

# **PERCEPTIONS AND USAGE OF LEARNING MANAGEMENT SYSTEM AMONG MATHEMATICS MAJORS**

A Research Proposal  
Presented to  
The Faculty of Education Department  
Eastern Visayas State University  
Ormoc City Campus

**In Partial Fulfillment  
of the Requirements for the Degree  
Bachelor of Secondary Education Major in Mathematics**

## **Researchers:**

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**May 2021**

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## APPROVAL SHEET

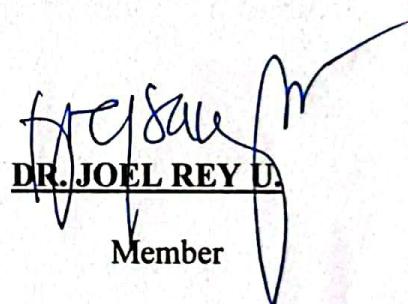
This study hereto entitled: Perception and Usage of Learning Management System Among Mathematics Major. Prepared and submitted by Lilibeth J. Alare, Jhenine A. Bautista, Joyce P. Dela Cruz, Maribel R. Donayre, and Mary Antoniette A. Horca as partial fulfillment of the requirements for the Degree of Bachelor of Secondary Education Major in Mathematics has been reviewed by the panel of examiners and is recommended for acceptance and approval.

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Approved by the examining Tribunal at the Oral Examination conducted on 22<sup>nd</sup> day of May, 2021 with the grade of \_\_\_\_\_.

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Head, Education Department

May 2021

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## **ABSTRACT**

This study was aimed to investigate the perception and usage of the Moodle Learning Management System among mathematics majors at Eastern Visayas State University-Ormoc City Campus. A cross-sectional study was conducted with 106 distance learning students using convenience sampling technique. A survey questionnaire was used in the study. The data was obtained using an online questionnaire through Google Platforms. The collected data were analyzed using Statistical Package for Social Sciences (SPSS) version 23.0. The results showed that students were aware of the Moodle platform and its tools such as assignment and test and quiz tools, but had limited awareness on plagiarism checker tool and that they had neither positive nor negative attitudes towards its use. Results also showed that students had prior computer experience and skills to successfully use and neither agree nor disagree with perceived usefulness of Moodle LMS. It was also revealed that 42% of the students use the Moodle platform every week, once in a while (30%), 18% daily, and only 10% monthly and faces challenges such as slow internet connectivity, and system errors. Further, results revealed a significant relationship between perceived ease of use and extent of use (negative and weak), computer literacy skills ( positive and strong) and attitudes and intentions to use (positive and weak). There was a significant relationship between computer literacy skills and extent of use (negative and weak) and attitudes and intentions to use (positive and moderate). Based on these findings, online learning units should provide appropriate orientation and instruction to all continuing students on how to use the Moodle LMS.

***Keywords:*** *Attitude, Awareness, Computer Literacy Skills, Extent of use, Intention, Learning Management System, Perceived usefulness, Perceived ease.*

## **TABLE OF CONTENTS**

<b>APPROVAL SHEET.....</b>	<b>2</b>
<b>ACKNOWLEDGEMENT.....</b>	<b>3</b>
<b>ABSTRACT .....</b>	<b>4</b>
<b>TABLE OF CONTENTS .....</b>	<b>5</b>
<b>LIST OF FIGURES .....</b>	<b>7</b>
<b>LIST OF TABLES.....</b>	<b>7</b>
<b>CHAPTER I.....</b>	<b>7</b>
<b>INTRODUCTION .....</b>	<b>8</b>
<b>Background of the Study.....</b>	<b>9</b>
<b>Statement of the Problem:.....</b>	<b>11</b>
<b>Null hypothesis.....</b>	<b>11</b>
<b>Significance of the Study .....</b>	<b>12</b>
<b>Scope and Limitation .....</b>	<b>12</b>
<b>CHAPTER II.....</b>	<b>13</b>
<b>REVIEW OF RELATED LITERATURE .....</b>	<b>13</b>
<b>Figure 1 Conceptual Framework.....</b>	<b>27</b>
<b>Definition of Terms.....</b>	<b>28</b>
<b>CHAPTER III.....</b>	<b>30</b>
<b>METHODOLOGY .....</b>	<b>30</b>
<b>Research Design .....</b>	<b>30</b>
<b>Respondents of the Study .....</b>	<b>30</b>
<b>Research Locale .....</b>	<b>31</b>
<b>Research Instrument .....</b>	<b>31</b>
<b>Ethical Consideration .....</b>	<b>32</b>
<b>Data Gathering Procedure .....</b>	<b>32</b>
<b>Statistical Treatment of Data .....</b>	<b>33</b>
<b>CHAPTER IV .....</b>	<b>34</b>
<b>PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA .....</b>	<b>34</b>
<b>SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATION.....</b>	<b>46</b>
<b>Findings .....</b>	<b>47</b>
<b>Conclusion .....</b>	<b>49</b>
<b>Recommendations.....</b>	<b>50</b>
<b>BIBLIOGRAPHY.....</b>	<b>51</b>

<b>APPENDICES.....</b>	<b>56</b>
<b>APPENDIX A.....</b>	<b>57</b>
<b>APPENDIX B.....</b>	<b>57</b>
<b>APPENDIX C.....</b>	<b>59</b>
<b>APPENDIX D.....</b>	<b>60</b>
<b>APPENDIX E.....</b>	<b>81</b>
<b>QUESTIONNAIRE .....</b>	<b>81</b>
<b>Part 1: AWARENESS OF THE MOODLE LEARNING MANAGEMENT SYSTEM AND ITS TOOLS.....</b>	<b>81</b>
<b>PART 2: STUDENT'S ATTITUDES TOWARDS THE USE OF THE MOODLE LEARNING MANAGEMENT SYSTEM.....</b>	<b>82</b>
<b>PART 3: COMPUTER LITERACY SKILLS AND PERCEIVED EASE OF USE OF THE MOODLE LEARNING MANAGEMENT SYSTEM.....</b>	<b>83</b>
<b>PART 4: PERCEIVED USEFULNESS OF THE MOODLE LEARNING MANAGEMENT SYSTEM.....</b>	<b>84</b>
<b>PART 5: EXTENT OF USE OF THE MOODLE LEARNING MANAGEMENT SYSTEM.....</b>	<b>85</b>
<b>CURRICULUM VITAE.....</b>	<b>87</b>

## **LIST OF FIGURES**

Figure 1. Conceptual Framework of the Study.....	27
Figure 2. Computer Literacy Skills .....	36
Figure 3. Level of Computer Skills .....	37
Figure 4. Respondents Percieve Contribution of the Moodle LMS on Academic Work .....	40
Figure 5. Extent of Use of the Moodle Learning Management System .....	41
Figure 6. Instructor/Tutor Influence on the Use of the Moodle Platform .....	41

## **LIST OF TABLES**

Table 1. Awareness of the Moodle Learning Management System and its Tools .	34
Table 2. Student's Attitudes Towards the Use of the Moodle Learning Management System .....	35
Table 3. Ability to Navigate the Moodle Platform .....	37
Table 4. Percieve Ease of Use of the Moodle LMS .....	38
Table 5. Percieve Usefulness of the Moodle Learning Management System .....	39
Table 6. Respondents Reasons for Use of the Moodle Platform .....	42
Table 7. Challenges in the Use of the Moodle Learning Management System.....	43
Table 8. Correlation between Variables.....	44

## **CHAPTER I**

### **INTRODUCTION**

Learning is a "change process that results from experience and increases the potential for improved performance and future learning" (Ambrose et al, 2010). The learner's adjustment may arise at the level of awareness, attitude, or actions. Learners come to perceive ideas, emotions, and/or the universe differently as a result of studying.

Education is not something that teachers do, but something that students do on their own. It is the direct consequence of how students view their interactions and react to them. School, however, has been hampered as we endure the repercussions of the Covid-19 pandemic; hence, amid the threat of the epidemic, the government took the initiative to launch lessons. We live this in a way dubbed "new normal" where learning follows a new path; different from what other students are accustomed to.

The Department of Education has already developed alternate learning modalities nationally this is what we call in the parlance of DepEd the Learning Distance Modality (LDM) in this new standard as a way of continuous learning to adjust and expand to sustain the uninterrupted year of education and that education will continue despite the pandemic. The goal of the Department is to continue the self-learning module. It may be a difficult task especially on the part of parents even elder siblings to adapt to the change. The most who can survive in a very difficult situation is a person who can adapt to change not even the brightest (Charles Darwin).

This is a trying time for educators and stakeholders including policymakers and the Senate to include the Department of Education. Various learning platforms including google

meet, Fb lives, moodle, google classroom among others. These learning platforms were used to reach every learner. But the question is: is there an internet connection? Do they have laptops? Gadgets? Among others? Learning is a right for everyone. This is a constitutional right. The right to basic education. That is why the prevalent situations purported the researchers to conduct the study.

## **Background of the Study**

The software platform for the administration, recording, monitoring, analysis, automation, and distribution of instructional classes, training programs, or learning and development systems is a learning management system. The idea of the learning management system (LMS) originated directly from e-Learning. LMS also uses SLM or Self-Learning Modules to help students learn and to ensure that during this pandemic, everybody will still access affordable education because education is for everyone.

Since the late 1990s, fast-growing developments have transformed the means of teaching and learning in educational institutions (Pishva et al., 2010). This convergence of technology and the educational system has encouraged contact between students and teachers but has also created new problems at the same time (Pishva et al., 2010).

E-learning services are also known as Learning Management Systems (LMSs) in an instructional sense and are' internet-based applications that allow teachers to handle the delivery of content, tasks, correspondence and other facets of instruction for their courses' (Abu Shawar, 2009). Today, in most universities, LMSs have become an important component of educational programs, and interest is rising in hybrid approaches that combine classroom and online practices (Pishva et al., 2010). An LMS is not meant to replace the conventional classroom setting, but its primary function is to augment the traditional lecture with the material of the course that can be viewed from campus or the Internet (Landry et al., 2006). While the

possible benefits of increasing the conventional LMS class have been identified and debated, what has remained relatively unnoticed are the reactions of students and teachers to the use of an LMS as an alternative to the traditional lecture (Landry et al., 2006).

Students find themselves in a different position in this modern normal environment and may face challenges hidden while one is within the four corners of the classroom. Some variables can impact the understanding and usage of the Moodle learning management system by college students, such as fragmented student interest, lack of parental help, their home learning space, their socio-economic status, the opportunity to access other related knowledge, and other distractions. What separates the thesis from other studies is that it demonstrates whether these variables have a major influence on the understanding and use of the Moodle learning management system by college students in the time of the pandemic where constraints are enforced and there are limits on learning. In comparison, unlike in previous research, the learning management system has not been used for a whole year as the main mode of teaching or learning modality.

The purpose of this research is to understand whether the Moodle Learning Management System (LMS) has a major influence on the understanding and use of the Moodle learning management system among college students obtaining a Bachelor of Secondary Education in Mathematics (BSEd - Math). The mathematics success of students in the first quarter and the effects of Moodle LMS in this area are also explored in this report. As such, this research looks at the experiences and contexts of the students that may influence their home learning

## **Statement of the Problem:**

This study was aimed to investigate the perception and usage of the Moodle Learning Management System among mathematics majors at Eastern Visayas State University-Ormoc City Campus during the school year 2020-2021.

Specifically, this sought to answer the following questions:

1. What is the respondents' awareness of the Moodle LMS and its tools?
2. What is the respondents' attitudes and intentions towards using the Moodle LMS?
3. What are the respondents' computer literacy skills?
4. What is the perceived usefulness of the Moodle LMS among respondents?
5. What is the extent of use of Moodle LMS among respondents?
6. What are the major issues faced by respondents when using Moodle LMS?
7. Is there a significant relationship between the respondents' perceived ease of use, the extent of use of Moodle LMS, computer literacy skills, and attitudes and intentions to use the Moodle LMS?
8. What recommendations can be proposed based on the results of the study?

## **Null hypothesis**

The hypothesis of this research wishes to address.

$H_0_1$  : There is no significant relationship between the respondents' perceived ease of use, extent of use of Moodle LMS, computer literacy skills, and attitudes and intentions to use the Moodle platform.

## **Significance of the Study**

This study was very important to the following entities:

*Students.* They were the main beneficiaries in the way they could adjust and would probably get suggestions and facts provided by the researchers. This will help students to have additional learning in their academic studies through the use of Moodle LMS.

*Parents.* They will be able to know the benefit of using the Moodle LMS to acquire the educational concepts of their children.

*Teachers.* Teachers are the said 'the second parents' and part of their responsibility is to guide and help their students. This is also important for them to be aware so they can be more knowledgeable about their student's perception and usage of Moodle LMS.

*School Administrators.* As they are one of the stakeholders of education, they may administer the teachers to have an educational background of using the Moodle LMS.

*Future Researchers.* Researchers will also benefit from this study because this will help to improve their skills in researching and it also helps them to give more ideas and information regarding this kind of learning system.

## **Scope and Limitation**

This study was conducted to determine and evaluate the understanding and usage of the Moodle LMS of the students in the whole population of Secondary Education Major in Mathematics in Eastern Visayas State University-Ormoc City Campus. The whole population of the BSEd-Mathematics students in EVSU-OCC was given a questionnaire on their vacant time. This study is limited only to the perception of the use of Moodle LMS and does not cover any other factors.

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

The basic roles of the researchers are to organize, collect relevant literature that has an impact on the present study. Hence this literature is presently reviewed and carefully included.

As several academic institutions are now implementing at least one of the various learning management systems as a complement to the conventional mode of teaching and learning, the mode of course delivery is increasingly evolving. It is, therefore, necessary for research in the field of e-learning to bring the ongoing dialogue to light. A literature review is based on the premise, according to Neuman (2011), that knowledge accumulates and that people learn from and draw on what others have done. A literature review is an act of evaluating research by other writers that is very important to the field of your field of study (Boote & Beile, 2005). A literature review should typically identify, analyze and explain and summarize relevant literature on what other writers have brought to bear and share the findings of other documented study studies with readers. The analysis captured a broader viewpoint (world point of view), as well as African and Ghanaian perspectives. The chapter started with an overview of the literature relating to the philosophical understanding of the genesis, meanings, service forms, practical features, and facilities of the electronic learning, learning management system, and the Sakai LMS. In addition, a thorough analysis of Sakai LMS was performed to reveal existing knowledge gaps and lead-ins concerning research methodologies, subjects, hypotheses, and the different research perspectives for future research. In the literature review, the following themes are precisely captured based on the objectives of this report, such as the notion of e-learning, knowledge of the Sakai LMS and its instruments, attitudes, and intention to use the Sakai LMS, computer literacy skills, and perceived ease of use of the Sakai. The utility of the Sakai LMS to distance education students, the degree of use of the Sakai LMS, and the difficulties in the use of the Sakai LMS were perceived by LMS.

**Electronic Learning Definition** The term electronic learning, also known as e-learning, emerged in the early 1990s when the internet was evolving and entering numerous areas around the world. The "big idea" was to provide students with the platform to access their courses at the comfort of their home or anywhere convenient. That is the popular motto of "learning everywhere and everywhere," which gave rise to a trend called e-learning (Ansor, 2015).

Many higher learning institutions worldwide are steadily supplementing the According to Noh, Isa, Saman& Isa (2012), the way of teaching and learning with e-learning platforms with the ultimate goals of providing services that the traditional model of teaching and learning can provide and also to harness their students with quality education. There have been myriad debates over how best e-learning can be described as the results that a lot of researchers have seen with varied lenses in e-learning. Ansor, (2015) described eLearning as "a complexity of components that makes researchers and practitioners suggest different definitions of the technologies involved," their extent of integration into learning processes and how learning occurs among participants in terms of time". An e-learning system is a versatile and convenient teaching and learning model based on internet access, with the key reasons for alleviating the problem of increased student enrollment and insufficient teachers and learning facilities (Pituch& Lee, 2006; Selim, 2007). E-learning is described, in the view of Ferrer & Alfonso (as cited in Suorsa & Eskilsson, 2014), as the use of the internet to access educational materials and tools, as well as to communicate with teachers and other students to get information. E-learning is commonly characterized as a form of learning that is enabled by ICTs to improve the quality of teaching and learning through the Internet, intranets, extranets, or many others (Tagoe, 2012).

After several debates on the best concept appropriate for e-learning, however, a consensus was reached in Europe on the use of a single definition of e-learning, understood as the use of modern multimedia technology and the internet in education to enhance its quality

through increased access to resources, services, knowledge exchange and cooperation (Simonova, 2010 as cited in Ansong, 2015). Management Structures of Learning. The learning management system, in Lucian's view (2016), is a software platform designed to monitor student interventions and thus provide both students and teachers with access to online learning opportunities. Interventions and thereby provide access for both students and teachers to the tools for online learning.

The Learning Management System (LMS) automates many of the learning-related processes from Hobbs' point of view (as quoted in Mahoney, 2008, p.1). It is a management software package that allows the distribution of information, tools, and activities for learning and also handles the related tasks of administration. Due to the spread of e-learning, in recent decades, learning management systems have been in vogue and their phenomenal advantages cannot be overemphasized in terms of teaching and learning. Due to its phenomenal advantages in terms of learning time flexibility, learning management systems have been widely used in tertiary institutions and allow teachers and students to communicate digitally, especially at a distance of Educational Education (Hamuy, 2009). According to Burrell-Ihlow, Angeli, Salisbury, and Ellis (as cited in Govender, 2010), the most efficient way of teaching and learning, the quick dissemination of knowledge, is gradually gaining root in most academic institutions. It was confirmed, according to Hawkins and Rudy (as cited in Lonn, Teasley & Krumm, 2009), that over 90 percent One or more learning management systems have been developed for higher education to allow teachers and students to disseminate teaching materials, to make it easier for classes to declare, upload and download assignments and course materials. For example, it can be seen that the number of students studying in different institutions is currently growing at an increasing pace Speed.

This was confirmed in a study conducted by Tagoe (2012) in which it was revealed that many have at least adopted a learning management system in Ghana and other developing

countries, due to the continuous increase in student enrollment and the limited available educational infrastructure and resources, to reduce the situation of turning away eligible applicants from being Trained admitted to follow their programs picked. Learning management systems are divided into three major categories: proprietary systems that are considered commercial, for example; free/open-source systems are also available online for free, Blackboard and Desire2Learn, but can be tailored to meet the interest of the example of the adopter; Sakai and Moodle. (2016, Lucian).

Sakai (LMS) In teaching and learning, especially in distance education, the phenomenal benefits of the learning management system cannot be overemphasized. "According to Mtebe (2015) "Learning Management Systems (LMS) are now installed not only in the westernized continents in most higher education institutions but also in sub-Saharan Africa and one of the most commonly used ones Sakai is a method of learning management. The Sakai LMS is one of the open-source platforms that allow users such as teachers and students to be enrolled in different course sites and researchers' project sites as well (Ansorg, 2015). Sakai is an LMS that was constructed in 2004 at Stanford University using a grant from the Mellon Foundation A popular courseware management system was developed by the University of Michigan, Indiana University, Massachusetts Institute of Technology University, and the University of Berkeley (Dube& Scott, 2014). The collaboration's original aim was to enhance teaching, learning, and study by offering a convincing alternative to proprietary learning systems. The University of Michigan was the top university that greatly contributed to the project's growth. The project was named after Hiroyuki Sakai, the legendary Iron Chef. This is because "the early versions of the instrument were partly based on the course management system of the University of Michigan "(Biggers, 2009). As of 2009, according to Derakhshan (2012). It was announced that over 100 organizations, with around 200, 0000 users, were using the Sakai LMS. Today, the total number of universities, including Columbia University, Duke

countries, due to the continuous increase in student enrollment and the limited available educational infrastructure and resources, to reduce the situation of turning away eligible applicants from being Trained admitted to follow their programs picked. Learning management systems are divided into three major categories: proprietary systems that are considered commercial, for example; free/open-source systems are also available online for free, Blackboard and Desire2Learn, but can be tailored to meet the interest of the example of the adopter; Sakai and Moodle. (2016, Lucian).

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University, Stanford University, Universite de Poitiers, Bradley University, Notre Dame University, North Carolina University in the USA and Africa, has increased to over 350 educational organizations worldwide. Science and Technology National University, Bulawayo, Zimbabwe, Cape Town University, and South Africa University, etc. Sakai LMS is one of the most popular frameworks for learning management and it is an open-source framework. Sakai provides tools for course management, project tools, and other components and can be linked to library resources (Wei, Wu & Zheng, 2014). Sakai LMS and others such as Blackboard, Moodle, Willingness to Learn are among the education management systems that are most commonly and widely used in According to Caminero, Hernandez & Ros, the Sakai LMS is one of the most preferred open-source learning management systems (2013).

In the same report, it was further added that with around three hundred adoptions worldwide, the Sakai LMS handles a significant number of users better. In addition, Srichanyachon (2014) added that it is possible to use the Sakai LMS to handle curriculum, training materials, Evaluation methods and. It can also be expanded with modules such as tasks, quizzes, grading for tracking learning experiences and outcomes. In addition, studying outside the classroom is used by the Sakai LMS. It can either encourage face-to-face teaching or provide an interactive way to create online courses and learning. Knowledge of the Sakai LMS and its tools. The awareness of the Sakai LMS and its tools is an essential factor to consider is the integration of any method of learning management and influences the degree of its use. End-users of a device, if they are not aware of it, may not benefit from its usefulness.

In another study by Mtebe (2015) asserts that "lack of user awareness of the existence or value of LMS affects the use of LMS". Therefore, given this context, students must be aware of the Sakai LMS as well as its tools for achieving its intended intent. Awareness of the Sakai LMS Reinhardt, Mletzko, Sloep & Drachsler (n.d), presented a concise concept and explanation of awareness and this section focuses on related works of the Knowledge of the

LMS and its instruments in Sakai. As an act of reminding and keeping individuals or groups of people reminded of the presence of something. In addition, as it stimulates reflection,' perception may affect the individual method of activity.' It can be further clarified in the sense of this study as the maintenance of knowledge given this concise concept and elucidation of awareness users informed about the existence of the Sakai LMS.

**Challenges in the Use of the Sakai LMS.** Despite the numerous uses of the Sakai LMS, it is saddled with some challenges. **Inadequate Training** Many related research studies have proven that many users of learning management systems cannot effectively use the system due to the lack of support services such as orientation and proper training on the use of the system. For instance, Unwin (2010) embarked on a survey on digital learning management systems in Africa: myth and realities, with 358 respondents from 25 countries. It was brought to light that, 74% of the respondents indicated that, lack of training and technical support impeded them from making full use of the learning management system. Consequently, relatively, they could not use the features of the Sakai LMS. The above findings were also, supported by what Chitanana, Makaza & Madzima (2008) found from research that focused on the digital learning management systems in Africa in four universities in Zimbabwe. From the results, it was indicated that 76% of the respondents in the survey indicated that the low utilization of the learning management system is a result of lack of training and proper orientation of users concerning the use of the system. In the same vein, similar research was embarked in the University of Botswana where it was reported that lack of training and support services hindered 503 students which were more than half of the entire respondents from utilizing the learning management system to its full potentials Tella (2012).

This supported another study of Nuta & Pusca (2017) also confirm from a research study that assessed distance education learning platform options and opportunities and the findings showed that lack of training coupled with poor knowledge in the features of the