LMS-Assessing the Management Information System Moodle at Mopan Technical High School

Shaquirah Samuels
University of Belize
Vista del Mar, LadyVill
2018118639@ub.edu.bz

Shawnnel Tucker
University of Belize
Monkey Bay, Belmopan
2015112387@ub.edu.bz

Alana Sotz
University of Belize
Otox Ha street, Belmopan
2018117920@ub.edu.bz

Estrella Rodriguez
University of Belize
San Lazaro, Orange Walk
2020152711@ub.edu.bz

Jeran Lopez
University of Belize
Benque Viejo Town
2019251201@ub.edu.bz

Abstract

Online classes mainly take place through the internet. As such, online classes lack the regular student teacher interaction that is common with traditional learning. On the other hand, learning in traditional classes involves direct interaction between the student and the instructors (Donovan, Mader and Shinsky 286). Modern technology has infiltrated the education sector and as a result, many lecturers now prefer online classes, as opposed to attending the traditional regular classes. This is because online classes are Asynchronous. However, students who have enrolled for online learning do not benefit from the one-on-one interaction with their peers and teachers. This study seeks to determine the success of the learning system "Moodle" at Mopan Technical High School, by using DeLone and Mclean's Information System Success Model. Information system success measure the level of success of information systems as well as any information related to the information success model. The Information success model helps in providing an understanding of Information System success by identifying, describing and explaining the relationship among key components related to information system success.

Keywords: (LMS) learning Management System, Moodle, Lecturer, Productivity, other LMS, Mopan Technical High School

Introduction

As many students are experiencing the drastic changes in how Moodle is being used all over the world, including the manner in which many use technology to interact with each other. Lenton stated that as web based learning has gone standard, it has never been more critical to pick an instructive Learning Management System (LMS) tailored to an institution's mission and goals (Fenton, 2018). In recent years, higher education, like many other sectors and organizations, has seen an influx of technological advances and solutions especially in these of times of pandemic (Mansfield, 2019).An LMS gives the backbone on which the work process of schooling runs. Utilizing a LMS, educators can allocate work, share content,

and post grades while students can turn in work, see content, and collaborate on forums and with social-like features (Mansfield, 2019).

The main purpose of this research was to evaluate the success of the learning system "Moodle" at the Mopan Technical High School. The group has found out that many students are now enrolled in asynchronous class, according to TBS "Asynchronous learning does not require real-time interaction; instead, content is available online for students to access when it best suits their schedules, and assignments are completed to deadlines" (TBS, 2021).Therefore, it is very important to find out if the learning management system "Moodle" is effective and efficient. This research can be very useful to the institution which will both benefit its customers and staff. Which will allow the researches to identify how the institution can better improve the utilization of the learning management system "Moodle" and to, also alert the institution on how effective the performance of the system is .Overall, the purpose of this research was to learn and intend to learn if "Moodle" is efficient and effective for students of Mopan Technical High School.

Literature Review

Over the years E-learning has become an important tool for schools on all levels. One of the most widely-used e-learning platforms today is Moodle. Designed to create a personalized learning environment online for students, administrators, and educators, Moodle has been used to enhance learning. Al-Ajlan & Zedan(2014) compared Moodle with other Virtual Learning Environment(VLE) platforms to see which is more suitable for use. The study focused on two kinds of comparison. The first comparison being the features and capabilities and the second comparison being the technical aspects. The study concluded that Moodle had the best result in both comparisons than other VLE platforms. Though the researchers did their own share of research, they did not carry out any survey nor interviews with students or teachers. Our research improves on their limitations since we will collect surveys from teachers and students. Similarly, Sachan & Singh (2015) compared Moodle and Blackboard to find which was best for virtual learning. With a group of students using both learning platforms to gather different perspectives on the tools and system of both platforms, the research finished with Moodle being the best option. Due to Moodle's open source and customizable features, many students chose it instead of Blackboard.

The moodle platform is not only popular due to its many features but also how it helps with student's performance. Umek, Keržič,Tomaževič, & Aristovnik(2015) aimed at how the Moodle platform as part of the teaching process is related with students' performance. The research was conducted by analyzing the performance of undergraduate students in two study programmes and the higher education professional study programme where it was mandatory to use Moodle at a certain university. It was concluded that Moodle helped students to significantly increase their performance (average grades and exam). The limitations of this research was the limited data set the researchers could have collected since other study programmes at the university did not use Moodle. In our case, everyone at the institution we researched upon is required to use Moodle therefore, we do not have limited data sets. In another research, Stasinakis & Kalogiannakis focused on Moodle's use for implementation and organization of one course. It was conducted by the students using the platform for a project. The choice of using Moodle was met with positive acceptance from the students since the project was more organized and working with group members improved significantly. It should be noted that the research was performed in only one class of 16 students which was a limitation for the researchers. On the contrary, our research consists of more student-participants therefore broadens our feedback. On the other hand, some studies find that technical support for e-learning platforms play a significant role in Moodle's usefulness. With the aim to understand students' satisfaction/dissatisfaction with the Moodle platform, Sanchez & Hueros (2010) conducted their study through the use of questionnaires given to 266 students of a university. With the response of many students, the researchers found that universities need to recruit personnel trained in the use of distance learning systems in order to support students' needs. The study suggests system designers should incorporate more assistance options and support services so that students can resolve problems and answer possible doubts about the system. Similarly, Kintu, Zhu, & Kagambe (2017) investigated the effectiveness of information systems in regards to a student's background, characteristic, and the school's IS feature. The research concluded that these three factors should be met in order for better student performance and an information system should be put in place that fits the needs of every student for better results. The researchers found these results through the use of a survey administered to

238 respondents for data gathering on the three aspects, final semester results used to measure performance and online self-regulatory questionnaire.

Focusing more on the educators, administrators and others within the school system, Breiter & Light (2016) focused on how schools use their information systems and the information needs of end users across different levels of the system. The researchers gather information through the use of interviews with 47 educational leaders, ethnographic research in 15 schools and 31 interviews with teachers on specific levels. The study concluded that information systems should be designed to fit the needs for different users within a school for better decision support which are defined by their different relationships with the students. For example, the information system needs a teacher for her class is quite different from a school principal deciding on professional development programs to offer his teachers. We can see that learning platforms and information systems must also assist not only students but faculties and affiliator of institutions as well. For example, Shah (2014) showed in their study that proper implementation of information systems (IS) can enhance principals, teachers and administrators skills and performance. However, every school has its own specific needs and must adjust their IS to that. In the case of Caliskan & Bicen(2016) who examined teachers' perception of Moodle, found that Moodle enables more persistent learning compared to traditional class environments. With 120 teacher candidate data collected through the use of interview form and questionnaire, the only limitations being no teacher candidates used Moodle consistently for distance education. In our case, due to COVID-19, distance learning is mainly used thus more teachers are using Moodle frequently. Moving on, Lopes (2013) pointed out that Moodle allows lectures many options and tools thereby increasing their learning environment for their students. Because of the internet access and other technological conditions, teachers can benefit from the diversity of online information, communication and collaboration.

In addition to student-teacher performance, many research has been conducted to evaluate how Moodle should be implemented for better success. Cabero, Arancibia, & Del Prete (2019) administered a questionnaire to 640 to higher education teachers to determine the technological use of Moodle and its implications in teaching. The researchers discovered that Moodle should not be used only to incorporate content but also other measures referring to organizational, methodological, and training aspects. In order for Moodle to become successful, the researchers noted that educators should use Moodle to build social, communicative and collaborative potential for students. Gogan, Sirbu, & Dragici (2015) focused on the functionalities of the Moodle platform such as identifying the training of students in using Moodle. By using a SWOT analysis and questionnaire survey, it was determined that for Moodle to be a powerful educational web environment, Moodle should be used to provide new formats compared to traditional teaching (teaching, reading and listening). By doing this students will be able to evaluate their skills,knowledge, strengths and weaknesses to select their optimal method of learning. Managing Moodle to be used to its optimal use can be seen as an important aspect in the teaching process. Similarly, Bahsh, & Daoud (2016) research on the effectiveness of Moodle by giving questionnaires to 46 students. The study found that Moodle was used mainly as a means of access of course materials and information. However, the interactive tools are not effectively utilized. The results suggest that expanding Moodle's use in the educational process simply by using its interactive tool can achieve an effective and interactive learning environment. Not giving out questionnaires to teachers limited the researchers from understanding the reason why they were not utilizing the interactive tools to its most optimal use. In our case, as mentioned before our study will be to understand the success of Moodle by surveying both teachers and students thus, we improve on understanding the teacher perspective of the research. As Olmos, Mena, Torrecilla & Iglesias (2015) pointed out; Moodle should be used as a complementary to the teaching-learning process and should not be a replacement to it. Only then can it be used to its full potential. Additionally, Al-Fraihat, Joy, Masa'deh & Sinclair (2020) determined that supportive issues in the e-learning system have a significant and positive influence on the system's use, perceived usefulness and perceived satisfaction of the e-learning system. The researchers, with the aim of evaluating the success of e-learning systems such as Moodle, concluded that schools should provide students with clear and concise information with well-organized and logical components for increased usefulness and satisfaction of the system. This will greatly help those engaged in E-learning for improved outcomes.

Does Consumerization attitude impact the task technology fit of a learning management system?

MODEL, HYPOTHESIS, AND SURVEY FOR TEACHER SURVEY
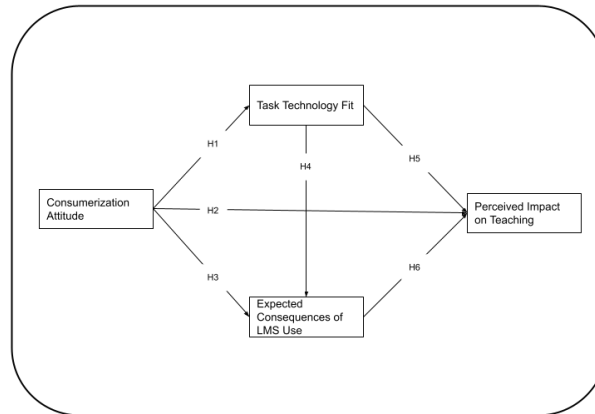
H1: Consumerization attitude will negatively influence perceived task-technology fit.
H2: Consumerization attitude will positively influence perceived impact on teaching.
H3: Consumerization attitude will negatively influence expected consequences of LMS use.
H4: Task technology fit will have a positive influence on expected consequences of organizational LMS Use.
H5: Task–technology fit will have a positive influence on perceived impact on teaching.
H6: Expected consequences of LMS use will positively influence perceived impact on teaching.

Research Methodology

Data Collection Process

Data Collection and Implementation. There are three methods we can use in our research to extract and measure the lecturers perspective and view of the Learning Management System (LMS) Moodle: single global rating, personal interview, and the summation of job facet a method commonly used to measure "job satisfaction" which we will implement in our research to extract valuable data from our participants. A single global rating is a method whereby the participants respond to a single question. Basically the single global rating approach is a response to one question, such as, "All things considered; should criminals be sentenced to death?" Respondents will circle a number between 1 and 7 on a scale from "Strongly disagree" to "Strongly Agree." The summation job facet method is when the respondents answer to a standardized scale and at the end; the researcher comes up with the rating score. Personal interview method, also known as the face to face method, is usually done when the respondent answers several questions asked by the interviewer. It focuses on observing the respondent behavior and at the same time, studies the answer of the participants.

In order to complete this study we will be using the single global rating and the "summation job facet method" that is used when measuring job satisfaction to extract data from our participants. In the questionnaire (see Appendix I), Section 1 questions 1 to 5 will be measured with summation job facet where comfortable questions will be asked for example: "what is your status?" following these questions there will be different opinions, there for Section 2, 4, 5, 6, and 7 will be measured using the Single global rating method provided a scale from 1 to 7 for each question. Section 3 will be measured using the summation job facet and the single global rating method to give us a more in depth data as to the lecturer experience prior to the LMS transition. In all Appendix I consist of 48 close ended questions, divided into 7 Sections due to the protocols imposed by the Ministry of health to avoid the spread of Covid19 we will be using Google forms to survey our participants form Mopan technical high school in order to collect our data.

Our population consists of the whole faculty staff of Mopan Technical high School although our sample will

be composed of 12 participants from Mopan Technical High School, where by both genders will make part of the sample. In order for us to accomplish and fulfill our objectives the team will first verify all instruments and processes to assure the validity of the responses before caring out computation of the sample, additionally each officer will be required to verify, and go over each questioner to confirm that all questions have been answered properly before analyzing the data to avoid misleading statistical analysis.

Data Entry

 All Our first hand data will be processed by two members of these research team. Due to the fact that our survey (see Appendix I), has been designed in a way to facilitate the processing of our data analysis we will make use of excel spread sheets to generate tables with numerical values from our questions that will then be presented in graphs and charts. For example (section 1) question one of our questioner asks about the gender of the individual, since we have already stated that our sample will be made up of male, and female's participants when counting the data gather from the questioner and presenting it in the spread sheet we should have counted 12 Individuals in all since our sample as previously stated is made up of 12 participants.

Gender	Sample	Official Count
Males	?	**6**
Females	?	**6**
TOTAL PARTICIPANTS	12	**12**

Additionally In order for us to generate accurate statistical information from our data we will make use of the Statistical Package of social Science (version 23 of SPSS) to assist us with the computation of more complex analysis such as correlation & deviations of the data.

Data Cleansing and Error Checks

As we mentioned on the previous section at first only two of our best officers will compute the data that has been gathered. In order for us to have no errors on the analysis our team will then audit the accounted data by a panel of three consisting of the rest of our group members. Manual calculations will be performed to confirm that we have made proper use of the software. For instance when analyzing the group data set we will use excel to confirm that we have entered the data properly in SPSS. For example question 1.2 (see Appendix I) asks about the age of the participants, since we have made ranges we will use excel to calculate the mean of the group data, standard deviation and then compare with our software package to confirm the results. For example

Data

Selling Price ($ thousands)	Frequency (f)	Midpoint (M)	$(M - \bar{X})$	$(M - \bar{X})^2$	$f(M - \bar{X})^2$
15 up to 18	8	16.5	−6.6	43.56	348.48
18 up to 21	23	19.5	−3.6	12.96	298.08
21 up to 24	17	22.5	−0.6	0.36	6.12
24 up to 27	18	25.5	2.4	5.76	103.68
27 up to 30	8	28.5	5.4	29.16	233.28
30 up to 33	4	31.5	8.4	70.56	282.24
33 up to 36	2	34.5	11.4	129.96	259.92
	80				1,531.80

$$s = \sqrt{\frac{\Sigma f(M - \bar{X})^2}{n - 1}} = \sqrt{\frac{1531.8}{80 - 1}} = 4.403.$$

Analysis and discussion

Our data was retrieved from a sample made up of 12 lecturers from the staff faculties from Mopan Technical High School. Face to Face contact was not possible hence our team made use of Google forms to issue the questioner to the school lecturers to abide by the health regulations imposed by the Ministry of health to avoid the spread of Covid19.

Our research was completed with the assistance of six female lecturers and six male lecturers from which only one holed a Master's degree and the rest of participants a bachelor's degree. The sample consisted of lecturers from the Academic, technical and Business faculty from which the majority ranged between the ages 31 to 50.

Demographics of participants

DESCRIPTION	COUNT
Gender	
Females	6
Males	6
Total	**12**
Age	
31-40	6
41-50	5
51-60	1
Total	**12**
Degree	
Bachelors	11
Masters	1
Total	**12**
Faculty	
Academic	4
Business	5
Vocational	3
Total	**12**
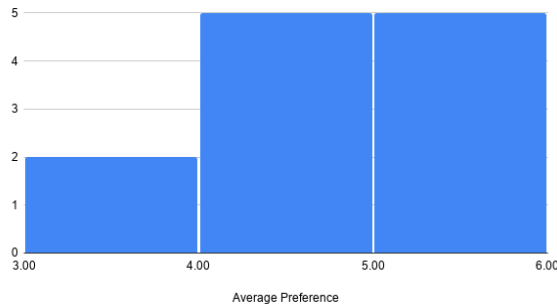
Figure 1. Histogram of Average Preference

Lecturers are more inclined to the traditional learning method than to the LMS Moodle, from the chart we can conclude that 80% has preferred to stick to physical learning as lecturers believe that students learn

more in physical classes than through a virtual classroom. Additionally lecturers consider that they are more effective to get their point across in a face to face learning environment that through a screen.
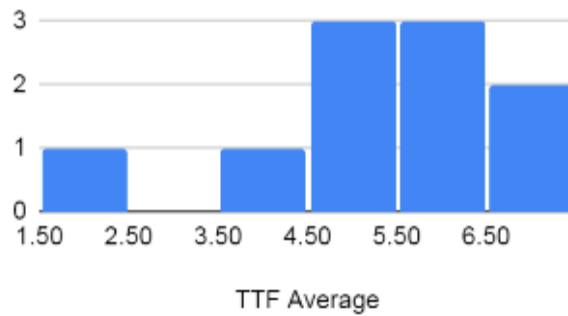
Figure2: Histogram of Tack Technology Fit Average

On a technical point of view and evaluation of the LMS in place Lecturers believe that Moodle is a great tool in education that can be used to complement a lecturer as it is very user-friendly, easy to learn and resourceful since it facilitate the distribution of information and communication with the students since teachers can allocate work, share content, and post grades while students can turn in work, see content, and collaborate on forums as opposed to one lecturer who strongly disagreed.
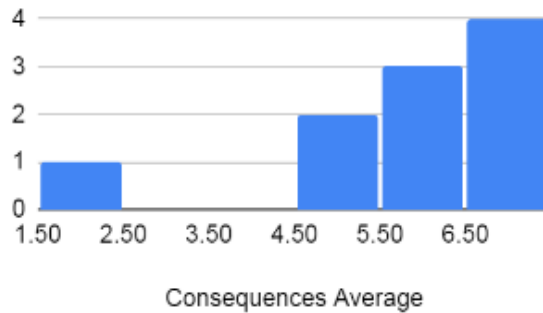
Figure3. Histogram of Consequences Average

Lecturers sympathize that the LMS "Moodle" can have a positive impact on productivity, and teaching performance. On the other hand one lecturer strongly disagreed that Moodle does have any impact in learning while nine other Mopan technical high school lecturers agreed that Using Moodle can enhance the effectiveness of a lecturer while teaching online.
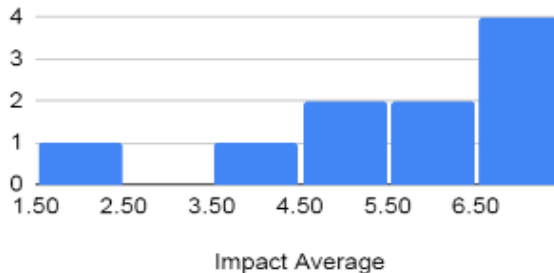
Figure4. Histogram of Impact Average

Lecturers from Mopan technical high school had a skeptical perception on the LMS Moodle had on learning. As per figure 4 outlines teachers are inclined to agreeing that Moodle thus help and that it is a

resourceful tool but they are not fully convinced that Moodle largely impact the effectiveness and productivity of a teacher.
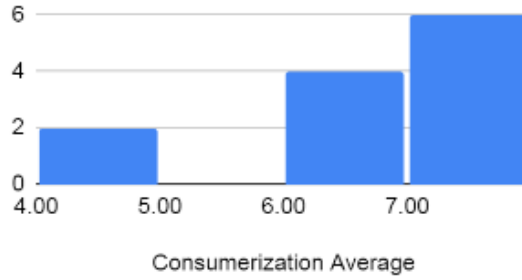
Figure5. Histogram of Consumerization Average

The vast majority of teacher agreed that if they could choose their own learning management system teachers would be able to be more effective and efficient; that is because as outlined by data collected the majority of teacher prefer using other platforms and means of communication to deliver content online those being Google class room and Microsoft teams with the highest ratings.

GRAPHICAL REPRESENTATION OF MOPAN LECTURERS RESPONSES

	ALL RESPONSES	**MOODLE ONLY**	**MOODLE +**
TTF			
CONSEQUENCES			
IMPACT			
CONSUMERIZATION			

Limitations
1) In order for us to accomplish and fully fill our objectives the team was going to conduct a field trip to the school where by we were going to come face to face with the lecturers to introduce and elaborate on the purpose of the research in order to proceed with our research tool the questioner to assess its reliability to avoid any misleading data that could skew our results. Due to the Health regulations imposed by the Mistry of health we were unable to execute the face to face activity with the lectures.
2) Out team does not count with the expertise of professional researchers. Despite not being expert researchers we trust that we are able to present the results in a manner that can be understood and reliable to the audience.

Conclusion

The pandemic had a very big impact politically, economically and socially. Although, the world may be shaken, the only way out of this is to adapt to changes. There are many lessons to learn from this pandemic, but what clearly stands out is that learning cannot stop. This research was done to assess the success of Moodle at Mopan technical High School. According to Ortiz "Education is the key to success" (Ortiz, N.d), Therefore, the institution can't let the learning of students endure. Lecturers from Mopan Technical high school sympathized that the traditional learning method is the most effective method to teach a student. In other words teachers preferred to stick to the traditional learning environment than to a virtual classroom as lecturers believe that students learn more in physical classes than through a screen. On a technical evaluation of the LMS in place Lecturers believe that Moodle is a great tool in education and that it can assist and complement a lecturer since teachers can allocate work, share content, and post grades while students can turn in work, see content, and collaborate. In all the major finding was that the majority of the lecturers would prefer to select their own learning management system rather than to use only Moodle, thus is was concluded that by lecturers choosing their own LMS it would be compatible with the lecturer's way of teaching to achieve a higher level of productivity and efficiency. Although Moodle is not the favorite learning system for all it is considered a resourceful, functional and productive tool for the lecturers.

Reference

Donovan, Judy, Mader, Cynthia and Shinsky, John. Constructive student feedback: Online vs. traditional course evaluations. *Journal of Interactive Online Learning*, 5.3(2006): 284-292

Fenton, W (2018) The Best (LMS) Learning Management Systems. Retrieved from https://www.pcmag.com/picks/the-best-lms-learning-management-systems

Mansfield, M (2019) the Best Learning Management System in Higher Education. Retrieved from https://pagely.com/blog/learning-management-systems-in-higher-education/

Ortiz, S. (N.d).Education is Key to Success. Retrieved from https://writingourfuture.nwp.org/americancreed/responses/403-education-is-the-key-to-success

TBS, (2021).What is Asynchronous? .Retrieved from. https://thebestschools.org/magazine/synchronous-vs-asynchronous-education/

Umek, L., Kerzic, D., Tomazevic, N., & Aristovnik, A. (2015). *Moodle E- Learning System and Students Performance in Higher Education* . The case of the Public Administration program. files.eric.ed.gov.

Sachan , K., & Singh, D. R. (2015, April). *A Survey and Comparative Analysis of E- Learning Platform*. Moodle and BlackBoard. www.paperpublications.org.

Ajlan, A., & Zedan, H. (2008, October). *Why Moodle*. Moodle. https://www.researchgate.net/publication/232615507.

Stasinakis, P., & Kalogiannakis, M. (2015). *Using Moodle in Secondary Education* . A case Study of the course "Research Project" in Greece. www. files.eric.ed.org.

Sanchez, R. A., & Hueros, A. D. (2010, July 14). *Motivational Factors that Influence the acceptance of Moodle using TAM*. Computers in Human Behavior. www.research.moodle.org.

Kintu, M. J., Zhu, C., & Kagambe, E. (2017, February 6). *Blended learning effectiveness: the relationship between student characteristics, design features and outcomes*. International Journal of Educational Technology in Higher Education. https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-017-0043-4.

Breiter , A., & Light, D. (2006, January). *Factors for designing effective information systems to support decision making in schools*. Data for School Improvement . www.researchgate.net.

Shah, M. (2013). *Impact of management information Systems (MIS) on school administration*. 5th World Conference on Educational Sciences. www.researchgate.net.

Caliskan, S., & Bicen, H. (2016, October 25). *Determining the Perceptions of Teacher Candidates on the Effectiveness of MOODLE Used in Flipped Education*. Procedia Computer Science. https://www.sciencedirect.com/science/article/pii/S1877050916326370.

Lopes, A. P. (2010). *Teaching with Moodle in Higher Education*. Technology. www.recipp.ipp.pt.

Cabero-Almenara, J., Arancibia, M., & Prete, A. del. (2019, January 15). *Technical and Didactic Knowledge of the Moodle LMS in Higher Education. Beyond Functional Use*. Journal of New Approaches in Educational Research (NAER Journal). https://www.learntechlib.org/p/207147/.

Gogan, M. L., Sirbu, R., & Draghici, A. (2015, April 3). *Aspects Concerning the Use of the Moodle Platform – Case Study*. Procedia Technology. https://www.sciencedirect.com/science/article/pii/S2212017315001644.

Bahsh, R. E., & Daoud, M. I. (2016). *Evaluating the Use of Moodle to Achieve Effectiveness* . A case Study at the German Jordanian University . http://osscom2016.osscom.org.

Olmos , S., Sanchez, E. M. T., Mena, J., & Rodriguez, A. I. (2015, March). *Improving graduate students learning through the use of Moodle*. Educational Research and Reviews . www.researchgate.net.

Al- Fraihat, D., Masa' deh, R. E., Joy, M., & Sinclair, J. (2020, April 9). *Evaluating E- Learning Systems Success: An Empirical Study*. Computers in Human Behavior. www.researchgate.net.

Appendix I

Research Instrument - [Questionnaire]

Prepared by: Jeran Lopez

LMS-Assessing Moodle at Mopan Technical High School

LMS-MOODLE ASSESMENT AT MOPAN TECHNICAL HIGH SCHOOL

University of Belize

BELIZE

University of Belize April 2021

This questionnaire should be completed and returned to the survey officer who distributed it to you. For further information or assistance concerning the completion of the questionnaire, please contact your nearest officer

INSTRUCTIONS	OFFICIAL USE
✔ Use No. 2 Pencils only ✔ Do not use pen. ✔ "Check" or "circle" the box with the appropriate response. ✔ Mark only one response for each question.	**Date:** _____ / _____ / _____ **Officer ID**: _____ **Officer Name: (Print)** _____ **Officer Signature:** _____

** The information hereby gathered will be confidential and will remain exclusively under the guard of the principal investigator. No names or personal details will be used in the formal analysis of these questionnaires.

LMS-MOODLE ASSESMENT AT MOPAN TECHNICAL HIGH SCHOOL

SECTION 1: GENERAL BACK GROUND INFORMATION

1) **Please indicate your Gender**
   a. Male   b) Female
2) **Please Indicate your Age range**
   a. 20-30
   b. 31-40
   c. 41-50
   d. 51-60
   e. >60
3) **Please Indicate which Learning management System (LMS) you have used:**
   a. Moodle
   b. Google Classroom
   c. Other_____
4) **Please Indicate you Highest Degree Attained**
   a. Associates
   b. Bachelors
   c. Masters
   d. PHD
5) **Please Indicate the faculty you Teach in**
   a. Academics
   b. Business
   c. Vocational

SECTION 2: LECTURERS TEACHING PREFERENCES

1) **I prefer teaching Face to face rather than Online**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

2) **I am more effective teaching face to face than online.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

3) **Students learn more in my face to face classes than online.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

4) **I would want to teach some online courses after classes resumes face to face teaching.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

5) **I would want to teach all my courses online rather than face to face teaching.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

6) **I would not want to teach any online courses after classes move back to face to face teaching.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

LMS-MOODLE ASSESMENT AT MOPAN TECHNICAL HIGH SCHOOL

SECTION 3: Prior Learning Management System (LMS) Use

1) **Please state the number of semesters you have used Moodle.**

   1   2   3   4   5   6   7

2) **I used Moodle to teach face to face classes prior to the High school's move to online delivery.**

   Yes_____   No_____

3) **I have taught classes utilizing an LMS other than Moodle.**

   Yes_____   No_____

4) **How many semesters have you taught using an LMS other than Moodle.**

   1   2   3   4   5   6   7

5) **I used an LMS other than Moodle to teach face to face classes (prior to online delivery)**

   Yes_____   No_____

6) **I plan to continue using Moodle to enhance my teaching after we return to face to face teaching.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

7) **I would like to continue using my preferred LMS to enhance my teaching after we return to face to face teaching.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

SECTION 4: TASK-TECHNOLOGY FIT (TTF)

1) **Moodle fits well with the way I like to teach online.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

2) **Moodle is compatible with all aspects of my online teaching.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

3) **Moodle is easy to use.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

4) **Moodle is user friendly.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

5) **It is easy to get Moodle to do what I want it to do.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

6) **Moodle is easy to learn.**
   Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

7) **It is easy for me to become more skillful at using Moodle.**

    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

8) **New features of Moodle are easy to learn.**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

9) **Do you think the output from Moodle to the students is presented in a useful format?**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

10) **Can you provide accurate information to your students with Moodle?**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

11) **Can you provide up-to-date information to your students with Moodle?**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

12) **Can you provide information students need in time using Moodle?**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

13) **Can you provide information that seems to be just about exactly what your student's need with Moodle?**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

SECTION 5: EXPECTED CONSEQUENCES OF LMS USE

1) **Using Moodle will help me to accomplish my online teaching more quickly.**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

2) **Using Moodle will improve my online teaching performance.**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

3) **Using Moodle will increase my online teaching productivity.**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

4) **Using Moodle will enhance my effectiveness as a teacher while teaching online.**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

5) **Using Moodle will make it easier to complete my teaching tasks while teaching online.**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

6) **Using Moodle will give me greater control over my teaching tasks while teaching online.**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

7) **Overall, I think that Moodle will be useful in my ability to teach online.**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

8) **Using Moodle will improve the quality of my online teaching.**
    Strongly disagree   ① ② ③ ④ ⑤ ⑥ ⑦   Strongly Agree

LMS-MOODLE ASSESMENT AT MOPAN TECHNICAL HIGH SCHOOL

SECTION 6: PERCEIVED IMPACT ON LEARNING

1) **Moodle has a large positive impact on my effectiveness and productivity as an online teacher.**
Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

2) **Moodle is an important and valuable aid to me in my online teaching.**
Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

3) **I teach better online with Moodle than without it.**
Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

SECTION 7: CONSUMERIZATION ATTITUDE

1) **If I could choose my own Learning Managements System it would fit well with teaching online.**
Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

2) **If I could choose my own Learning Managements System it would fit well with helping me to be efficient in teaching online.**
Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

3) **If I could choose my own Learning Managements System it would be compatible with my online teaching.**
Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

4) **If I could choose my own Learning Managements System my online teaching performance would improve.**
Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

5) **If I could choose my own Learning Managements System my online teaching productivity would improve.**
Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

6) **If I could choose my own Learning Managements System I would work faster while teaching online.**
Strongly disagree ① ② ③ ④ ⑤ ⑥ ⑦ Strongly Agree

Appendix II

Letter of Consent

Prepared by: Jeran Lopez

LMS-Assessing Moodle at Mopan Technical High School

Informed Consent Letter

University of Belize
UB
Education Empowers a Nation

LMS-Assessing Moodle at Mopan Technical High School

Informed Consent Letter

April 16, 2021

- ➢ Jeran Lopez
- ➢ Alana Sotz
- ➢ Estrella Rodriguez,
- ➢ Shaquira Samuels,
- ➢ Shawnnel Tucker

University of Belize
Belmopan,
Central Campus,
Hummingbird
Avenue
City of Belmopan

+501-670-9383

2019251201@ub.edu
.bz

Dear Participants,

You are invited to participate in a research Study being conducted by Alana Sotz, Estrella Rodriguez, Shaquira Samuels, Shawnnel Tucker and I, enrolled in the management Information course At the University of Belize.

The purpose of this research is to assess the success of the Learning Management System Moodle at Mopan Technical high School and to identify the perception of the lecturers while Educating Students. The questionnaire will focus on a general Personal background to help identify patterns to responses, additionally an attitude scale will also be given to illustrate your opinion on specific topics, allowing us to explore a detailed path of Analysis. The questionnaire will take approximately 15 minutes.

There are no known risks for partaking in this research study. Your participation is voluntary and you may decline to answer any question. In addition, you hold the right to withdraw from participating at any time. The research participants will remain anonymous. Confidentiality will remain at all times.

If you have questions about the study, feel free to contact the researcher at the email provided in this letter. The study is approved and endorsed by Dr. Kieran Ryan Management Information Systems Instructor at UB.

Thank you for your time and consideration.

Best Regards,

_____

Jeran Lopez
Research Team Leader

Appendix III

Consent Form

Prepared by: Jeran Lopez

LMS-Assessing Moodle at Mopan Technical High School

Consent form for Participation

'

LMS-MOODLE ASSESMENT AT MOPAN TECHNICAL HIGH SCHOOL

University of Belize

UB

Education Empowers a Nation

CONSENT FORM FOR PARTICIPANTS

I _____ agree to participate in the research project led by Alana Sotz, Estrella Rodriguez, Shaquira Samuels, Shawnnel Tucker and Jeran Lopez , students from the University of Belize.

The purpose of this document is to specify the terms of my participation in the project through being surveyed as follows:

- ➢ I voluntarily agree to participate in this research study.
- ➢ I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question with any consequences of any kind.
- ➢ I have had the purpose and nature of the study explained to me and it is clear.
- ➢ The purpose of my participation as an interviewee in this project has been explained to me and is clear.
- ➢ I understand that I will not benefit directly from participating in this research.
- ➢ I understand that all information I provide for this study will be treated confidentially, and any report on the results of this research, my identity will remain anonymous.
- ➢ I understand who will have access to personal data and how personal data will be stored.
- ➢ I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

X_____   _____
Signature of Participant   Date   (MM/DD/YYYY)

X_____   _____
Signature of Participant   Date   (MM/DD/YYYY)