UTILIZATION OF THE MOODLE LEARNING MANAGEMENT SYSTEM OF PRIVATE SCHOOLS MATHEMATICS TEACHERS IN SORSOGON, PHILIPPINES

Neil Angelo L. Fullente[1], Ryan V. Dio[2]

[1] *Teacher III, Department of Education, Irosin North National High School, Irosin, Sorsogon, Philippines*
[2] *Professor V, Gradaute School, Sorsogon State University, Sorsogon City, Philippines*

ABSTRACT

Private educational institutions in the Philippines employed MOODLE Learning Management System (LMS) to improve learning during the pandemic. This descriptive research explored how the purposively selected 31 private school mathematics teachers utilize MOODLE for instruction. Through a self-made instrument and interview, the study involved the key informants' mathematics teachers in 6 private high schools in Sorsogon City, Philippines. The study revealed that most of the teachers (n=31) know and can utilize the content management feature of MOODLE. While at least more than half of them know its assessment management, only less than half can utilize this feature. Moreover, less than half of them have the knowledge and can utilize its Grading & Feedback tools. Additionally, the teachers have learned many content management tools but only a few learned assessment and feedback tools through LMS training. In preparing their lesson content, they utilize the tools in MOODLE but they struggle in inserting common equations in the teaching of mathematics. This paper recommends that to maximize the utilization of the significant features of the LMS, the training provider should consider the time, the tools, and the quality of the delivery of the content beneficial to the diverse type of students.

Keyword: *MOODLE, Learning Management System, Teaching Mathematics, Private Schools, Philippines*

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1. INTRODUCTION

ICT skills in teaching are necessary now more than ever. Schools around the world adapted to distance learning modalities to address the need students for quality education during the pandemic. These modalities oblige teachers to use their ICT skills in facilitating instructions. Schools employed LMSs to run online classrooms where teachers can create and store learning assessments for students. However, using LMS requires knowledge and skills, especially among the teachers.

According to Young [1], the world's most popular LMS is MOODLE. In the Philippines, there are 1519 registered MOODLE sites [2] and most educational institutions in the country have preferred to use it such as the University of the Philippines, the Commission on Higher Education (CHED), and the Department of Education (DepEd) [3]. Thus, the DepEd includes the utilization of LMS as an option to support Online Distance Learning (ODL) [4], especially for private institutions. Consequently, teachers who utilize LMS must be able to at least demonstrate skills in the positive use of ICT in facilitating the teaching and learning process [5].

Mathematics is a discipline that develops the learners' problem-solving skills. It is at the heart of what computers do and its importance rises in tandem with technology. This demands mathematics educators to be equipped with knowledge and skills to face the challenges of teaching it effectively even in a flexible learning setup. According to Adnan and Boz [6] and Kačič [7], teaching mathematics online is challenging. However, its challenges can be addressed with the help of different e-learning tools like LMS. Thus, most private schools in the Philippines employed MOODLE to improve learning during the pandemic. This paper reports the results of a study that

explored the utilization of the MOODLE LMS of Mathematics Teachers in Private High Schools in Sorsogon City, Philippines.

2. REVIEW OF RELATED LITERATURE

The review of related literature and studies that are relevant to the current study is presented in this section. The review was carried out in order to offer empirical evidence for the current study.

2.1 LMS History

The LMS is one of the platforms used for e-learning. It is a software that aids in the management of digital learning content. Sidney L. Pressey created the first LMS in 1924, a teaching machine that included a variety of practical activities and multiple-choice questions [8].Then comes the creation of the "problem cylinder" in 1929 by M.E. Lazerte [9]. After that, the first adaptive teaching system, SAKI, was developed in 1956 by Gordon Park and Robin McKinnon-Wood [10]. It automatically adapted questions for students based on their ability to answer them. Next, Hewlett Packard, or HP to most, introduced the first desktop computer in 1970 [11]. LMS began to take on a different look from that day forward.

MOODLE, an open-source LMS, was first presented in 2002 [12]. It is used for distance learning, flipped classrooms and blended learning in schools, universities, workplaces, and other sectors. In 2008, the concept of a platform for cloud deployment was established [13]. This made it possible for LMS to live fully online. Thus, latest LMSs are now hosted in the cloud.

2.2 Utilization of LMS

The study of Kant, Prasad, and Anjali [14] concluded that employing the LMS can give tremendous advantages not only for learners and teachers but also for the Online Distance Learning system. Adzharuddin and Ling [15] also argued that the LMS is a vital tool for university students. They also suggested that universities should provide proper training and guidance for students and especially lecturers using the LMS.

Ireri [16] found out that there is depressing preparedness among parents and teachers to offer e-learning. This is supported by Shaqour and Saadi [17] who explained that there is a necessity of providing teachers with sufficient support like technical training, guides, and procures to promote the use of technology among them and enhance their qualifications. Handayanto, Supandi, and Ariyanto [18] claimed that learning with *MOODLE* improves student participation in learning activities. In addition, Zakaria and Daud [19] found that students and teachers have a positive perception of *MOODLE*. Similarly, the participants of the study of Risten, Sinaga, and Pustika [20] considered *MOODLE* as a positive learning environment.

In the Philippines, several schools and universities have just started to use *MOODLE*. Thus, more training is recommended to encourage teachers to adapt e-learning into their teaching (Red et al., 2013). Furthermore, Arinto [21] explicated that faculty must have knowledge and skills in content development, learning activities, teaching strategies, and assessment. Thus, the acquisition of these skills should be done in a way that allows integration of content, pedagogical, and technological knowledge and skills—TPACK—is facilitated. Thus, after acquiring the necessary skills to use the platform, teachers must orient the students on the use of the LMS [22].

In this context, the researcher was inspired to conduct this study on the Utilization of the *MOODLE* LMS by Mathematics Teachers in Private Schools. Specifically, it provided answers to the following questions:
- What is the knowledge of the mathematics teachers on the features of *MOODLE* along: (a) Content management, (b) Assessment management, (c) Grading & feedback tools?
- What are the skills of the mathematics teachers in utilizing *MOODLE* along the identified variables?
- How do mathematics teachers utilize the LMS in: (a) preparing the content (b) assessing student learning, and (c) providing feedback?

3. METHODOLOGY

This section explains the research design and the methodology used in the conduct of the study. It also contains the respondents, data source, instrument, and statistical treatment of data.

3.1 Research Design

This study employed descriptive methods using a self-made instrument and Interview to key informants. Hence, this study used mixed methods-explanatory sequential research design. In this design, qualitative data are collected and analyzed after quantitative data in order to better understand the latter [23]. Data collection was conducted last September 15-19, 2022. Statistical tools were used to analyze the quantitative data, while thematic analysis was used to interpret qualitative data.

3.2 Research Instrument

The researcher used a multiple-choice-type questionnaire and Key Informant Interview (KII) questions. Table of Specification (TOS) is prepared to ensure that there is a balance between items that test the knowledge and skills of the respondents in the different features of MOODLE. To ensure the reliability and validity of the questionnaire, a dry run was to the selected 10 high school mathematics teachers from a Private School in Sorsogon City who used MOODLE during the S.Y. 2021-2022.

After the dry run, Item Analysis, Cronbach's alpha, and Kuder-Richardson (KR-20) reliability tests with the use of SPSS software. Thus, the final computed Cronbach's alpha is 0.84 while the KR-20 is 0.86 which indicates good reliability for the instrument. Moreover, the instruments were subjected to expert validation to achieve the required face validity and content validity of the questionnaires.

3.3 Respondents of the Study

The respondents of the study were the 31 mathematics teachers that are purposively selected from 6 private high schools in Sorsogon City, Philippines. Additionally, from the 31 respondents, 11 participated also as the key informants. Table 1 shows the profile of the respondents involved in the study.

Table 1: The Respondents

Teacher respondents	Male	Female	Total
Junior high school	6	14	20
Senior high school	4	7	11
Total	10	21	31

The researcher decided to identify them as the respondents of the study since they were the ones who actually experienced utilizing *MOODLE* in teaching mathematics.

3.4 Data Collection

Last June 16, 2022, the researcher asked permission through letter from the institutions that are involved in this study. After the approval of the school heads on the date of the data gathering, he personally administered the distribution of the questionnaire to the teachers and at the same time conducted face to face interviews with them last September 15-19, 2022. He immediately retrieved the questionnaire, also on the said dates.

3.5 Analysis

Frequency and percentage were used to organize and present the number of correct responses of the teachers per item in the questionnaire to identify and measure their knowledge on the features of MOODLE and their skills in utilizing the LMS along the identified variables. Mean was employed to summarize their knowledge and skills. Thus, to have further inferences on the data, Pearson's correlation was employed. Moreover, Thematic analysis was used to analyze the qualitative data. Thematic analysis is a technique that involves reading through a collection of data, and looking for patterns in the data to generate theme [24].

4. RESULTS AND DISCUSSION

This section provides the analysis and inferences of the data obtained from the respondents of the study. These are presented using appropriate tables and themes that are chronologically arranged to clearly answer the problems in the study.

4.1 Knowledge of the mathematics teachers on the features of MOODLE along Content management, Assessment management, Grading & feedback tools

Table 2: Knowledge of the mathematics teachers on the features of MOODLE along Content management, Assessment Management, and Grading & Feedback tools

LMS Knowledge	Frequency	Percentage
Item # for Content Management		
3: Dashboard content	16	51.6%
6: Label	27	87.1%
8: Book	22	71.0%
10: File	22	71.0%
Mean (x ± sd)	21.75±4.5	70.16%
Item # for Assessment Management		
1: Assignment	28	90.3%
4: H5P	15	48.4%
7: Peer Review	10	32.3%
11: Question Bank	10	32.3%
Mean (x ± sd)	15.75±8.5	50.81%
Item # for Grading & Feedback		
2: Progress Bar	15	48.4%
5: Complete Report	22	71.0%
9: Choice	11	35.5%
12: Badges	11	35.5%
Mean (x ± sd)	14.75±5.2	47.58%

As shown in the table, 27 or 87.1% of the teachers answered correctly the item no.6, while 22 or 71% of them answered correctly the items no. 8 and 10. However, only 16 or 51.6% answered correctly the item no. 3. This signifies that most of them know the Label tool, Book tool and File tool, while approximately, only half of the respondents know about the dashboard content under the Content Management feature. Also, the mean of the mathematics teachers who answered correctly the 4 items on content management feature is 21.75 or 70.16%. It implies that most of the respondents know the content management feature of the *MOODLE*.

Moreover, under the Assessment Management feature, 28 or 90.3% of the teachers answered correctly the item no.1, while only 15 or 48.4% of them answered correctly the item no. 4. Similarly, only 10 or 32.3% of them answered correctly the items no. 7 and 11 respectively. This signifies that majority of the teachers know the Assignment tool, but only less than half of them know the H5P tool, peer review tool and question bank under the Assessment management feature of the *MOODLE*. It can also be seen that the mean of the mathematics teachers who answered correctly the 4 items on assessment management feature is 15.75 or 50.81%. It suggests that in general, approximately only half of the respondents know the assessment management feature of the *MOODLE*.

The table also shows that 22 or 71.0% of the teachers answered correctly the item no.5, while only 15 or 48.4% of them answered correctly the item no. 2. Likewise, only 11 or 35.5% of them answered correctly the items no. 9 and 12 respectively. This suggests that majority of the teachers know Complete report in the LMS, but only less than half of them know the Progress Bar, Choice tool and Badges under the Grading & Feedback feature of the *MOODLE*. Thus, the mean of the mathematics teachers who answered correctly the 4 items on Grading & Feedback feature is 14.75 or 47.58%. It means that in general, less than half of the respondents know the Grading & Feedback feature of the *MOODLE*.

Azmi [25] said that well-designed learning content with the use of technology boosts student motivation and performance. Therefore, teachers who know the content management features of the *MOODLE* can select the right tools to design their courses in many creative ways to improve student motivation and increase opportunities for learning. According to Abbas [26], majority of the educators were not aware of Web-based assessment tools such as *Google* forms and *Microsoft* forms. In addition, teachers preferred to use other platforms for them to reach out and give feedback to students like Facebook Messenger, Zoom, WhatsApp and Google meet [27]. They also said that they use phone calls and SMS to follow up their students. Teachers who lack knowledge on the features of the *MOODLE* along assessment management and Grading & Feedback cannot maximize the benefits and advantages offered by the software. Hence, it is vital that teachers must have the knowledge on the said features [28]. Besides, Alruwais et al. [29] and Kuyoro et al. [30] said that computer-based assessments improves student performance, reducing the time and effort of the teacher, decreasing the cost for the institution, and encouraging higher-order thinking skills among the learners. Also, the knowledge to give feedback online is essential for teachers nowadays because it guides the millennial students' academic development [31].

4.2. Skills of the mathematics teachers in utilizing MOODLE along Content management, Assessment management, Grading & feedback tools

Table 3.1: Skills of the mathematics teachers in utilizing MOODLE along Content management, Assessment Management, and Grading & Feedback tools

LMS Skills	Frequency	Percentage
Item # for Content Management		
13: editing any content	29	93.5%
15: Adding new section	23	74.2%
17: Inserting equations	9	29.0%
20: Inserting videos	21	67.7%
25: insert presentations from sites	21	67.7%
28: organizing lesson content	27	87.1%
Mean (x ± sd)	21.7±7	70.0%
Item # for Assessment Management		
14: Creating Assessment	24	77.4%
16: Creating Quiz	11	35.5%
18: Creating H5P	12	38.7%
22: Adding Essay	9	29.0%
26: Creating Formative assessments	10	32.3%
29: Creating Interactive assessments	11	35.5%
Mean (x ± sd)	12.8±5.6	41.3%
Item # for Grading & Feedback		
19: Manual grading and feedback on Assignment	17	54.8%
21: Manual grading and feedback on Essay	16	51.6%
23: Replying in forum activity	9	29.0%
24: Creating feedback activity	4	12.9%
27: Making digital class records	6	19.4%
30: Replacing automatic grades and giving manual feedback	7	22.6%
Mean (x ± sd)	9.8±5.4	31.6%

As shown in the table, 29 or 93.5% of the teachers answered correctly the item no.13, while 23 or 74.2% and 27 or 87.1% of them answered correctly the items no. 15 and 27. Moreover, 21 or 67.7% of them answered items no. 20 and 25. However, only 9 or 29.0% of the teachers answered correctly the item no. 17. This implies that most of them can edit and organize any lesson content, add new sections, and insert videos and presentations from websites but only less than one-third of them can insert equations to their lesson in the LMS. Also, the mean of the mathematics teachers who answered correctly the 6 items on content management feature is 21.7 or 70.00%. It means that at least more than half of the respondents can use the content management feature of the *MOODLE*.

Moreover, 24 or 77.4% of the teachers answered correctly the item no. 14, while only 12 or 38.7% of them answered correctly the items no. 18. In addition, 11 or 35.5% of them answered correctly the items no. 16 and 29, while only 10 or 32.3% and 9 or 29.0% answered correctly the items 26 and 22. This signifies that majority of the teachers can use the Assignment but only less than 40% of them can create H5P, Quiz, Essay and other formative and interactive assessments using the tools in the LMS. It can also be perceived that the mean of the mathematics teachers who answered correctly the 6 items on assessment management feature is 12.8 or 41.3%. It infers that in general, less than half of the respondents know the assessment management feature of the *MOODLE*.

The table also shows that 17 or 54.8% and 16 or 51.6% of the teachers answered correctly the item no.19 and 21, respectively. However, only 9 or 29.0%, 7 or 22.6%, 6 or 19.4% and 4 or 12.9% of them answered correctly the items no. 23, 30, 27 and 24 respectively. This means that at least half of the teachers can manually input grades and give feedback on Assignment and Essay using the LMS tools but only less than one-third of them can reply in the forum activity, replace automated grades and give manual feedback, make digital class records and can create feedback activity using the tools in the LMS.

Mathematics teachers who can utilize the content management tools of *MOODLE* can successfully make learning content for students, use and insert files from the web or from their computer files into their LMS subject's resources to supplement the students' learning. This will enable the teachers to increase students' enthusiasm in learning mathematics with the help of technology. This is an evident display of skills in the positive use of ICT to facilitate the teaching and learning process among teachers which is stipulated in the Philippine Professional Standards for Teachers. Likewise, according to Polly, Little and Rodgers [32] and Baleni [33], online assessments, especially formative ones, makes it easier for teachers to collect data from students, allowing them to concentrate on its analysis and making useful decisions. Thus, teachers who do not have the skills in utilizing online assessment tools like in *MOODLE*'s, will more likely avoid using these tools and instead employ traditional methods of assessments. This will make it difficult for teachers to gather and evaluate the student outputs, giving them only limited time to analyze and utilize the data to make decisions to improve students' performance.

Furthermore, Teachers' skills in giving feedback online is vital since it gives students another way to stay in touch with their instructors whenever they want, no matter the time or place. Thus, teachers may also use online platforms like social media to improve the quality and the degree of students' collaboration [34]. The fifth domain of the Philippine Professional Standards for Teachers (PPST) which focuses on the importance of feedback requires teachers to employ assessment data (physical or online data) in a number of ways to improve programs and processes for teaching and learning. While many teachers prefer and have more skills in other platforms, it is also vital for them to improve their skills on the said feature of *MOODLE*.

Table 3.2: Relationship between the Mathematics teachers' knowledge on MOODLE and their skills in utilizing it along Content management, Assessment management and Grading & feedback tools

Pearson's correlation (r) at α=0.05 (n=31)		LMS Knowledge along		
		Content Management	Assessment Management	Grading & Feedback tools
LMS Skills	Content Management	0.688 (High correlation)	0.306 (Low correlation)	0.448 (Low correlation)
	Assessment Management	0.412 (Moderately Low correlation)	0.711 (High correlation)	0.471 (Low correlation)
	Grading & Feedback	0.03 (No correlation)	0.251 (Low correlation)	0.576 (High correlation)

As shown in the table, the correlation between their Knowledge on MOODLE LMS and their Skills in utilizing it along the identified variables are 0.688, 0.711, and 0.576, all indicate a high positive correlation between them. These results led to the conclusion that there is a significant positive relationship between the Mathematics teachers' knowledge and skills on *MOODLE* features along the identified variables.

4.3. Mathematics Teacher's utilization of the MOODLE in preparing the content, assessing student learning, and providing feedback

The themes under Mathematics Teacher's utilization of the *MOODLE* in preparing the content, assessing student learning, and providing feedback answered the research question that sought to explore how Mathematics teachers utilize the *MOODLE*.

Theme 1: Experiences during the LMS Training. Based on the interviews, all teachers in the study participated in a 1-2 weeks face-to-face LMS training conducted by their respective schools. It has two parts-the first was a lecture and practice on how to use the tools in the LMS and the second part was the demonstration and presentation by the participants. LMS tools on preparing content like adding topics, labels, pages, URL, and file embedding and uploading were taught during the training. The respondents expressed that they learned a lot about these tools. Additionally, LMS tools on creating assessments like Assignment, Quiz and H5P tools were also introduced. However, the teachers mentioned that only the Assignment tool is easy to utilize among these tools. A female Junior High school teacher said that "During the training, I only mastered the Assignment type of activity in the LMS...". Furthermore, LMS Feedback tools were seldom mentioned during the interviews. But the overall experience during the training was great as explained by the teachers. One Male Junior High School Teacher said that "It was great; I was amazed because I never expected that LMS is like that because teaching becomes so much easier because of the LMS Everything is in that system…".

According to Abuhmaid [35], the timing and modes of training, follow-up during and after the sessions, teachers' prior knowledge and skills, school culture, and motivation all proved to have an impact on the success of training programs. Thus, these variables should be taken into consideration throughout the planning and design of the workshops in order to ensure that these will have a beneficial impact on teaching strategies and ultimately on student accomplishments.

Theme 2: Maximizing the Learning Resources of the School and Using Websites for Content Creation in MOODLE. When preparing the content of their mathematics lesson through the LMS tools, all of them said that they maximize the references provided by their respective schools. However, when these references lack the mathematics topics they need to teach, six teachers said that they use *KhanAcademy*, while two teachers mentioned both *Youtube and Khanacademy* as their source when searching for other references.

This implies that teachers in private schools are encouraged by their administrators to take advantage of the learning resources given by their respective schools. This will help the teachers to deliver quality instructions to their students. Thus, it is very important for teachers to implement lesson plans carefully so that there will really be transfer of learning through maximizing the learning resources available in their schools.

Theme 3: Main Challenge of Teachers in Utilizing MOODLE in Preparing Content. One struggle shared by all mathematics teachers when preparing the content using *MOODLE* is inserting mathematical symbols. According to one female Junior High School teacher: "It is really difficult to put advanced mathematical equations in the LMS …". This has a negative impact on the lesson preparation especially of the mathematics and science teachers since it will lengthen the duration of creating content for their subjects. Thus, to insert equations in the LMS, two males and five female teachers said that they just use the tool in Microsoft Word document and apply Snipping tool to crop the images of equations they created, then paste them to the LMS. So teachers need to be creative in inputting mathematical symbols when utilizing *MOODLE*. Additionally, *MOODLE* developers should also improve the tools on inserting symbols and equations.

Theme 4: Organizing the learning content in MOODLE. In terms of organizing the content of their mathematics lessons in the LMS, teachers follow different ways. Three teachers from the same school mentioned that they use 5E's, while four teachers from another school said that 7E's format is being implemented in their school. Two teachers said that they are required by their school to follow the Understanding by Design Format. Another two said

that their school does not prescribed a uniform format in organizing their lessons in the LMS. Thus, all teachers use label tool in the LMS to separate each part of their lessons in the LMS. One Male teacher said that he is amazed by this tool in the LMS because it can be used as a spacer, a design or as a title for an activity or resource in the LMS. Shechter [36] highlighted these feature of *MOODLE* since it enables teachers to sort relevant learning materials in advance. This suggests that most private schools monitor the format used by the teachers when presenting the lesson using the LMS. The organization of the learning content in a web-based environment like *MOODLE* enables students to learn effectively especially on their own pace. Thus, teachers must also be guided by their schools in implementing their respective prescribed format for presenting the lessons using the LMS.

Theme 5: Using Limited MOODLE Assessment tools. Teachers said that although there are many useful LMS tools for making assessments, they were not able to master them during their LMS training. Thus, six teachers utilize only the Assignment tool, and four of them teachers also use Multiple choice, True or False and Essay quiz tools in the LMS depending on the mathematics topics. For mathematical lessons that focus mainly on defining terms and explaining theories and concepts, they just use Essay, True or False and Multiple choice type of quiz in the LMS. Whereas for the lessons that need mathematical solutions, ten teachers usually utilize the Assignment tool. It is also used by the teachers to assign performance tasks and projects to students. However, one teacher admit that she does not utilize LMS when assessing their students' learning because its assessment tools are difficult to use.

This is in consonance with the study of Vaganova et al [37] which identified the Assignment and Quizzes are among the most popular and most in demand *MOODLE* assessment tools used by the educators. If maximized by the teachers, these tools can potentially lessen the workload of the teachers. Finally, *MOODLE* assessment tools must be greatly emphasized during the LMS trainings to benefit the whole learning community especially the students.

Theme 6: Settings Applied by the Teachers when using MOODLE Assessment. Eight teachers only apply time limit, no. of attempts, and restriction settings when they want to create summative assessments. While for formative assessments, the teachers only apply restriction settings. Also, teachers who use objective type of tests such as Multiple choice and True or False use automatic scoring, while teachers who use Assignment tool and Essay type of quiz apply manual marking feature of the LMS.

Theme 7: Teachers' preference of other platforms over MOODLE feedback tools. *MOODLE* allows teachers to use many feedback tools, however nine key informants stated that they do not utilize them. They claimed that they are not familiar with LMS Feedback because the training did not include them. Furthermore, they prefer to use other platforms such as Facebook messenger, phone calls, texts and in-person conferences to give feedback to the students regarding their output. Nevertheless, other feedback features of the LMS such as automatic feedback and activity reports are not used by the teachers.

According to Esnaola-Arribillaga and Bezanillam [38], most teachers do not use *MOODLE* chats and private messages because using *MOODLE* to promote student collaboration was not considered very helpful perhaps because face-to-fasce meetings were the most natural and efficient communication channel. So, they concluded that teachers still have a lot of work to do in order to use *MOODLE*'s feedback tools.

Theme 8: Teachers' interventions when students cannot access the MOODLE. When students cannot do their LMS activities due to valid reasons, six teachers said that they provide them printed materials. When students are having technical difficulties in accessing the LMS, two teachers said that they asked the ICT or LMS staff to assist them in their concerns. And for those students and parents who cannot be reached using Facebook or Mobile phones, teachers usually conduct home visitations.

Some parents also visit the school to ask about their child's performance in different subjects. Five teachers just show to the parents the students' scores and login reports in the LMS. One female Junior High School teacher said that "In our school, the parents are allowed to ask for their child's account in the LMS, so they can see themselves the performance of their student." This helps the teacher to easily communicate with the parents the academic performance of their students.

5. CONCLUSIONS

Conducting seminars on ICT, such as the LMS training attended by the teachers, must be sustained by the school administrators. Moreover, the number of teachers who have knowledge and skills on the features of the MOODLE along assessment management and Grading & Feedback tools must be increased to effectively guide the students in their academic progress. This can be done by letting more of the teachers attend ICT trainings related to computer-based assessments and feedback. It is also important to encourage them to exploit the features offered by the LMS of their respective schools. Lastly, the institutions that will provide the said trainings must consider the time, the tools, and the quality of the delivery of the content.

6. ACKNOWLEDGEMENT

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