

Title: Digital Skills and Research Methods

Name: Diana Iuliana Bradu Tudorie

STUDENT ID: 2111178

Module Code And Tittle :BMSW4003

Lecturer : Asim Satti

Table of Contents

Introduction 3

Background..... 3

 Literature Review 3

Aims and Objectives 5

 Objectives 5

Research Questions 5

Methodology 5

Results..... 7

Discussion 7

Conclusion 8

Digital Skills and Research Methods

Introduction

In today's world, virtual learning is changing the way we learn. Instead of teaching pupils one-on-one in a traditional classroom setting, the instructor makes use of internet resources to create a virtual learning environment. As a result of today's technology, students may study from the comfort of their own homes in a traditional classroom environment (Chui, et al., 2020). The use of virtual learning environments (VLEs) in educational institutions is increasing. So it doesn't make sense to ask whether or not they're admissible. It's a concern, though, because they have a major impact on student performance. It is almost impossible to identify all pupils and much more difficult to quantify their influence on learning opportunities due to a wide range of factors (Lacka, et al., 2021). COVID-19 regulations prohibit physical learning at the University of Wales in London's Trinity Saint David campus, therefore students utilise an online platform called Moodle for online learning. Examining Moodle's impact on student learning is the focus of this study.

Background

Literature Review

Teachers, students, and schools all engage in virtual classrooms as part of formal education. Educators, students, and instructors are increasingly interested in online virtual learning environments. Digital technology, as well as its usage in learning processes, has made the notion of virtual learning environments (VLEs) a constantly evolving one (Yang, et al., 2018). To complement their conventional classroom instruction as well as utilise internet technology, an increasing number of educational institutions and organisations have begun using web-based education systems (Hirt, et al., 2019).

Using these tools, students may assess the course material and employ learning environments that include technology and digital resources. For this reason, as well as the fact that they allow for the development of habits and behaviours amongst individuals participating in the educational process, they facilitate communication and mutual interactions in a continuous communication process. It is important to recognise the essential qualities and possibilities of VLEs in every setting when using them. Learning settings and contexts in the digital society are dynamic and diversified because of new ideas and educational activities (Herrador-Alcaide, et al., 2019).

VLEs have been around for a long time, but it's hard to say for sure how old they are. Open University students have long relied on computers for their education, but only the VLE "Board" company obtained legal protection in 2000. More than 3,700 educational institutions in 60 countries utilised the Board's programmes in 2010. Moodle, the second most well-known VLE, was built in 2001 (Pletz and Zinn, 2020). By 2011, Moodle has expanded to 212 countries and 49,365 dynamic targets in over 75 dialects, making it one of the world's most popular online education platforms. Virtual learning environments have played a vital role in supporting and promoting formal education since they adhere to the educational norms and curriculum of each nation. On the other hand, virtual learning environments (VLEs) may play an important role in helping students teach (Kurt, et al., 2017).

An unstructured and non-structured setting will be seen through the lens of change or innovation (Viloria, et al., 2019). For many people today, "innovation" connotes an eagerness to try something new and a yearning for change or renewal. The link between data on student engagement in VLE and student performance is impacted by educational contexts, according to Orey, et al., (2018). Data from the university's nine-class courses were linked together using a regression model. Students' success was influenced by solely the number of journals, number of forum operations, and resources, which accounted for 21% of the variance in student performance (Vaganova, et al., 2017). A poll conducted by Acevedo-Rincón, et al., (2019) found that students in lower grades liked the encouragement they received from their peers and felt more at ease in class because of collaboration tools, such as group discussions. Students often choose online classes since they are easier to fit into their schedules (Rosmansyah, et al., 2019).

Pererva, et al., (2020) argues that virtual learning environments must support and promote formal education since formal educational institutions follow the norms and curriculum of every country. The informal and non-formal learning environments that VLEs may help create are ideal for spurring creativity and innovation. To be considered innovative in today's society, one must modify, remodel, or do something new (Bogusevski, et al., 2020). The circumstances of education govern the combining of data on student behaviours and performance in VLE (Chui, et al., 2020).

Before data logs can be utilised to develop models to predict student performance, extra attention must be paid to technical disparities, notably in the usage of student VLEs. Students' learning results may be underestimated or inflated if the educational context is not taken into account. Identifying pupils who are at danger of failing school is a major challenge for educators (Yang, et al., 2018). Data-based machine learning algorithms are used to student profiles and

log files in Learning Management Systems (LMS) databases to detect susceptible pupils in a timely way, using virtual computers. How a student engages with their course and school may be an excellent predictor of their interest and, thus, their chances of dropping out of school (Lacka, et al., 2021).

Aims and Objectives

The aim of the research is the influence of virtual learning environments (VLEs) on the learning experiences of university students will be discussed throughout the research.

Objectives

- Determining the frequency with which students at their institution use the Virtual Learning Environment (VLE).
- Describe the relationship between a student's frequency of VLE access and his or her course performance.
- Examine the influence of a virtual learning environment (VLE) on student learning outcomes.

Research Questions

- How often do students at Trinity Saint David University in Wales make use of the Virtual Learning Environment (VLE)?
- What is the relationship between a student's frequency of VLE access and his or her course performance?
- What is the influence of the virtual learning environment (VLE) on student learning and achievement?

Methodology

A combination of Primary quantitative and secondary qualitative methodologies was utilised in this study, as was the case with many others in the area of e-learning. A phenomenon-type survey was employed, with the majority of the emphasis placed on the views, actions, and experiences of the participants (Yang, et al., 2018). In addition, both closed-ended and open-ended questions were included in the online questionnaire. It was decided to use an internet questionnaire (Survey Monkey) for the quantitative analysis since it is easy to manipulate and analyse in Excel (Hirt, et al., 2019).

The link to the surveys was sent out over WhatsApp to anybody who wanted to participate. I chose this method of distributing the survey since it was the most convenient for me. Students from Trinity Saint David University in Wales completed the questionnaire, which was received by 12 students overall. During the teaching activities, the review was postponed, and students were urged to finish it on their own time after class (Herrador-Alcaide, et al., 2019).

A size calculation example was used to determine the fundamental size of the delegated test, and the results were analysed. To acquire the desired results from the medication, a reaction rate of 37 percent and a base size of ten were needed to be used. All of the review's findings were kept confidential, and the evaluators were only notified of them after the study was done. The completion of the survey was deemed to provide informed permission for the use of the survey data by the researchers. A few reminders were sent out before to the final data collection, which takes place a week and a half after the first data collection (Pletz and Zinn, 2020). The majority of the analysis is descriptive in nature. Because there are only a few open-ended questions, we offer descriptive statistics for the questions that are troublesome, but we keep the responses to the open-ended questions in their original form for the purpose of describing the questions (Kurt, et al., 2017).

Results

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I use Moodle every day when studying	90%			10%	
Moodle is user friendly	50%	40%	10%		
I gain a lot with Moodle than without it	30%	50%		20%	
I get information from every topic from Moodle	40%	30%	10%	20%	
Moodle has enhanced my learning experience	50%	30%	15%		5%
Moodle has had a good effect on my Productivity as a student	20%	70%		10%	
I can access Moodle anytime I want to study	90%		10%		
Moodle encourages me to learn independently	20%	70%		10%	
Moodle is a valuable help in my studies	50%	20%	30%		

Discussion

Approximately 90% of college students use Moodle on a daily basis when studying, according to the findings. Due to their ability to facilitate ongoing dialogue and reciprocity, they contribute to the growth of knowledge and the creation and reconstruction of meaning, as well as of habits and behaviours, amongst all people who contribute to education (Viloria, et al., 2019). 50% of respondents strongly agreed and 40% agreed that Moodle is a great tool for teaching and learning As much as 10% had no preference. Students are encouraged to interact with one other and collaborate with each other in Moodle's web-based courses (Orey, et al., 2018).

Thirty percent of those polled said they strongly agreed and fifty percent said they felt that Moodle would help them make more money. This statement was found to be untrue by 20% of respondents. When examined through the lenses of change and innovation, VLEs, on the other hand, may play a crucial role in supporting learning in non-formal and informal contexts

(Vaganova et al., 2017). There are some students who do not like VLEs based on these outcomes.

More than 40% of respondents strongly agreed and more than 30% of respondents agreed to learn about Moodle on all subjects. Only 10 percent of those polled were in agreement with the assertion. Traditional face-to-face education is being retooled with the help of web-based education platforms. To help students assess course material and use learning environments based on technology and digital resources, these systems gather vast volumes of data (Vaganova, et al., 2017).

One-third felt that Moodle had a positive impact on their learning, whereas another third felt that it had not. More over half of those polled were either indifferent or strongly disapprove of the remark. It is possible to anticipate a student's interest in a subject and their likelihood of dropping out based on how they interact with their course and school (Acevedo-Rincón, et al., 2019).

Moodle had a favourable impact on the usability of 20% of respondents and 70% of respondents agreed. Amongst those polled, 10 percent couldn't agree more with this remark. When other students may read their remarks and feel better about their active participation in class because of the use of collaboration tools like for example, students' motivation rises, according to a poll by Vaganova, et al., (2017). forums. Students also find online classes to be more convenient.

Moodle may be accessed at any time, according to 90% of the respondents. Ten percent of those polled said they were undecided. More over two-thirds (70%) of those polled said Moodle helps them to study independently. Respondents disagreed with the assertion by 10% of the population (Vaganova, et al., 2017). A majority of respondents (50%) strongly agreed and (20%) agreed that Moodle is a useful tool for their study. Thirty percent of the pupils were unsure about their opinion. The usage of VLEs requires an understanding of their main qualities and possibilities in every setting (Orey, et al., 2018). Learning settings and contexts in the digital age are characterised by a wide range of constantly evolving and diversified notions (Viloria, et al., 2019).

Conclusion

An empirical review of the literature supports the research questions and leads to the formation of hypotheses. Self-directed learning is supported by using a virtual learning environment (VLE), which allows students to tailor their courses to fit their busy lives. According

to the study, students' learning abilities are improved, correspondence and synergistic learning are enhanced, and speedy criticism is strongly encouraged whilst using VLE. Even though this research found that Moodle had a positive impact on lower learning, it's intriguing to observe whether knowledge has a role. For instance, it would be fascinating to analyse which VLE resources, such as forums, surveys, and course materials, have the most influence on student education. In spite of these findings, the statistical analysis cannot and will not go any farther because of time constraints and the positive technique used.

Reference

- Acevedo-Rincón, J.P. and Flórez-Pabón, C.E., 2019. TelEduc: A virtual learning environment for teaching and learning at the University of Campinas, Brazil. In *Journal of Physics: Conference Series* (Vol. 1161, No. 1, p. 012023). IOP Publishing.
- Bogusevski, D., Muntean, C. and Muntean, G.M., 2020. Teaching and learning physics using 3D virtual learning environment: A case study of combined virtual reality and virtual laboratory in secondary school. *Journal of Computers in Mathematics and Science Teaching*, 39(1), pp.5-18.
- Chui, K.T., Fung, D.C.L., Lytras, M.D. and Lam, T.M., 2020. Predicting at-risk university students in a virtual learning environment via a machine learning algorithm. *Computers in Human Behavior*, 107, p.105584.
- Herrador-Alcaide, T.C., Hernández-Solís, M. and Galván, R.S., 2019. Feelings of satisfaction in mature students of financial accounting in a virtual learning environment: an experience of measurement in higher education. *International Journal of Educational Technology in Higher Education*, 16(1), pp.1-19.
- Hirt, C., Holzwarth, V., Gisler, J., Schneider, J. and Kunz, A., 2019, September. Virtual learning environment for an industrial assembly task. In *2019 IEEE 9th International Conference on Consumer Electronics (ICCE-Berlin)* (pp. 337-342). IEEE.
- Kurt, Ö.E. and Tingöy, Ö., 2017. The acceptance and use of a virtual learning environment in higher education: an empirical study in Turkey, and the UK. *International Journal of Educational Technology in Higher Education*, 14(1), pp.1-15.
- Lacka, E., Wong, T.C. and Haddoud, M.Y., 2021. Can digital technologies improve students' efficiency? Exploring the role of Virtual Learning Environment and Social Media use in Higher Education. *Computers & Education*, 163, p.104099.
- Orey, D.C. and Rosa, M., 2018. Developing a mathematical modelling course in a virtual learning environment. *ZDM*, 50(1), pp.173-185.
- Pererva, V., Lavrentieva, O., Lakomova, O., Zavalniuk, O. and Tolmachev, S., 2020. The technique of the use of Virtual Learning Environment in the process of organizing the future teachers' terminological work by specialty.
- Pletz, C. and Zinn, B., 2020. Evaluation of an immersive virtual learning environment for operator training in mechanical and plant engineering using video analysis. *British Journal of Educational Technology*, 51(6), pp.2159-2179.

- Rosmansyah, Y., Achiruzaman, M. and Hardi, A.B., 2019. A 3D multiuser virtual learning environment for online training of agriculture surveyors. *Journal of Information Technology Education: Research*, 18, pp.481-507.
- Vaganova, O.I., Smirnova, Z.V., Mukhina, M.V., Kutepov, M.M., Kutepova, L.I. and Chernysheva, T.L., 2017. THE ORGANISATION OF THE TEST CONTROL OF STUDENTS'KNOWLEDGE IN A VIRTUAL LEARNING ENVIRONMENT MOODLE. *Journal of Entrepreneurship Education*, 20(3), pp.1-4.
- Viloria, A., López, J.R., Payares, K., Vargas-Mercado, C., Duran, S.E., Hernández-Palma, H. and David, M.A., 2019. Determinating student interactions in a virtual learning environment using data mining. *Procedia Computer Science*, 155, pp.587-592.
- Yang, D., Alsadoon, A., Prasad, P.C., Singh, A.K. and Elchouemi, A., 2018. An emotion recognition model based on facial recognition in virtual learning environment. *Procedia Computer Science*, 125, pp.2-10.