

BMSW4003
Digital Skills and Research Methods

IMPACT OF VIRTUAL LEARNING ENVIRONMENT (VLE) –
MOODLE ON STUDENTS' LEARNING EXPERIENCE

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Rationale

Introduction of the internet has viably impacted learning and teaching experiences throughout the higher study areas. Prior to this internet age, learning and information resources were mostly confined to paper-based formats. Indeed, the internet has reduced as well as effectively removed time delay in between requirements to access educational resources and becoming physically able to do so (Ryan and Poole, 2019). With all this technological advancement, concern is not whether learning institutions are able to adopt new learning technologies. Rather, it is whether educators of this internet age are being able to utilise the opportunities being provided by technological advancement. Thus, it is arguable that learning perceptions have been changed throughout higher study areas with advancement and development of technological interfaces.

In this context, technology-enabled learning is at the forefront of UK national strategy for higher education as it is observed by the educational reformers that e-learning is becoming an indispensable part of higher education as it effectively contributes to learning, teaching and research. It is therefore vital that UK educational institutes employ technologies at their fullest so that e-learning platforms such as **Moodle** can effectively be used further ensuring active engagement by both educators and learners (Vasanth and Sumathi, 2020). **Moodle** is the **Virtual Learning Environment (VLE)** being in use at **University of Wales Trinity Saint David London Campus** to host ample amounts of e-learning contents so that didactic teaching can be empowered and reinforced. Rationale of this study lies in its effectiveness to examine how VLE - Moodle has come up as a supportive way to afford a blended learning environment in this university and support exchange of ideas and information amongst communities of learners. This study reports on an online survey in Moodle use by 25 first year students at University of Wales while investigating the reported impact of utilising university's VLE (Moodle) on respective learning.

Objectives

This study has addressed following research objectives:

- To investigate whether use of VLE (Moodle) holds positive impact on learning of students at University of Wales
- To analyse whether use of VLE (Moodle) in teaching and learning is helpful in promoting independent learning of students at University of Wales

- To examine whether use of VLE (Moodle) throughout teaching and learning in University of Wales has helped in increasing students' motivation to learn

Literature review

VLEs or Virtual Learning Environments are currently being used throughout the global higher educational landscape as these platforms effectively produce online spaces where educators can organise their works as well as work of their students. As such, blended learning is an obvious requirement for both teachers and learners belonging to the higher education sector as both traditional class-learning technologies and online interactive teaching can be embedded through this platform. According to Alam, Ullah and Ali (2017), VLEs can substantiate these needs of educational institutes of this information age. Eventually, VLEs are online (web-based) environments that provide various tools for students and teachers to provide learners enhanced accessibility to digitised learning skills and thereby, facilitate better learning experiences. Exact utility of VLE in higher education sectors such as university education is that it can support learning and teaching in a manner that can be afforded through face-to-face teaching and learning. Thus, VLE platforms are suitable for fostering various learning aspects such as peer support, information delivery, self-assessment, group work, student-teacher communication, tutorials and many more.

As such, Moodle is one of the most popular VLEs as per concern is higher educational sectors such as undergraduate or postgraduate education. As per Chen (2016), Moodle system is itself constituted with a VLE via which online learning processes can easily be accessed and completed. It is also destined in supporting collaborative learning environments. The unique learning framework associated with it supports teachers and learners to interact, accomplish collaborative activities and disseminating necessary information accurately. Universities can use Moodle for both part-time and full-time learning, e-learning and blended learning. VLE-based Moodle is effective in helping teachers to create a number of online courses with different modules and thereby, can increase possibilities of diverse learning applications. Lugbom, Nwosu and Ibitoroko (2020) have conveyed that Moodle platform allows integration of a range of learning resources included with questionnaires, glossaries, case studies, personalised tests along with any kind of multimedia resources, documents such as PowerPoint presentations, graphics, audios and videos.

All these are inevitable for betterment of learning experiences for students belonging to undergraduate or postgraduate courses. Moodle can simplify interaction between teachers and students as this online platform is suitable for using different communication tools such as chat or forum (Ximenes, 2020).

From a didactic viewpoint, multimedia communication tools can make communication activities attractive while making learning processes friendlier for students Luk, Ng and Lam (2018). Consequently, students can feel enhanced interests in their studies. At the same time, using Moodle in higher studies is appropriate as teachers can provide ample amounts of resources that may not be permissible to showcase during class hours due to time constraints. As a whole, it can be stated that Moodle can facilitate student-centered learning which now a much need is all across the higher study areas. On this platform, students can practice online materials according to their proficiency and interest. As stated by Gulbinskienė, Masoodi and Šliogerienė (2017), Moodle have tools for summative and formative assessments. Students can go through self-tests for rapid concept checking and formative feedback generation. Collaboration is another facility promoted by Moodle. It can promote collaboration and coordination within and across several student groups. Student tracking is also possible with Moodle as it can provide teachers with information regarding when a student is first accessing a course and how frequently the student has accessed the course.

Methodology

This study has undertaken a mixed method research design. **Primary quantitative research** is carried out in this study taking into account e-questionnaire further allowing analysis with help of Microsoft Word and Excel tools. The e-questionnaire have been organised and grouped taking into concern three research objectives described previously. In this context, a simple random sampling method is utilised to select respondents (25 first year students of the University of Wales Trinity saint David London Campus). This sampling technique has enabled the researcher to provide equal opportunities to all respondents to share their viewpoints and thus, facilitating elimination of any kind of bias from the research outcomes (Quinlan *et al.* 2019). It was ensured that the information sheet regarding informed consent is available at the VLE (Moodle) so that all can easily access them. The Online survey has been promoted during the group tutorials and students have been encouraged to complete it in their own time. In order to eliminate ethical biases from this research,

informed consent has been used so that participants can be made aware of the research purposes and data analysis instruments (Walliman, 2017). For data analysis purposes, the **5-point Likert scale** has been used. At the same time, research of published material regarding the topic of the impact of Virtual Learning Environment (VLE) on students' learning experience in general have been gathered for the **secondary data collection** and analysed subsequently for conducting a secondary data analysis.

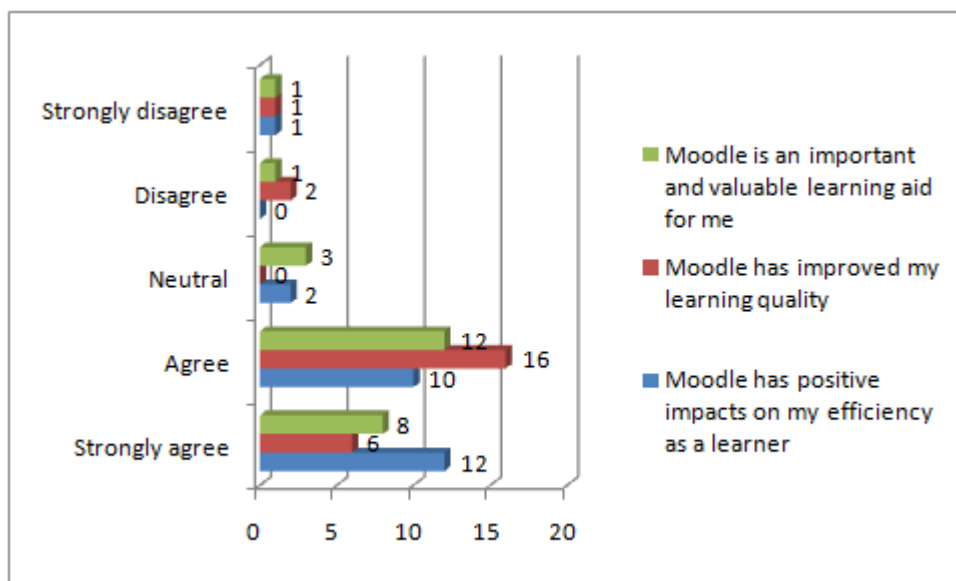
Primary Data Analysis

Findings

Q1. To what extent do you agree with the fact that use of Moodle has a positive impact on your learning achievements?

Answer options	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total respondents
Moodle has positive impacts on my efficiency as a learner	12	10	2	0	1	25
Moodle has improved my learning quality	6	16	0	2	1	

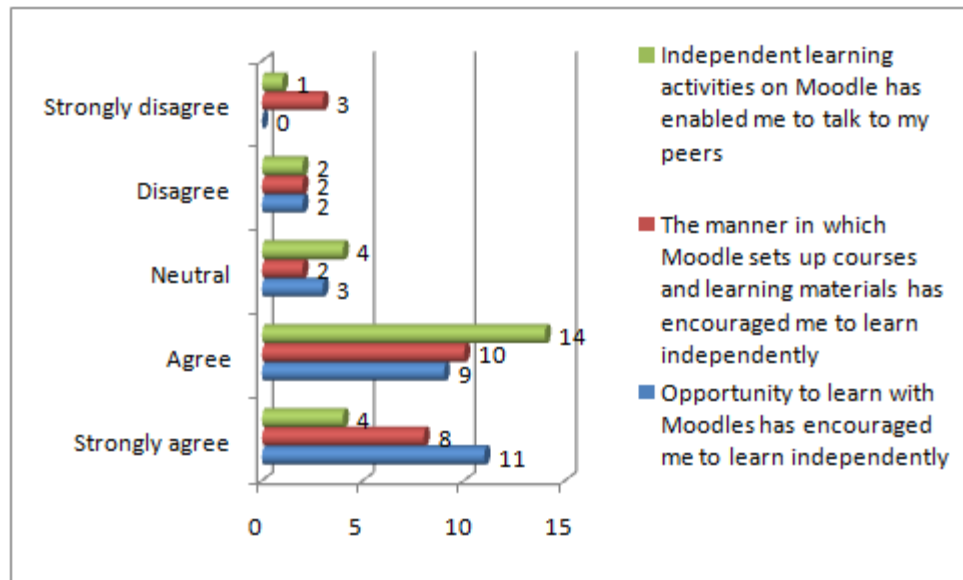
Moodle is an important and valuable learning aid for me	8	12	3	1	1	
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Q2. Do you think that using VLE has increased your accessibility to independent learning?

Answer options	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total respondents
Opportunity to learn with Moodles has	11	9	3	2	0	25

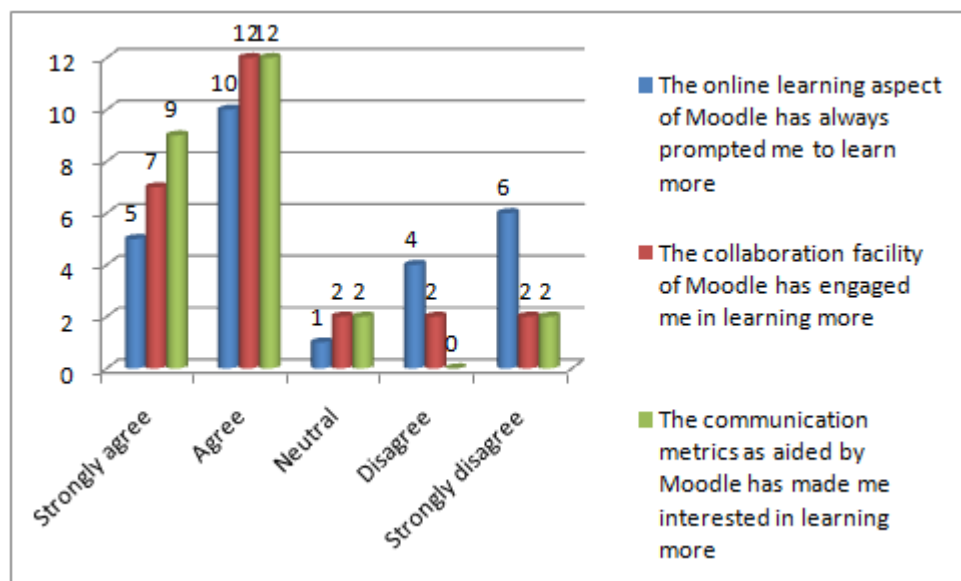
encourage d me to learn independe ntly						
The manner in which Moodle sets up courses and learning materials has encourage d me to learn independe ntly	8	10	2	2	3	
Independe nt learning activities on Moodle has enabled me to talk to my peers	4	14	4	2	1	



Q3. Does use of VLE (Moodle) for learning increase your motivation level to learn more?

Answer options	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total respondents
The online learning aspect of Moodle has always prompted me to learn more	5	10	1	4	6	25
The collaboration facility of Moodle has	7	12	2	2	2	

engaged me in learning more						
The communication metrics as aided by Moodle has made me interested in learning more	9	12	2	0	2	



Analysis

Empirical research that is being reported in literature explicitly underpins the proposed research questions and further leads to development of outcomes. The data as reported in literature has revealed that use of Moodle can encourage independent learning while providing real opportunities to students to learn informally. This enables students to be flexible and adaptable with their learning course works around their busy study schedules. The literature review has also provided ample evidence that Moodle effectively increases students' motivations to learn as it promotes collaboration and communication during learning (Tapia-Repetto, Gutiérrez and Tremillo-Maldonado, 2019). Via using forums, emails and chats, a student group can interact with other student groups and also with teachers that enables them to access direct feedback from teachers and peers which is definitely highly motivating.

The survey data also suggest similar outcomes as it is reported in Q1 that 22 students of University of Wales have either agreed or strongly agreed with the fact that Moodle use has brought in positive impacts to their learning abilities. In context of Q2, it is revealed that 18 respondents out of 25 have a viewpoint that learning materials as organised by Moodle has enabled them to learn independently. On the other hand, survey Q3 has reported that the collaboration facility as provided by Moodle has effectively motivated students to learn more as 19 students have either agreed or strongly agreed with this fact.

Secondary Data Analysis

Vygotsky had suggested that conceptual learning is a form of collaborative learning efforts that often requires supportive dialogues. From this perspective, it is worthy to be noted that online discussion via Moodle has adequate potential to facilitate concept development as well as enhance collaboration. However, research is saying that collaboration tools integral to a Moodle platform are least used. Thus, it will be a close expectation from management and educators of a higher educational institute that they will be able to influence both teachers and students to utilise more Moodle communication tools to get best and improved results with respect to students' independent learning outcomes (Becerra-Romero, Díaz-Rodríguez and González-Estrada, 2019). Development and implementation of plans and priorities would be matter of concern in this regard.

It is also found in researches that perceived usefulness as well as flexibility being associated with a VLE (Moodle) are positively attached with satisfactions of students with a particular course.

From this standpoint, it is arguable that Moodle can provide realistic opportunities to students belonging to higher study areas to practice, recall and accommodate a diverse range of learning formats and materials. Such a variety of course tools can motivate and engage students more with productive learning. Empirical research is also citing that use of Moodle can result in improvement in teaching and learning that further can result in improved satisfaction for both teachers and students (Grossi *et al.* 2018)). At the same time, collaborative and participative learning as facilitated by Moodle is suitable for retaining learning achievements for a long time.

Conclusion/Recommendation

From the above discussion, it can be concluded that using Moodle more proactively and implementing more predictive measures by the management to support this at University of Wales can bring in more positive learning experiences for the students of University of Wales. Using Moodle can make it easier for students to access varieties of learning materials at a single time. They can access their learning resources from anywhere at any time having better interaction with their teachers. On the other hand, better communication facilities as provided by Moodle can facilitate two-way feedback generation that, in effect, can give more opportunities to students to improve in their independent learning outcomes.

However, some recommendations can be suggested for the management of University of Wales regarding use of a VLE such as Moodle. Steps can be taken to ensure that students can access the Moodle from their home. Staff should be given training how to use VLE (Moodle) and its communication tools. At the same time, it is recommendable that strategies should be implemented to encourage teachers and students non-directed use of Moodle.

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