Evaluation of Students' Effectiveness in Using TBL Hub

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Abstract — At the onset of CoViD19, abrupt changes happened especially in the education sector. Classroom setting transitioned to virtual set up, thus, the sprung of Learning Management System (LMS). Apparently, the University of Makati has subscribed to Moodle named as Technology Based Learning (TBL) Hub. The researchers intended to determine the profile of TBL Hub end users, to identify the resources they use, and to evaluate the readiness of end users in the utilization of the TBL Hub using descriptive method of research. Purposive sampling was used to determine the respondents who are the end users of the TBL Hub which consist of Grade 11 and Grade 12 students. A self-made instrument was distributed and gathered through Google Form. Findings show that more female students utilize the TBL Hub. It was also identified that end users utilize various gadgets with internet connection. End users are familiar with the use of TBL Hub assessment and its features, thus, indicates readiness. The researchers recommend equating the profile of the end users, training and workshops including their internet connection be considered, and finally, extensive evaluation on the content of the TBL Hub.

Keywords — TBL Hub, Technology, Resources, Readiness, Assessment

I. Introduction

TBL Hub

Learning Management System is a software that is designed specifically to create, to distribute, and to manage the delivery of content (Kuikka, 2020). Learning Management System is based online that can be used in mobile phones, laptops, tablets and desktops, thus electronic devices are needed with credentials in accessing this online learning system.

In today's educational setting, academic year 2020, Learning Management Systems play a vital role in communication. Because of the pandemic, the Corona Virus Disease 2019 (CoViD 2019), the need to use an LMS sprung in order to connect teachers with the students. Choosing an LMS that best benefits the institution is a big challenge to the school officials, it is a very challenging because of the sudden change from traditional classroom setting to new normal.

The University of Makati offers Technology Based Learning Hub (TBL), an LMS that will connect teachers and students online. Caliskan and Bicen (2016) said in their study that Moodle enables more persistent learning compared to traditional class environments and using video in Moodle attracts more attention.

In addition, teachers reported that effectiveness is high in the TBL Hub environment; they did not experience any problem while watching lecture videos on it, and had swift access to knowledge at anytime, anywhere through distance education. UMak's TBL Hub can serve and guide both teachers and students. It helps shape the target lessons and activities on a daily basis using the following set up: 1. Courses Offered 2. Subject displays 3. Topics and Lessons 4. Activities and Quizzes 5. Assignment 6. Grades 7. Feedback 8. Participants and Users.

As educators, the researchers' experience in the use of the TBL Hub in the current academic year, is likewise useful in synchronous and asynchronous in terms of knowledge transmission to the learners as an outcome of the modules, videos and activities uploaded on it. According to the survey, there are few students who does not own any gadgets (cell phones, tablets, laptop, etc.), however majority owns one or more gadgets but no strong internet connection. Hence, the present study needs to provide data to back up such observations to be able to tackle the readiness of the students in using the TBL Hub on the learning assessment of selected HSU students.

Statement of the Problem

This research study aims to evaluate the readiness of end users in using TBL Hub.

The study aims to answer the following specific questions:

1. What are the resources used by the end users to access the TBL Hub?
2. What are the end users' levels of familiarity in terms of
    2.1 Various learning management system
    2.2 Assessment tools in TBL Hub?
3. Are the end users ready to use the TBL Hub?
4. What are the feedbacks of the end users on the use of TBL Hub?

Figure 1. Conceptual Framework

In the conceptual framework, it shows that in order to access the TBL Hub, both resources and readiness of the end users are needed. Resources such as internet connection and gadgets are basic tools to access the platform.

The training such as familiarity in terms of various learning management system and assessment tools is needed to navigate it.

With the combination of these two factors, resources and training are the key components to ensure full readiness of the TBL Hub by the end users.

Resources

E-learning platforms have greater impact in teaching and learning methods in any educational institution. The past few years have brought advancement and growth in terms of using learning management systems (LMS) and online education such as Open University. The availability of open source learning platforms and their ease of customization have increased the usage of E-learning platform (Kc, 2017)

The need for technology provides many benefits for students in their education life and has increased because of increased need for education, time limit and geographical limitations. In this process, the importance of student and computer interaction becomes more significant (Calsikan & Bicen, 2016).

Web-based courses using online learning portals such as Moodle and Google Classroom usually require students to access the learning portal via the Internet. The quality of the internet connection must be improved to encourage students to be involved in online learning portals (Chiou et al., 2010). Students with good internet connection and have gadgets will have an advantage in accessing their courses online.

Caliskan and Bicen (2016) said that teaching through using technology and visual designs develop students' learning process skills by providing them different opportunities. To make sure that a learning portal is beneficial to students, the adoption and implementation of the LMS should be the main focus, and not the LMS software (Chiou et al., 2010). Institutions shall not let the LMS alone do the work but help educators to utilize it well.

Many educators said that they were new and had not gotten used to LMS. Teachers knew some features and functions of LMS; however, they did not know them well enough to use it. They thought that they should have more training so that they could use LMS in their instruction. Insufficient training was one reason that was given for not using a LMS (Suppasetseree & Dennis, 2010).

Familiarity in using Moodle

Learning Management System (LMS) has significant impact on teaching and learning since it allows instructors and/or students to share materials, submit and return assignments, and communicate online. Such e-learning systems are sometimes also called Content Management Systems (CMS) (Zou et al., 2012).

In the study of Kc (2017), the author stated that Moodle is one of the most popular open-source learning platforms with a huge number of implementations. It has 80,364 registered sites in over 235 countries. It hosts 12,380,436 courses and has 105,100,722 users. A majority of universities, universities of applied sciences, educational institutions, and vocational schools in Finland have implemented Moodle.

As a starting point, an effective interface design is a crucial tool for the optimal use of online learning (Nor et al., 2012). And most LMS software products have the same features such as quizzes, forum discussions, email, chat, collaborative workspace, grading mechanisms, and others (Chiou et al., 2010). Features and modules commonly used in Moodle are the uploading of lessons, activities, assignments and resources. The use of Moodle provides more interaction with students and improved student performance (Perez & Medallon, 2015).

Moodle uses a modular design and user roles to give creators choices about what types of features they want on their individual course sites. Many users have already introduced how to use basic Moodle modules, including Assignments, Forums, Quizzes, Surveys, Chat rooms, and Workshops to develop a course (Rice & Nash, 2010).

Moodle quizzes improved the students' engagement and satisfaction of the activity as what Gamage et al. (2019) seen in the study. They also found that the Moodle quizzes assessed the competencies of students during the various stages of a study period through automated marking and easily extractable statistics. These carefully prepared Moodle quizzes catered to students with different levels of knowledge within the discipline.

The result of the evaluation of Kc (2017) shows that Moodle is generally used for delivering course content, course progression plan, grading, creating activities, collecting course feedback and communicating with course participants. Among the several features, only a few of them such as assignment, feedback, quiz and workshop modules are considered very essential and are heavily used.

Caliskan and Bicen (2016) said on their study that Moodle enables more persistent learning compared to traditional class environments and using video in Moodle attracts more attention. In addition, teachers reported that effectiveness is high in the Moodle environment, they do not experience any problem while watching lecture videos, and they have access to knowledge at any time anywhere through distance education.

Users' intention to use certain features in the Moodle platform depends on how they perceive its usefulness, ease of use and their pedagogical requirements. Majority of the users used the platform for delivering course content, getting feedback, creating quizzes and workshops as they considered these features easy to use and extremely important from a pedagogical point of view (Kc, 2017).

Readiness of End User

It is one of the focuses of the study of Keramati et al. (2011), those technical infrastructures are a readiness factor. Some factors such as: proper software and hardware or bandwidth, can play a crucial role in learning outcomes in LMS. Internet low speed and having problems while using the system may result in dissatisfaction and drop out of students from the course. And this is one of the most important difficulties in using E- Learning in Iran, the speed of the Internet (Darab & Montazer, 2011).

Perez and Medallon (2015) stressed some limitations in using platforms such as internet connection and lack of knowledge on the part of the faculty. It is therefore recommended that continuous technical training be conducted for the faculty to facilitate the utilization of Moodle. It is highly recommended that internet connection be improved to maximize the full potential of using Moodle in all courses.

Another way to encourage the involvement of instructors and students in using the online portal, faculties and universities need to provide adequate facilities. By equipping online portals with appropriate facilities, faculties and universities will enhance ease of accessibility of the online learning portal and other learning resources which encourage students to be actively involved in using the portal (Chiou et al., 2010).

Furthermore, Keramati et al. (2011) stated that students should be familiar with computer skills to be successful in this system. And for the beginner, one necessary thing that should be kept in mind is that technology is not scary. Everyone should not be afraid of using technology. Students and teachers can get benefits from the technology in order to make their teaching-learning interesting. If there are problems in using it, one can connect with a specialist to ask for help or suggestions (Suppasetseree & Dennis, 2010).

II. Methodology

The researchers used a descriptive survey method to determine the resources and readiness of the end users in using TBL Hub.

The researchers gave the survey form through google forms to the users of TBL Hub. Eighty (80) responses were gathered (7:00am – 10:00am) followed by tabulation and analysis of the data.

Action Taken

The TBL Hub is provided by the University of Makati and currently used by faculty members as a platform to facilitate the learning of students who are staying at home because of the pandemic. Since the platform is already there and UMak provided a training on how to navigate it, the researchers came up with the following strategies:

1. The students are randomly selected by the researchers to be part of the survey.
2. The researchers conduct a survey to determine the resources of the users at home such as internet connection and gadgets to access the TBL Moodle.
3. Lastly, as facilitators, they were always asking about the feedback about the lessons, outputs and their own opinion.

III. Results and Discussion

After gathering and tabulating the data, the following tables show the results and findings.

Table 1. The Resources of the End Users in terms of Internet Connection

Internet Connection	F	%
YES	77	96.25
NO	3	3.75
TOTAL	80	100

Table 1 shows the resources of the end users in terms of internet connection. The authors asked about the internet connection of the end users and 77 out of 80 of them have internet connection with 96.25%, regardless the speed of connection. The TBL Hub requires internet connection for the end user to access their credentials in the mentioned platform.

Table 2. The Resources of the End Users in terms of Available Gadgets

GADGETS	F	%	RANK
LAPTOP/DESKTOP	41	51.25	2
ANDROID PHONE	69	86.25	1
IPHONE	6	7.5	3
IPAD	4	5	4.5
TABLET	4	5	4.5
NONE	3	3.75	6

As shown by table 2, most of the end users have android phone and laptop/desktop with frequency of 69 and 41; percentage of 86. 25 and 51.25, respectively. Android phone and laptop/desktop are rank 1 and 2 out of other gadgets that end users have. As part of resources to access the TBL Hub, gadgets or devices are important.

Table 3. The Familiarity of End Users in Various LMS

LMS	F	%	RANK
QUIPPER	57	71.25	3
EDMODO	6	7.5	4
GOOGLE CLASSROOM	71	88.75	2
TBL Hub	78	97.5	1
SCHOOLOGY	4	5	5
NOT FAMILIAR	2	2.5	6

Table 3 presents the familiarity of end users in various LMS. They were asked about their familiarity with other LMS such as Quipper, Edmodo, Google classroom, and Schoology. It turned out that the end users were familiar with rank 1 and 2 the TBL Hub and Google classroom with 78 and 71 frequency and 97.50 and 88.75 percentages, respectively. The end users were already familiar with the use of Moodle which helped them to navigate the interface of TBL Hub.

Table 4. The Familiarity of End Users in Moodle

MOODLE USAGE	F	%
Expert	6	7.5
Advance Knowledge	36	45
Basic Knowledge	35	43.75
Getting Started	3	3.75
Not Familiar	0	0
TOTAL	80	100

Table 4 shows the familiarity of end users in TBL Hub. Since they were familiar with TBL Hub, researchers gave follow up questions about their level of expertise in using it. Most of the end users were in Advance Knowledge and Basic Knowledge with 36 and 35 counts and 45.00 and 43.75 percentages, respectively. End users considered themselves having advanced knowledge and basic knowledge, which is good when it comes in using TBL Hub.

Table 5. The Familiarity of End Users in TBL Hub Assessment Tool

MOOODLE ASSESSMENT	F	%	RANK
MULTIPLE CHOICE	54	67.5	1
TRUE/FALSE	31	38.75	4
MATCHING	13	16.25	6
SHORT ANSWER	35	43.75	3
NUMERICAL	20	25	5
ESSAY	43	53.75	2
NOT FAMILIAR	10	12.5	7

Table 5 presents the familiarity of the end users in TBL Hub assessment tool. Afterwards, most of the end users have the experience in using multiple choice and essay type of assessment in TBL Hub with frequency of 54 and 43, and percentage of 67.50 and 53.75, respectively. Multiple choice and essay assessments were in rank 1 and 2 by the users. More than half of the end users already tried and used the matching type and essay type of assessment from the platform.

Table 6. The Readiness of End Users

READINESS	F	%
YES	53	66.25
NO	27	33.75
TOTAL	80	100

Table 6 presents the readiness of end users in TBL Hub. In connection with this, 53 out of 80 said that they are ready with 66.25 percent and only 27 out of 80 said that it is "NOT" with a percentage of 33.75%. This data is supported as presented in Table 1 and Table 2 which shows that 96.25% of the end users have internet connection and gadgets to access the TBL hub and; and in Table 3, Table 4 and Table 5 showed the familiarity of end users in various LMS and assessment tool of TBL Hub which 95.33% of them are familiar. End users find the TBL Hub effective in assessing their learning with the help of assessment features of the platform.

Table 7. End Users' Initial Feedback

FEEDBACK	F	%
POSITIVE	46	57.5
NEGATIVE	22	27.5
SUGGESTIONS	12	15
TOTAL	80	100

Table 7 shows the end users' initial feedback. The initial verbal feedback of the users was also gathered and summarized. 46 out of 80 gave positive feedback which are 57.50% of the participants; 22 out of 80 gave negative feedback with 27.50% and 12 out of 80 gave only suggestions with 15.00%. Users are willingly giving their insights about the effectiveness of the TBL Moodle that they are using right now during this time of pandemic. Some of the end users truly appreciate the use of TBL Hub and at the same time some are not; and there were those also who gave their suggestions in using LMS.

Table 8. Summary of Positive Feedback of End Users

END USER	COMMENTS
A	It makes it easier to answer the quizzes.
B	Yes, because it's more convenient
C	I can test my knowledge in what I learned using Moodle.
D	It is a multiple choice and after the quiz, I know my score and what are my wrong answers.
E	it's easy to use and to access the lessons and assessment
F	It also helps us to understand more and but for me it would be better to extended more the allotted time for a quizzes and activities on Moodle.
G	yes, because it gives me time to answer also it has attempts that teacher can give for highest scores or for the ones whom lost connection like me while having the quizzes.
H	It will look like you're taking a test in a classroom because of time limit
I	Yes, also because of the online class, I can use it more and I can even review here the past lessons taught by the teachers
J	It can boost course performance and promote student performance

Forty-six (46) out of 80 end users which composes 57.50% of the participants, gave positive feedback in using the TBL Hub. The end users of TBL Hub said that it is easy and convenient to access. While having their quiz, they were given more time to answer unlike in face-to-face settings. One more thing that they like in Moodle assessment feature is that they can see already their scores, their correct answers and their errors. On the survey given, end users commented that TBL Hub helps them to look back on the lessons that they have missed and boost their performance.

Table 9. Summary of Negative Feedback of End Users

USER	COMMENTS
User A	There are many ways for students to cheat. And even though not all the students participate in cheating, there are still many who are tempted. Getting a high score because of cheating is not learning, and lately it has been all about getting a high score.
User B	I experience technical problems
User C	I can't open my account in the Moodle app
User D	Sometimes It's hard to understand the instruction
User E	I dont find online quizzes effective to me
User F	Using the app I can't add submission because it keeps saying not sent.
User G	Because sometimes i was tempted to cheat
User H	Sometimes, I don't even know if I understand the lessons
User I	Sometimes it is difficult to answer especially when the internet is unstable
User J	Because not all students have a strong internet connection and there are instances that there is no connection at all

Twenty-two (22) out of 80 end users or 27.50% of the participants gave negative feedback in using the TBL Hub. However, just like other scenarios in the Philippines, not all of the students have good internet connection. There are some technical problems that they encountered such as slow internet connection which cause the slow loading of TBL Hub or laggy; some of them said that some end users do cheating while having quiz in Moodle which give them high score; and some of them have no good gadgets that will support the system. The speed of internet connection and availability of gadgets in accessing and navigating the TBL Hub may affect students' readiness in using the said LMS.

Table 10. Summary of Suggestions of End Users

USER	COMMENTS
User A	It is better to use google forms
User B	While it may not be the best way to assess learning in general, in today's midst of pandemic it is probably the best resort for now
User C	I haven't experience doing online quiz on Moodle
User D	Because it's easy to access but sometimes its lagging
User E	Yes, as long as the connection is stable and the Moodle app is not crashing.
User F	I haven't taken any quizzes on Moodle yet

Twelve (12) out of 80 end users gave only suggestions for some reasons. Fifteen percent (15.00%) of the end users have not yet used TBL Hub in doing assessment and some suggested that it is better to use google forms in conducting quizzes.

IV. Conclusion

1. F End users are equipped with the resources such as gadgets: android phone, laptop/desktop, iPhone, iPad, tablet, and internet connection to access the TBL Hub.

2. End users level of familiarity based on:

    2.1 Various learning management system such as Quipper, Edmodo, Schoology, TBL Hub and Google classroom; end users are most familiar with TBL Hub. End users have basic knowledge in using TBL Hub.

    2.2 Assessment tools of TBL hub such as multiple choice, true/false, matching type, short answer, numerical and essay; end users are most familiar with multiple choice type of assessment.

3 Most of the end users are ready to embrace and utilize the TBL Hub.

4 Based on the end users' response, there is a number of positive feedback versus the negative feedback.

V. Recommendations

Based on the findings and conclusions, the researcher recommends:

1. The researchers recommend equating the profile of the end users in order to assure that their status may not inflict an effect on the result of this study.
2. The internet connection and capacity of the end users should be also considered.
3. Training and workshops are suggested for the end users to become proficient utilizing the TBL Hub.
4. Further study should be done in a wider number of students encompassing the different colleges and departments in the University, not limited to the HSU.
5. For future researchers, extensive evaluation on the content of the LMS-TBL Hub should be taken into account.

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