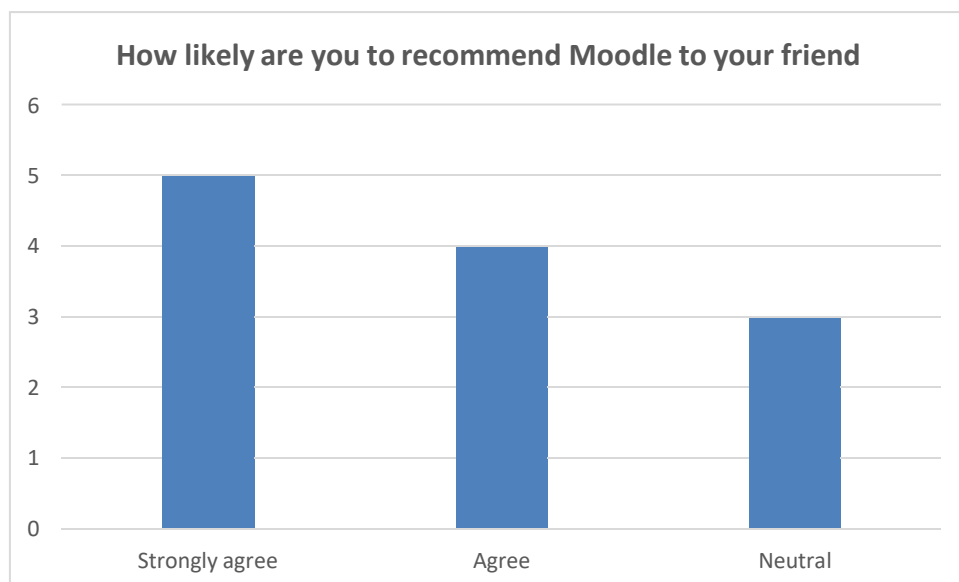


Figure 10: Moodle recommendation for friends

5.2. Qualitative Analysis

In the qualitative analysis, the students were asked about the assistance of Moodle in their academic studies. One of the students responded, “It is easy to upload my work in the university, and it is proving that I am the author of it.” Moreover, one of the students argued that “It does help for sure, but the information is not up to date, it should be updated

regardless if students are a level 4, 5, or 6. I am always spotting information on Moodle which needs to be updated or changed and mention this to lecturers in class, but nothing ever gets done, and I am not sure if this is a failing of UWTSD or not". However, most of the students agreed that it enabled us to research particular topics in more depth, and we can access the information easily through Moodle.

Moreover, students also explained the valuable sections of Moodle in their opinion. One of the students mentioned, "The information for students to study, check about the university, I see Moodle as my guide to succeeding in my education." Further, they were asked if they wanted to change anything on Moodle, what it would be and why. Students mentioned that it should be less complicated, it's too populated, and sometimes it can get challenging to use with all the files. The library must be changed as it is not user-friendly, and it must have regular checks and updates or a reporting tool to report any issues.

Lastly, students were asked if Moodle provides all the necessary information they require, so they do not have to look for other resources. A student mentioned that. "No, but maybe it could be yes and that we as students are still not fully aware of how to make good use of Moodle." Moreover, another student responded, "It definitely does, and one can for sure pass using only that information, but it's also good to check out external sources just for the sake of research."

6.0. Discussion

This research focused on the perspectives of the virtual learning environment among UWTSD students. It was observed that VLE plays an essential role in education today. Moodle is well received and positively influenced by UWTSD students. In the current epidemic, Moodle plays a crucial role in classrooms and a series of tests. Our results are consistent with the findings of Cai et al. (2013), which emphasise that the design and implementation of a Virtual University Web-Based System are crucial to the current learning system. However, innovation is the only way to overcome the obstacles to using VLE-Moodle. The institutes must consider all devices online for future use, such as providing study materials and manuals through VLE. Some students believe that the library is the most helpful section; lectures are always available, can access email, library, and service desk through Moodle. Most of the students were likely to recommend Moodle to friends and acquaintances.

7.0. Conclusion

The creation of a VLE in academic institutions is an influential tool to solve the students' professional development and training. According to this research, Moodle provides valuable online services to the students, which are beneficial for their research and studies.

Interactive models of a local research nature (model laboratory stands) and model constructors not only continue the illustrative and demonstration series, but contribute to the development of thinking, independence, research skills, and the formation of model knowledge. When working with models (as a supplement to the laboratory practice), students carry out in a dialogue mode such forms of activity as observation, comparison, generalization, selection, analysis of results, search for conditions for the implementation of the task, construction of situations and systems. This is especially important for independent, self-motivated students who find it routine but useful to work with simulators.

8.0. Recommendation

Based on the study, the following recommendations can be made:

1. Moodle must be accessible if the situation so requires.
2. Moodle needs to be developed in a way that benefits all students.
3. The entire Moodle program should be user-friendly so that everyone can easily access it.
4. Innovative technologies, such as all virtual programs for students with disabilities, can overcome Moodle barriers for students with disabilities.

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