

Integration of Learning Management System (LMS) In Facilitating Class in Understanding Culture Society and Politics (UCSP) Subject To Technical Vocational Livelihood Senior High School (TVL-SHS) Students

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Abstract: *The research aimed to integrate Learning Management System(LMS) in facilitating class in Understanding Culture, Society and Politics (UCSP) subject to Technical Vocational Livelihood(TVL) senior high school (SHS) students. A quantitative, descriptive approach was used in the study and measured pre-test-post-test using the exam scores of the students. Quipper School was considered as LMS in doing the study. The created online class for students was designed to support the curriculum of UCSP subject. The statistical reports generated by Quipper School were considered as data for analysis. Interviews and direct observation of the subject teacher was also considered. The results show that all students were able to access LMS. The issues with internet connectivity, limited computer availability and distance of classroom to computer laboratory contributed to the length of access of the students to LMS. The computed mean value of 13.28 or 18.98% topics completed and a computed mean value of 8.03 or 11.48% topics mastered by the students based on the assignments given in the LMS were recorded. It was found out that there is an increase rate of 6.38% improvement to exam score of the students after the integration of LMS to the students.*

Keywords: *Learning Management Systems, Understanding Culture Society and Politics, Quipper School, Technical Vocation Livelihood, Senior High School*

I. INTRODUCTION

21st Century allows continues leap in technology to tear down barriers resulting to a more borderless world. This global phenomenon resulted in major changes in the workplace that requires workers to have different set of skills, knowledge and attitudes. (Orosa, 2012). The combination of education and technology can build dynamic teaching and learning experiences tailored to develop and transform the educators and learners needed to power the digital economy (Garcia, nd). It is argue that utilizing electronic and online teaching and learning resources are more cost efficient than with the expensive costs of paper, printing, warehousing and physical distribution(Orosa, 2012).According to Garcia (nd), the behavioral intention to use LMS or e-learning technology of Filipino college students using Technology Acceptance Model (TAM) are predictor values such as internet connectivity, experience, social media influence integrated multimedia instruction, system interactivity and perceived quality work of life. A

proposed solution that answer the need for world class 21st century education is the use of interactive multimedia digital content and online delivery systems such as Learning Management System (LMS) (Orosa, 2012).

Learning Management System (LMS) define as a virtual environment that aims to simulate face-to-face learning environments with the use of Information Technology (De Oliveira, Paulo et al., 2016). It is a software application that is used to plan, deliver, publish and place self-paced online courses in online catalogs (CommLab India, nd). Lonn and Teasley (2009) stated that LMS are web-based systems that enable teachers and students to share materials, to submit and return assignments and to communicate online. The acquisition of competencies and communication skills of teachers and students using LMS as mediation tool, giving focus to create interaction moments with students in a participatory manner to support learning process (De Oliveira, Paulo et al., 2016).

In the Philippines, LMS is use as a venue for academic discussions as well as learning assessments, sharing learning resources and content, and student's submissions of course requirements (Dela Pena-Bandalaria, 2009). The Department of Education (DepEd) K to 12 Basic Education program implementation anchored in Republic Act 10533 or The Enhanced Basic Education Act of 2013 brought changes to education system of the Philippines. The Senior High School Curriculum, as part of the K to 12 Program, intends to produce graduates that are holistically developed; Equipped with 21st century skills; and prepared for the future (nd). One of the core subject in Senior High School is Understanding Culture, Society, and Politics which aims to acquire ideas about human cultures, human agency, society and politics and develops social and cultural competence to guide student's interactions with groups, communities, networks, and institutions (DepEd CG, 2016).LMS is eLearning systems that create online class that can provide distance learning which provide experiences to students in attending class even if students cannot be in class physically (Berg, 2018). The Philippine "Open Distance Learning Act" or Republic Act No. 10650 declared the policy of the State to expand and further democratize access

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to quality tertiary education through the promotion and application of open learning as a philosophy of access to educational services, and the use of distance education as an appropriate, efficient and effective system of delivering quality higher and technical educational services in the country (Gazette, 2014). Open Distance Learning Act is supported by eLearning systems or LMS.

Quipper School is an LMS and an e-learning software platform which has been in the forefront of advancing the learning level of Filipino students through tools employing information and communications technology. It combines powerful technology with excellent content to transform the teaching and learning experiences and has been integrated for blended learning and teaching in K-12 program (Pitagan, 2017). It empowers teachers to streamline teaching methods and class management, and enables students to learn in a fun and effective way. The partnership Quipper School and Department of Education help the agency in implementing Grade 11 and 12 curricula into the Philippines's new basic education system (Campos, 2016) which allows Department of Education to use the learning resources available in Quipper School free of charge. According to Pitagan (2017), Quipper School has a positive effect in the learning process and development of the students.

Magdalena Integrated National High School (MINHS) is one of the 5965 schools in the country who offered senior high school operated and funded by the government (DepEd website, 2016). The school was established in 2009 as an annex of Buenavista National High School with a population of 1042 junior high school students and 120 pioneering senior high school students for school year 2016-2017. The school offers two tracks: Academic Track and Technical Vocational and Livelihood (TVL) track.

Rationale

The research aimed to describe the impact of integrating LMS in facilitating classes of UCSP subject to senior high school students under the Technical Vocational Livelihood track in Magdalena Integrated National High School. This study will be significant to students, teachers, and school leaders. Students and teachers can use LMS in support to teaching and learning because of the opportunity for students to self-learned using the provided validated modules and flexible to access resources thru its created online class via internet while teachers can easily monitor students performances using the generated reports readily available in LMS. School leaders will be better able to manage and ensure that learning resources will be align to the required curriculum because of the available modules validated by DepEd that can be used by teachers and students in facilitating the class.

Scope and Limitation

The study was limited to pioneering senior high school students of Information Communication Technology (ICT) program and Home Economics (HE) program academic year 2017-2018. The LMS used in the study is Quipper School which will focus only to UCSP created online class. Quipper School in partnership with DepEd provided an opportunity for public schools to become a verified school and avail the special Free LMS

features including the validated modules and opportunity to create an online class to support the teaching and learning among students align to the required curriculum guide of the subject.

Research Questions

The research ought to answer the following questions:

What is the level of student access to Learning Management System?

What is the mean value of UCSP topics completed by the students in Learning Management system?

What is the mean value of UCSP topics mastered by the students in Learning Management System?

What is the mean value difference of the exam results of the students in the subject?

Methodology

The study used a quantitative research design. Quantitative research methods include variables that call for measurable characteristics of the population. A large population yields more reliable data. This study used the total population of all senior high school students under TVL program to ensure reliable and valid results for analysis. Descriptive and pre-experimental design was adopted to observe a single group of participants after some intervention or treatment presumed to cause change (Salkind, 2010). A pre-test-post-test design measures the group two times or before and after the intervention (Prieto, Naval & Carey, 2017). The intervention to observe the phenomena as they occur naturally in the integration of LMS in the facilitation of UCSP classes to all senior high school students under TVL track. Exam results serve as the data for pre-test -post test for analysis and interpretation. The statistical data provided by the LMS was considered for analysis and interpretation. A computed mean value was used to measure the data collected. A direct observation of the subject teacher and interviews were considered to support and validate the results and analysis.

Participants/Data Source

The study considered the total population of grade 12 pioneering SHS students under TVL track program of MINHS (See Table 1). The students were composed of three classes with two sections under ICT and one section for HE program. It was noted that majority of the students or 70% of the students under the TVL program belong to below average performing students based on their Form 138 card when they completed junior high school. Selected students which randomly selected during the access to LMS were interviewed related to the study.

TABLE NO. 1: Respondents of the study

Class	Section	Number of Students
1	ICT Section Osmena	27
2	ICT Section Garcia	28
3	HE Section Macapagal	31
Total Respondents		86



Data Gathering Procedure and Instruments

At first the online classes were created in LMS (Quipper School) for the three classes of TVL under UCSP subject. The students were enrolled in the created online class. The teacher prepared the assignments based on the modules provided by LMS for UCSP subject. The teacher arranged a schedule for Internet Access in the computer laboratory of the school to ensure that students will be able to access the LMS. The twice a week schedule provided the students to access the online class and explore the modules in LMS, do the assignments and take online quizzes based on the assignments prepared by the teacher. It was also complemented by the three times a week face to face meeting with the teacher for the discussion of the topics with the students. The exam content is based on the topics given in the assignment which was posted online and align to the curriculum of the subject. The percentage of topics completed and topics mastered by each student were recorded readily available by LMS through automated statistical student data report for teacher viewing and monitoring. The exam results of all students taken on First Quarter period without access to LMS were also recorded and the exam results of all students taken on the second quarter with access to LMS were also recorded. The two mean values were compared and the differences of the values were computed and used for interpretation to determine the rate of change of the exam scores results of the students.

Data Analysis

TABLE 2 Student access to Learning Management System

Class	Number of Enrolled Students in LMS
ICT Section Osmena	27
ICT Section Garcia	28
HE Section Macapagal	31
Total Number of Enrolled Students in LMS	86

Table 2 shows that all students were able to access the LMS through the created online class of the teacher. Students were able to enroll themselves using the 'enrolment key' provided by the teacher using the computers and internet access of computer laboratory of the school. It was noted that LMS (Quipper School) is free in partnership with DepEd to support the curriculum of K 12 program.

TABEL 2.1 Issues related to student access to LMS

No	Observation
1	Internet connectivity
2	Limited computer availability
3	Distance of computer laboratory to classroom

Table 2.1 shows the observable issues provided by the UCSP subject teacher in facilitating the class using LMS. It was noted that Internet connectivity is an important factor to use LMS because it can only access via internet, the disconnection of internet service, slow internet connection are some reason students were not able to access the LMS. Some computers in the laboratory were not working

properly which contributed to have limited computers to be used by the students to access LMS, a ratio of three students to one working computer (3:1) was noted. The distance of classroom building to computer laboratory building will have approximately 10mins travel walk and will take 5-8mins to successfully log in to LMS in the laboratory. The 50 minutes allotted time for the subject per meeting were not consume to access the LMS since schedule were only twice a week from the 5 class meetings in the subject.

TABLE 2.2 Feedback from students related to experiences using LMS

No	Observation
1	"I am entertained while learning the subject"
2	Understanding the topic or lesson in UCSP is easy with the help of Quipper
3	"I read the lesson post in Quipper"
4	"Taking online quiz help me to get high score in UCSP exam "
5	"I am empower with the message provided by Quipper every time I got good results in quizzes"
6	"I am encourage to study UCSP with Quipper School"

Table 2.2 shows the feedback from the students related to student's experiences in using LMS. The data were collected through interview by asking question "What is your experience in using LMS(Quipper School)?. The data gathered shows that students have positive experiences in spite of some issues with access to LMS which was stated in Table 2.1 (see Table 2.1).

TABLE 3: Topics completed by the students using the LMS

Class	Topics Completed	%	Assignment Completed	%
ICT Osmena	9.19	13.13%	11.44	16.34%
ICT Garcia	15	21.43%	8.36	23.89%
HE Macapagal	15.66	22.37%	12.44	27.10%
Mean	13.28	18.98%	15.71	22.44%

Table 3 shows the mean value of topics completed by the students using the LMS. The UCSP subject has 70 posted topics in LMS with computed mean value of 13.28 or 18.98% for all topics completed while mean value of 15.71 or 22.44% for the assignment completed.

TABLE 4 Topics mastered by the students using the LMS

Class	Topics Mastered	%	Assignment Mastered	%
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ICT Osmena	3.3	4.71%	4.67	6.67%
ICT Garcia	8.36	11.94%	8.68	12.40%
HE Macapagal	12.44	17.77%	15.07	21.53%
Mean	8.03	11.48%	9.47	13.53%

Table 4 shows the mean value of topics mastered by the students using the LMS. The topics mastered by the students have a computed mean value of 8.03 or 11.48% topics mastered based on the total 70 topics of the subject while 9.47 or 13.53% topics mastered provided in the assignment.

TABLE 5 Exam results of the students without access to LMS

Class	First Quarter Exam Results
ICT Osmena	74.75
ICT Garcia	83.05
HE Macapagal	77.21
Mean	78.34

Table 5 shows the exam results of the students without access to LMS, the score were converted to percentage score with 50% base passing score. The table shows a computed mean value of 78.34% for the exam results during the first quarter examination.

TABLE 6 Exam results of the students with access to LMS

Class	Second Quarter Exam Results
ICT Osmena	85.00
ICT Garcia	86.16
HE Macapagal	78.50
Mean	83.22

Table 6 shows the exam results of the students with access to LMS, the score were converted to percentage score with 50% base passing score. The table shows a computed mean value of 83.22% for the exam results during the second quarter examination.

TABLE 7 Exam results comparison between the first quarter and second quarter score

Class	First Quarter Exam Results	Second Quarter Exam Results	Difference	Rate of change
ICT Osmena	74.75	85.00	10.25	13.71%
ICT Garcia	83.05	86.16	3.11	3.74%
HE Macapagal	77.21	78.50	1.29	1.67%
Mean	78.34	83.22	4.88	6.38%

Table 7 shows the comparison between the exam results of first quarter examination and second quarter examination. The data shows that all classes have increase scores with computed difference value of 10.25, 3.11, and 1.29 respectively with a computed mean value of 4.88. The

increase rate is 13.71% for ICT Osmena, 3.74% for ICT Garcia, and 1.67% for HE Macapagal with a computed mean increase rate of 6.38%.

Results and Discussion

All students have given an opportunity to access the LMS using Quipper School and able to enroll themselves using the provided ‘enrolment key’ of the teacher for UCSP class. These shows that students were able to access the LMS but some issues such as internet connectivity, availability of enough computers for access, distance of classroom to computer laboratory were identified which contributed to the length of student access or limited access to LMS. This situation allow peer sharing of computer access of 2 students or 3 students to 1 computer access to explore the modules and answer assignments posted in LMS. The observable attitude during the student access of the LMS is enjoyment when taking quizzes with gamification features of Quipper School. Gamification is an application with game like features that provide recognition to students every time they answer correctly in the quiz which provide motivation among students to continue exploring the online class to master the topic assign to them. This statement was supported by teacher direct observation of the students. To make the LMS effective interactive modules are preferred by the students and giving quizzes and assignments is highly encourage (Dimasuay & Pabro, 2009), these maybe the reasons why students have good experiences in Quipper which provides interactive modules and quizzes.

The completion and mastery of the topics results of the students were both directly proportional based on the gathered data. The computed mean value of 13.28 or 18.98% topics completed were recorded based on the modules posted online while a computed mean value of 8.03 or 11.48% topics mastered by the students based on the assignments given in the LMS. The results show that the integration of LMS in facilitating class in UCSP subject to TVL SHS students created an increase rate of 6.38% to exam score results.

The increase rate of improvement related to exam results shows that Quipper contributed positively in the performances of the students. Mulyono(nd) stated that Quipper is an online learning platform useful for promoting independent leaning for the students, with support from teachers and peers. Furthermore, the features were user friendly and supported the required curriculum of the subject. According to Mr. Mulyono Quipper is a feasible alternative for teachers to assign learning tasks to students outside the classroom and provide privileges to teacher’s access to monitor students’ engagements with the task and enables them to evaluate their achievement, particular in the areas of students learning competencies.

Conclusion and Recommendation

Summary of Findings

It is concluded that the integration of Learning Management Systems (Quipper School) to facilitate the



class in Understanding Culture Society, and Politics subject to all Technical Vocational Livelihood Senior High School students have positive contribution in improving the student performances through improved exam scores of the students. According to research entitled “ Quipper School contributes to higher test score , attendance rate and assignment submission in teaching Mathematics” states that students with constant or intermittent exposure with LMS(Quipper School) are more likely to demonstrate high test scores and keep the attendance at high level and more likely to submit assignments. It is concluded that the exposure of students to LMS by exploring the modules and answering the quizzes help each students to retain concepts pertaining to the subject. LMS is also helpful to teachers to feel empower by using an alternative way using the available technology in facilitating the class through LMS that support teaching and learning.

The computed mean value of topics completed in the LMS is 13.28 or 18.98% while the computed mean value of 15.71 or 22.44% completed topics for the given assignment.

The computed mean value of topics mastered is 8.03 or 11.48% while the computed mean value of topics masters in the given assignment is 9.47 or 13.53%.

The computed mean value of pre-test or the first quarter exam score is 78.34% while the computed mean value of post-test or the second quarter examination after the student access to LMS is 83.22% with increase rate of 6.38%

The integration of LMS in facilitating class is proven to be effective to the three classes of TVL SHS students of MINHS. The LMS contributed to the improvement of their learning experiences in the subject through good exam results after the exposure of the students to LMS.

Recommendations

It is recommended to integrate LMS (Quipper school) in facilitating the UCSP class and other subjects available in Quipper School to support teaching and learning and opportunity to equipped both teachers and students with current available technology. This strategy can be applied to other subject and program such as academic track.

Training for teachers to orient the proper integration of LMS in facilitating class is also important to equip each teacher with the benefits that LMS offers to help acquire the achievement of learning outcomes of the subject align to the required curriculum set by DepEd.

The appropriate schedule of classes in computer laboratory for internet access is important for public schools that have students or majority of the students do not have their own computer and internet access, to ensure that students can access the LMS. Proper monitoring and maintenance of school computer laboratory is important to ensure that continuous Internet connection and all computers are working properly to be used by the students and maximized the time allotted for them to access the LMS. Further studies which will focus on individual performances of the students with integration of LMS is recommended.

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