HYBRIDIZATION OF LEARNING MANAGEMENT SYSTEMS IN TERTIARY SCHOOLS

JASON V. CHAVEZ[1], COLLIN C. CENECIRO[2]
https://orcid.org/0000-0001-7258-3071[1], https://orcid.org/ 0000-0002-4986-1034[2]
jasonsight@yahoo.com[1], cceneciro@zcspc.edu.ph[2]
Zamboanga Peninsula Polytechnic State University Zamboanga City, Philippines

ABSTRACT

This study focuses on mapping out the various features integrated into the LMS utilized by the different colleges of Zamboanga Peninsula Polytechnic State University (ZPPSU). The identified features – currently, commonly used, and recommended features have become the basis for the customization of a more tailor-fit and more responsive learning management system suited to the needs of the end-users. This quantitative research used purposive sampling of 289 students and 42 teachers at Zamboanga Peninsula Polytechnic State University who utilized online learning management system in their classes during the Second Semester of the Academic Year 2020-2021. An expert-validated three-part survey questionnaire was administered to the respondents. In analyzing the data gathered, t-Test, One-way ANOVA, and percentage preference ranking were used. Findings revealed that the different colleges of the university primarily utilize online LMS platforms for course administration, content dissemination, and course requirements submission.

Keywords: online learning, Learning Management System, LMS features

INTRODUCTION

COVID – 19 massively impacted education – globally. School closures and threats to learning continuity were the aftermath of the global pandemic. UNESCO recorded more than 156, 692, 641 learners and 19 country-wide global school closures caused learning disruptions as of June 2021(UNESCO, 2021). Online education has become the imminent solution to closing classrooms. Schools have taken online learning platforms to mitigate the loss of learning among students even amidst the pandemic.

In the Philippines, to lessen the adverse effects of learning loss, learning institutions, like the centers for higher education, have adopted multimodalities in the delivery of learning such as the remote learning modes and different online learning platforms (Commission on Higher Education, 2020). With the global adoption of online learning platforms as learning management system by educational institutions, issues on the features responsive to the needs of the learners during crises are among those that need to be investigated.

The study of Ifenthaler(n.d.) disclosed that most instructors utilize LMS only for uploading of documents and not of technological integrations in their pedagogy. This was affirmed by the study Kember, et. al., (2010) which showed that using the internet for information sharing in a blended learning environment is not effective in achieving students' learning outcomes.

It has been shown further that by using features that promote constructive dialog and interactive learning, the development of communication skills and improved comprehension of materials is fostered.

Thus, the various features of the LMS must be examined more closely to determine whether the LMS respond to the needs of both the teachers and the students especially in times of crisis that cause the disruption of face-to-face classes. The study of Najmi, Jaafar, and Paiz (2016) revealed

P – ISSN 2651 - 7701 | E – ISSN 2651 – 771X | www.ioer-imrj.com
CHAVEZ, J.V., CENECIRO, C.C., *Hybridization of Learning Management Systems in Tertiary Schools, pp. 116 - 122*

116

that majority of the students prefer that the LMS utilized in school has embedded features of timetable, a to-do list, a media player such as: podcast), an online writing tool, an online dictionary, and a file storage capacity. In another study of Garrote, et.al. (2014) in the School of Engineering, University of Boras, it was found out that though the LMS had tools for communication, interaction, and course administration, teachers mostly used the LMS mainly in distributing documents to students.

Given the varying feature a learning management system has, ZPPSU adopts several open LMS platforms to ensure students continue to receive learning opportunities. With different online platforms for learning, there are LMS whose features are not found in other platforms. Thus, the knowledge of certain LMS features which end-users prefer to have been included in the utilized platforms are helpful in customizing a proprietary LMS.

OBJECTIVES OF THE STUDY

This study aimed to determine the various features integrated into the LMS utilized by the different colleges of Zamboanga Peninsula Polytechnic State University (ZPPSU). More so, it sought to identify students' recommended features of LMS for a more tailor-fit and more responsive learning management system suited to the needs of the end-users.

METHODOLOGY

The study used purposive sampling of 289 students and 42 teachers of Zamboanga Peninsula Polytechnic State University who utilized online learning management system in their classes during the second semester of the academic year 2020-2021.The study, a quantitative research, utilized a validated three-part survey questionnaire that focused on the currently used LMS features, on preferred and recommended LMS features as basis for inclusion in customizing the school's LMS in the collection of data from respondents.

Then, the researchers secured permission and clearance from the academic head before conducting the survey. All participants were given a copy of the approved letter that attaches the research purpose, ethical standards, and voluntary statements to be signed. Upon the agreement between the authorities and researcher, online survey forms were used to facilitate the administration and collection of information.

The entire study lasted from October 2020 to June 2021. Questionnaires were administered to the respondents and retrieved Mid-April 2021 May 2021. The entire survey happened online, and no face-to-face interaction was done to follow the guidelines of Department of Health and Inter-Agency Task Force in the Philippines.

In analyzing the data gathered, t-Test, One-way Anova, and percentage preference ranking were used.

RESULTS and DISCUSSION

1. Perceived utilities of the LMS when grouped based on Types of Respondents, Computer Literacy Level, and Academic Level

1.1. In terms of Computer Literacy Level

Table 1
Perceived LMS Utility: Computer Literacy Level

Variable	Computer Literacy Level	Mean	Remarks
Knowledge	beginner	3.61	H
	average to advanced	3.82	H
Productivity	beginner	3.52	H
	average to advanced	3.70	H
Collaboration	beginner	3.63	H
	average to advanced	3.67	H
Recommendation	beginner	3.75	H
	average to advanced	3.90	H

Table 1 reveals that shows that respondents in computer literacy levels have the knowledge in using the LMS receiving means from 3.41 to 4.20 or high remarks in knowledge, productivity, collaboration, and recommendation variables. These digital profiles believe that that LMS' utilitarian value includes productivity in their

studies, useful in collaboration, and they recommend this for others because of its utilities in academic engagements

1.2. In terms of Types of Respondents

Table 2
Perceived LMS Utility : Types of Respondents

Variable	Type of Respondents	Mean	Remarks
Knowledge	student	3.66	H
	teacher	3.90	H
Productivity	student	3.53	H
	teacher	4.00	H
Collaboration	student	3.62	H
	teacher	3.88	H
Recommendation	student	3.76	H
	teacher	4.12	H

Table 2 shows that both students and teacher respondents have the knowledge in using the LMS receiving means from 3.41 to 4.20 or high remarks in knowledge, productivity, collaboration, and recommendation variables. They believe that that LMS' utilitarian value includes productivity in their studies, useful in collaboration, and they recommend this for others because of its utilities in academic engagements.

1.3. In terms of Academic Level

Table 3
Perceived LMS Utility: Academic Level

Variable	Academic Level	Mean	Remarks
Knowledge	beginner	3.61	H
	average to advanced	3.82	H
Productivity	beginner	3.52	H
	average to advanced	3.70	H
Collaboration	beginner	3.63	H
	average to advanced	3.67	H
Recommendation	beginner	3.75	H
	average to advanced	3.90	H

Table 3 shows that respondents in academic levels for both undergraduate and graduate programs responded that they have

knowledge in using the LMS receiving means from 3.41 to 4.20 or high remarks in knowledge, productivity, collaboration, and recommendation variables. These academic profiles believe that that LMS' utilitarian value includes productivity in their studies, useful in collaboration, and they recommend this for others because of its utilities in academic engagements.

These results show that students and teachers hold positive views of Learning Management Systems in its utilization in academic engagements. Such LMS usages improve the productivity and collaboration of teachers and students. Aside from these dimensions, it is also necessary to consider different aspects of LMS. Leadership and technology both have an impact on the operations of organizations in the modern world, and both have an impact on one another in such a way that one is affected by the other while also being influenced by the other (Akram, M., 2020; About Elearning; 2016). As shown in this study, the success of the LMS is not totally based on the mechanisms itself, but also to the institutions and their stakeholders. It is necessary to reconsider resources, the attainment and the characteristic of stakeholders to increase the productivity of LMS.

2. Significant difference of the perceived utility of LMS when grouped according to type of respondents, academic level, and computer literacy level

Table 4
Perceived utility of LMS when grouped according to type of respondents, academic level, and computer literacy level

Demographic Profile	Perceived LMS Utility	Sig.	
Types of Respondents	Productivity	0.001	Significant
	Recommendation	0.001	Significant
Academic Level	Recommendation	0.018	Significant
Computer Literacy Lev	Productivity	0.004	Significant
	Knowledge	0.008	Significant
	Recommendation	0.000	Significant

Table 4 shows significant differences on the responses on productivity and recommendability of LMS when grouped based on type of respondents. Although both the students and teachers agree that LMS has productivity and will be recommended to others, the teachers gave higher regard to these variables.

In terms of academic level, graduate student respondents gave higher regard for the recommendability variable of LMS over the undergraduate students, although both respondents gave high remarks.

Respondent groups with beginner and average to advanced computer literacy levels differ in their feedback about the knowledge, productivity, and recommendability of the LMS. Respondents with average to advanced computer literacy levels gave slightly high regard than the beginner levels for knowledge, productivity, and recommendability of LMS, albeit both profiles gave high remarks to the utilities of LMS.

A significant difference on the perceived utility of LMS is seen in terms of knowledge of LMS, productivity, and the recommendation of use of LMS in college academic settings.

These results correspond to the studies conducted on the primary functions of utilization of LMS in academic engagements of both students and teachers. (Ifenthaler (N.D.), Kember, et. al., (2010), Najmi, Jaafar, and Paiz (2016), Garrote, et.al. (2014).

3. Features of LMS that are most commonly used by students and teachers

The data highlight that the top 5 most common features of the different LMS used by the respondents are submission of assignments, taking quizzes/administering assessment, embedded modules, reading of assignments, and sending messages to professors/students. While the least common features of the utilized LMS are analytics for student engagement, calendar tool, e-library/access to multiple resources, grading application and drawing images on whiteboard. These indicate that the LMS is used primarily as tool for course administration, for distribution and for communication.

Table 3

LMS Features

Rank	LMS Feature	No. of Respondents	Percentage
1	Submission of assignments	268	78
2	Taking Quizzes/Assessment	241	70
3	Embedded modules	234	68
4	Reading of Announcements	202	58
5	sending messages/communication to professors and students	191	55
6	tracking of assignments	166	48
7	Using video conference	144	42
8	Using mobile app of the LMS	138	40
9	Tracking overall coursework	114	33
10	Retrieval of syllabi and documents	111	32
11	Attendance monitoring	108	31
12	Checking of grades	100	29
13	Participation in discussion boards	88	25
14	File Organization	82	24
15	Class Record	79	23
16	Creation of Embedded e-portfolio	72	21
17	Gaming features	63	18
18	Access reports	48	14
19	Analytics for student engagement	45	13
20	Calendar tool	38	11
21	e-library/access to multiple resources	29	8
22	Grading application	28	8
23	Drawing images on whiteboard	11	3

The results indicate that LMSs are used primarily for course administration, course delivery - distribution of fact sheets - and for communication of information and responses among teachers and students.

Overall, the different LMS platforms used in support to the pedagogical functions fulfill, support and manage instructional activities.

As demonstrated by the study conducted by Kember et al. (2010), using the internet for knowledge sharing in a blended learning environment is not successful in terms of meeting students' learning objectives. However, the

integrated LSM is more anchored on how to deliver process of education with the use of internet. In addition, it has been demonstrated that the use of elements that encourage constructive conversation and interactive learning may help to enhance the development of communication skills as well as improved comprehension of course materials. In this study, the reliance to LSM is an applicable approach for general education.

4. Features of LMS that students and teachers recommended to be embedded in the LMS

Table 4
Recommended Features to be Embedded in LMS

Rank	LMS Feature	No. of Respondents	Percentage
1	Checking of grades	126	36
2	Grading application	116	34
3	Modules	111	32
4	Taking quizzes/tests	101	29
5	Language or grammar check	100	28
6	Reading of Assignments	94	27
7	Class record	92	27
8	File organization	88	25
9	Tracking over-all course	86	24
10	tracking of assignments and retrieval of syllabi/documents	85	24
11	retrieval of syllabi/documents	85	24
12	attendance monitoring	82	23
13	analytics for student engagement	77	22
14	e-library/access to multiple resources	73	21
15	gaming features	71	21
16	Creation of e-portfolio and using mobile application of the LMS	69	20
17	participation in discussion boards	68	20
18	Access reports	63	18
19	Drawing images on whiteboards	55	16
20	Calendar tool	54	16
21	Gender-sensitive language checker	44	13

Data exhibit that the top 5 most recommended features that need to be part of the LMS are checking of grades, grading application, inclusion of modules, taking of quizzes/tests and grammar check, whereas the least recommended features are the gender-sensitive language checker, calendar too, drawing images on whiteboards, access reports and participation in discussion boards.

The results indicate that in customizing LMS, the end-users prefer to include features in the LMS that respond to the course delivery, assessment, and grade-generator calculator needs of the teachers and students.

On the features of learning management system, the functions of course delivery and access, course productivity, course assessment, and technological migrations are features which are most recommended by students and teachers.

In addition to recommendations from students and instructors, there are numerous key components of the Learning Management System (LMS) that are beneficial to school administration. In general, there are three components of LSM that can be found in use throughout the educational industry: (1) grade verification, (2) grading application, and (3) a modular approach, all of which are discussed in further detail in this chapter. Following the findings of the research, end-users like to incorporate components in a learning management system that react to the course delivery, assessment, and grade assessments expectations of instructors and students when creating a learning management system for their organization.

According to Akram, M., (2020), the messages conveyed and the learning that takes place between the principal, instructors, students, and their parents have a major effect, according to the moderator, which in this case is the LMS. In this study, to accomplish the LMS intervention, data-driven critical authority is utilized to monitor instructional arrangement usage, learning performance, and understudy work, as well as electronic connection with school instructors, understudies, and guardians. Furthermore, organizational techniques are utilized to improve the general condition of the institution. The communication lines between all of the partners, as well as the principals and directors, are very

strong based on different perspectives and dimensions, as well as the perspectives of stakeholders to LMS usability and applicability.

CONCLUSIONS

The onset of the global health crisis last 2020 has reshaped instructional settings into smart learning environments. The use of Learning management systems (LMS) is one panacea to mitigate learning loss. Learners and instructors use a software platform to complete, support, and manage instructional activities based on established objectives. This study revealed that teachers and students primarily utilize Learning Management System for course administration, for distribution of information sheets and for communication with co-learners and with teachers. The perceived utility of learning management systems as to their productivity, knowledge, and recommandability yielded significant differences among the undergraduate students, post graduate students, and the professors of Zamboanga Peninsula Polytechnic State University. End-users find the current utilized LMS to be beneficial in the teaching-learning process specifically in the dimensions where the LMS platforms are primarily utilized as tool for course administration, for distribution and for communication. Overall, the different platforms used in support to the pedagogical functions fulfill, support and manage instructional activities.

RECOMMENDATIONS

The results of the study on the hybridization of learning management systems are salient inputs for the improvements of the LMS platforms especially for institutions which would be purchasing proprietary online LMS platforms for customization.

1. When it comes to education, the adoption of proper Learning Management Systems (LMS) is essential if educational sectors are to reach their full potential. When it comes to properly managing the systems now in use, the school administration must follow a set of rules and regulations. The administration's ability to interact with and apply learning systems that are relevant to their needs and situations is measured by the method's success rate (or failure rate). The school should conduct a thorough review of the LSM efforts that it implements in order to increase the productivity of its constituents and stakeholders.

2. The benchmarking of future research projects should serve as a reference for the evaluation of the efficacy and productivity of LSM. In order for the curriculum to achieve one of its primary tasks, the studies must demonstrate their applicability and relevance to the curriculum. Learning Management System (LMS) implementations must search for possibilities for growth and development that will have an influence on student learning before they can be implemented.

3. The accessibility of LSM must be taken into consideration by both the management and education sectors. In the modern educational setting, the LSM have been determined to be crucial, and they have a major influence on the delivery of education. Administrators in universities and schools, as well as those in major educational organizations, must deal with implementation in order to maximize instruction, application, and usage throughout the whole spectrum of higher education institutions and organizations.

REFERENCES

Akram, M., & Khan, A. M. (2020). Exploring E-leadership of principals: increasing school effectiveness by learning management system, *Journal of Education & Social Sciences*, 8 (1), 15-30

Commission on Higher Education. (2020, https://ched.gov.ph/: https://ched.gov.ph/

Ellis, R. A., Calvo, R.A., (2007)., Minimum Indicators to Assure Quality of LMS-supported Blended Learning. https://www.researchgate.net/publication/220374540_Minimum_Indicators_to_Assure_Quality_of_LMS-supported_Blended_Learning

Garrote J. R., Pettersson, T, Gómez, A.R., Max, S., (2014). Classification of the Features in Learning Management Systems.

https://www.researchgate.net/publication/26927461 6_CLASSIFICATION_OF_THE_FEATURES_IN_L EARNING_MANAGEMENT_SYSTEMS

Ifenthaler, D. (n.d.). Implementation of web-enhanced features for successful teaching. *https://members.aect.org/* (p. 13). Albert-Ludwigs-University Freiburg, Germany.

Kember, D., McNaught, C., Fanny C.Y. Chong, P., Lam, K.F. Cheng (2010) Understanding the ways in which design features of educational websites impact upon student learning outcomes in blended learning environments, Computers & Education, 55(3), pp.1183-1192, ISSN 0360-1315

Najmi, S., Jaafar, N., Paiz, R., (2016). Students' preference for tools on learning management system. *International Young Scholars Journal of Language*. https://www.iium.edu.my/media/26509/2.%20STD ENTS%E2%80%99%20PREFERENCE%20FOR %20TOOLS%20ON%20LEARNING%20MANAG EMENT%20SYSTEM.pdf

Rabiman, R., Nurtanto, M., & Kholifah, N. (2020). Design and development e-learning system by learning management system (LMS) in Vocational Education. https://files.eric.ed.gov/fulltext/ED60531 6.pdf

World Bank. (2020). The COVID-19 crisis response: supporting tertiary education for continuity, adaptation, and innovation. world bank, Washington, DC. World Bank. https://openknowledge.worldbank.org/handle/10986 /34571

AUTHORS' PROFILE

Jason V. Chavez, is a MOOC (Massive Open Online Course) Facilitator, American English Trainer and a Language Teacher Specialist who undergone training from the US Embassy in the Philippines. He is currently a full-time language, marketing, and research instructor of Zamboanga Peninsula Polytechnic State University (ZPPSU). He is the Director for Research Facilitations Office and Director for Flexible Learning Office in the same University.

Collin C. Ceneciro, is currently the Director for Planning and Development Office, Quality Management System Leader, and the Head for Learning and Transition, Flexible Learning Office of Zamboanga Peninsula Polytechnic State University. She is also a fellow of the Korea International Cooperation Agency (KOICA) Philippines and the Silla University where she successfully completed the Capacity Building for Higher Education Policy last October 6 to 19, 2019 in Silla University, Republic of Korea. Currently, she is the Director for Planning and Development and Quality Management System Leader of Zamboanga City State Polytechnic College, where she also handles Professional Education subjects in the College of Teacher Education. She is also a researcher on the field of Social Sciences. She completed her doctor of Philosophy in Development Management Educational Administration and Masters in Education English in Ateneo de Zamboanga University.

COPYRIGHTS

P – ISSN 2651 - 7701 | E – ISSN 2651 – 771X | www.ioer-imrj.com
CHAVEZ, J.V., CENECIRO, C.C., *Hybridization of Learning Management Systems in Tertiary Schools, pp. 116 - 122*
122