A CASE STUDY OF THE SCHOOLOGY LMS AT ASSUMPTION COLLEGE ENGLISH PROGRAM

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Abstract: *Blended learning (BL) is a major educational trend that uses technology to enhance and complement traditional classroom learning, and may help Thailand achieve educational goals of the "Thailand 3.0" policy. Foreign teachers at Assumption College English Program (ACEP), a private K-12 school near Bangkok, have adopted Schoology Basic, a free learning management system (LMS) to support teaching and learning for all of their courses. This qualitative study used questionnaires and interviews to gather data on the usage, satisfaction and preferences of students and teachers regarding the LMS, and examine how it fits into BL at the school. Descriptive statistics and thematic analysis were conducted. The study found high satisfaction overall, with higher satisfaction and usage in teachers, but more variation in usage patterns for students. Students and teachers alike prized features relating to submitting work, grade calculation and staying organized, while communication features were largely unused. Both groups had come to value the LMS highly and wished strongly to continue using it, despite various technical annoyances. Regarding improvements, students wished for a chat feature and improved mobile app quality; teachers would like usability and efficiency improvements in the web app. LMS adoption is highly recommended for similar schools.*

Keywords*: Blended Learning, Learning Management System, Schoology, Thailand*

1. INTRODUCTION

Education is changing rapidly due to the rapid advancement of technology. With its "Thailand 4.0" policy, Thailand aims to prepare the next generation of secondary and higher-education graduates for the economy of the future, which will demand workers with a high degree of fluency in technology (Jones and Pimdee, 2017; Royal Thai Embassy, 2018).

Assumption College English Program (ACEP), established in 2012, is a coeducational K-12 private Catholic school in Samut Sakhon Province, Thailand. The school's program of instruction combines instruction in Thai, lead by Thai teachers, and in English, lead by foreign teachers from English-speaking countries.

Since its inception, ACEP has prioritized the use of technology, offering facilities such as multiple computer labs, sets of iPads in carts, and campus-wide WiFi for teachers and students to use alongside traditional classroom-based learning, a paradigm known as blended learning (Watson, 2008; Friesen, 2012).

Blended learning (BL) can be enabled and enhanced using learning management systems (LMS), "a software-based platform used to administer courses, manage training, track results and more" (Sharma, 2015). Numerous studies show success in introducing LMS – including social learning networks (SLN), which incorporate social network features – to classrooms around the world (Holland and Muilenburg, 2011; Sanders, 2012), and educational institutions in Southeast Asia is no exception. Studies in the Philippines and Indonesia using Edmodo, a leading web-based LMS and SLN, found that students learned it quickly and displayed increased motivation (Enriquez, 2014; Joshua et al., 2015).

Although it provided computing and communications hardware, ACEP did not officially adopt an LMS in its first years of operation. A few teachers experimented independently with the use of free web-based LMS, including Edmodo. In the secondary section (Years 7-12, corresponding to Mattayom 1-6), some foreign teachers began using Schoology Basic (#1 K-12 Learning Management System, 2019), a free LMS and social learning network. These early adopters evangelized the LMS and its use grew organically.

When a group of parents requested more transparency in the course material being taught to their children, Schoology – which was known to have parental accounts and features for parent-teacher communication, and had already shown considerable promise in enhancing teaching and learning at the school – was proposed as a solution. Schoology was made compulsory for all foreign teachers and their courses starting from the 2016 academic year.

Within two years, Schoology seemed to have been largely embraced by students and teachers. At the same time, various difficulties and concerns had arisen. A study was proposed to investigate how the LMS had been received by students and teachers, and how it fit into the BL paradigm at the school. Such a study would not only help ACEP in its policies and planning, but similar schools considering LMS adoption.

2. Research Questions

1. How does the use of a free, general-purpose, web-based learning management system (LMS) by foreign teachers and Thai students fit in a blended learning (BL) paradigm at an English Program (EP) private school in Thailand?

2a. How do Thai students use an LMS at a Thai EP school, what are their preferences regarding the LMS, and how satisfied are they with using the LMS?

2b. How do foreign teachers use an LMS at a Thai EP school, what are their preferences regarding the LMS, and how satisfied are they with using the LMS?

3. Research Objectives

1. Contribute to the body of knowledge concerning the use of technology in the Thai education system by understanding how the use of a free, general-purpose, web-based learning management system (LMS) is used in a blended learning (BL) paradigm at an English Program (EP) private school in Thailand.

2a. Gain an understanding of how Thai students use an LMS at a Thai EP school, their preferences regarding the LMS, and their level of satisfaction with using the LMS.

2b. Gain an understanding of how foreign teachers use an LMS at a Thai EP school, their preferences regarding the LMS, and their level of satisfaction with using the LMS.

4. Research Methodology

The researcher's aims were to establish an overall, wide-ranging view of the use of the LMS at the school, without being restricted to formal variables or hypotheses. The nature of the data and resulting themes were not well known in advance. Thus, a qualitative, case study approach was chosen.

4.1. Research Instruments

In order to gather data widely from as many students and teachers as possible, while avoiding disruption to studies, a questionnaire, administered online, was proposed as a convenient, efficient instrument type. When a review of the literature did not reveal a suitable existing instrument, a set of online surveys by Temple University, an established and respected

research university in Philadelphia, U.S. was adapted and extended for use in the study (Temple University, 2018). The Temple surveys existed in student and teacher versions and collected data regarding Canvas, a web-based LMS similar to Schoology (Capterra, 2018).

The resulting instruments contained a mixture of items that addressed the three major areas of inquiry in the research questions: usage of the LMS, satisfaction regarding the LMS, and preferences regarding the LMS. It also gathered miscellaneous demographic information that might be useful. Items included Likert scale-based questions and open-ended questions, and addressed the LMS as a whole as well as its individual features. The student and teacher questionnaires' content validity were verified by a panel of experts using the Content Validation Index technique (Polit and Beck, 2006).

To gain additional qualitative data and insights, the questionnaire data was supplemented by interviews. Interviews posed similar questions to selected open-ended items in the questionnaire, but allowed respondents to give more detailed, nuanced responses.

7. Population and Sample

The population included all 356 secondary students and all 25 foreign teachers at ACEP. For the questionnaire, the sampling frame was chosen to include all students and teachers who had used Schoology for at least one year. This was done to collect data from experienced users, who had learned to use the LMS normally and could offer knowledgeable insights and opinions. The resulting sample for the questionnaires included 220 students and 21 teachers.

Due to the time required to conduct and transcribe interviews, it was necessary to interview a relatively small subset of individuals, arbitrarily chosen to include 5 students and 5 teachers, for a total of 10 interviewees. Selection was conducted after questionnaire data was collected, in order to use the data to guide interviewee selection, as follows.

To gain a diversity of viewpoints, students interviewees included students of both genders, and every year level from Year 8 to Year 12. Teachers represented a variety of content groups and self-reported levels of LMS adoption. Selection favoured participants who had given detailed answers to open-ended questionnaire items, as they might be more likely to give thoughtful, complete answers in an interview.

5. Data Analysis

Questionnaire data for numerical and scale-based items was analyzed using descriptive statistics, to determine the mean response and standard deviation for each item. Frequency distribution was also determined in order to gain more insight on the components contributing to the mean.

For open-ended questionnaire items, thematic analysis was conducted. Following a method similar to Trevino (2012), common themes were identified in the answers respondents had typed. A list of themes was developed, and these themes were sometimes merged and split as analysis continued. A tally was kept of the number of mentions of each theme in response to three categories of questionnaire items: positive, negative and preference. The tallies were then sorted from most to least mentions, to identify the dominant themes in respondents' opinions.

Interview data was also mined for the same themes, but the tallies were not added to the questionnaire tallies, in order to prevent interviewees from having undue influence, as they had also taken the questionnaire. Instead, detail, explanation, and insights from interviews were used to support and elaborate the thematic data from the questionnaires.

6. RESULTS

The results from the questionnaires and interviews of the students and teachers regarding the utilization of the LMS in learning and teaching are as follows.

Students:

Students reported that they used Schoology once a week at the school and once per week at home. Both computers and smartphones were similar in terms of the chosen device for accessing the LMS. Students' use of the features of Schoology varied.

Logging in was the most-used feature, and the only feature that students reported using daily on average. Reading instructions and submitting assignments were next, and used equally as often on average. The only features that were not used at least once a week, on average, were messaging and using non-ACEP Groups.

Seventy percent of students reported that they perceived Schoology as an effective tool in helping them study. They either strongly agree or agree that "Schoology has helped me do better at my schoolwork", and over half of students have enjoyed using Schoology. Over half of students felt that Schoology was very or extremely important in their studies, and almost 7 in 10 students indicated that they would like to continue using Schoology at ACEP.

Overall results showed that students access Schoology at least once a week. In addition, they perceived that they benefit from using Schoology, as the LMS helps them with their schoolwork. As a result, utilization of Schoology seems to be positively accepted by students.

The students reported that they like Schoology because of the availability of study materials online, which can be accessed anytime. Furthermore, the students also like the online quizzes that can allow for self-assessment and practice.

For the interview data, students reported that they like Schoology for the following reasons:

- Ability to follow up work through mobile devices anywhere
- Self-marking quizzes allow for self-evaluation without waiting for teachers to grade
- Ability to track progress of work or assignments
- Work and assignments can be printed anytime

Besides students' positive view on Schoology, there are also reported issues with the system as follows:

- Unappealing interface
- Some inconsistent messaging and notifications on assignments
- Work submitted cannot be retracted or modified
- The document formatting is inconsistent across devices
- Students cannot unenroll themselves from courses and they remain in the students' course lists even though the courses are inactive.

Students also proposed additional modifications to Schoology. The recommendations reported were:

- Add ability to share online documents
- Provide more updated information on the start page
- Change the look and feel of the LMS to be more appealing

Teachers:

Teachers used Schoology much more at work than at home, with the average teacher using Schoology at home about once per month, and at school more than once per day. Teachers also overwhelmingly used Schoology on a computer, with the average teacher using Schoology on a computer more than once per day, but on a smartphone and tablet less than once per month each.

The most commonly used features were logging in, viewing grades, creating assignments and instructions, and posting and organizing materials. The least popular features were features related to group or individual communication; rubrics were also seldom used.

Table-1: Teachers' Average Use of Schoology Features

Feature	Mean	SD	Label
Logging in	4.05	0.85	About once per day
Viewing grades in the Gradebook	3.21	1.13	About once per week
Creating assignments	3.11	0.46	About once per week
Posting and organizing materials	2.95	0.78	About once per week
Marking assignments and quizzes	2.78	1.06	About once per week
Setting up and using the Gradebook	2.71	0.99	About once per week
Posting updates	2.42	1.26	About once per month
Creating quizzes	2.00	0.82	About once per month
Using messaging with students	1.95	0.78	About once per month
Creating and using rubrics	1.47	0.84	Less than once per month
Creating discussions	1.26	0.56	Less than once per month
Participating in Schoology Groups within ACEP	1.16	0.50	Less than once per month
Using messaging with parents	1.05	0.23	Less than once per month
Participating in Schoology Groups with Schoology members outside ACEP	1.00	0.00	Less than once per month

SD = Standard deviation. Table sorted by decreasing mean usage of each feature.

When reporting about the satisfaction towards Schoology, the results reflected the frequently used features of Schoology and the teachers' satisfaction. Teachers were satisfied with the use of Schoology for viewing grades, creating assignments and organizing materials.

Table-2: Average Teacher Satisfaction with Schoology Features

Feature	Mean	SD	Label
Logging in	4.50	0.63	Very satisfied
Viewing grades in the Gradebook	4.37	0.60	Very satisfied
Creating assignments and instructions	4.26	0.45	Very satisfied
Posting and organizing materials	4.26	0.73	Very satisfied
Creating quizzes	4.11	0.99	Satisfied
Marking assignments and quizzes	4.05	0.78	Satisfied
Posting updates	3.95	0.62	Satisfied
Setting up and using the Gradebook	3.95	0.85	Satisfied
Using messaging with students	3.89	0.46	Satisfied
Creating discussions	3.44	0.78	Satisfied
Using messaging with parents	3.39	0.50	No opinion
Creating and using rubrics	3.33	0.77	No opinion
Participating in ACEP Groups	3.22	0.55	No opinion
Participating in non-ACEP Groups	3.11	0.32	No opinion

SD = Standard deviation. Table sorted by decreasing mean satisfaction of each feature.

Teachers' overall satisfaction was very high: 86% of teachers agreed or strongly agreed that their teaching has benefited from using Schoology, and the same proportion agreed or strongly agreed that Schoology is easy and intuitive to use. All teachers agreed or strongly agreed that the delivery of their courses has benefited from using Schoology. 95% of teachers agreed or strongly agreed that their ability to assess students' work had benefited from Schoology.

Two thirds of teachers agreed or strongly agreed that student engagement seemed to have benefited from Schoology, and 90% of teachers felt that Schoology had enabled them to expand their teaching approaches. When asked if they recommended that ACEP continue using Schoology, all teachers replied "Yes".

For the interview, teachers reported that they like Schoology for the following reasons:

Using the quizzes and discussions
Using for communication with students
Allowing parents to view students' tasks

In addition, most teachers reported that they think Schoology is a useful tool for teaching.

The teachers were asked if they thought that Schoology had increased or decreased their workload. Some of the responses from the teachers were:

Initially, the course preparation increased workload but later, the course could be reused.

The longer Schoology was used, the more its benefits increased.

Schoology can decrease certain aspects of workload, such as students' visits, since students can access resources by themselves.

Workload was decreased due to the various features that make work faster, such as quizzes, grading, tracking of student work, and other features.

The majority of teachers believed that Schoology decreased workload or made the same work easier. One teacher reported that Schoology increased the workload since the work that was on paper needed to be copied to the system as well. However, the teacher wasn't keen on using the system and preferred to continue using paper-based methods. Thus, the teacher needed to copy the work to Schoology. In addition, students were messaging the teachers more often than without the system.

Separately from workload, the researcher asked the teachers to report if there were tasks that could be accomplished only when using Schoology. The teachers reported:

Assigning more quizzes to students, as students could self-evaluate their performance.

Assigning homework outside of class time.

Faster scoring and grading with the Gradebook feature.

Allowing transparency with parents to see courses and monitor their students' progress.

Allowing teachers to contact students en masse with announcements.

The teachers reported that the features that they would like to have were the following:

Synchronization of the grades in Schoology to the school's system.

The addition of Facebook-like features such as photo galleries.

Having a file management feature similar to Google Drive.

Besides the questions that the researchers asked the interviewees, the teachers also mentioned additional information that showed the teachers' preferences toward Schoology. A teacher reported that the usage of Schoology should be expanded to increase the benefits for teachers and students:

"I definitely think it should be expanded...the more that people use it, the more the students will be comfortable and start moving into maybe more autonomous area of using it, checking it, not necessarily having been told you have to do this assignment...I think the more people use it, the more commonplace that would be, and all the benefits would be more realized the more ubiquitous is is...having it more integrated to the whole ethos of the school would be of benefit, and more of the benefits would be realized than they are currently."

In summary, teachers were satisfied using Schoology as it helped reduce workload. Teachers believed that the system is useful for their teaching.

7. DISCUSSION

The researcher conducted the study to explore the students' and teachers' usage behaviours and attitudes toward Schoology, an online Learning Management System, at a private school in Thailand. The aim of the research was to answer the following research questions:

How does the use of a free, general-purpose, web-based learning management system (LMS) by foreign teachers and Thai students fit in a blended learning (BL) paradigm at an English Program (EP) private school in Thailand?

How do Thai students use an LMS at a Thai EP school, what are their preferences regarding the LMS, and how satisfied are they with using the LMS?

How do foreign teachers use an LMS at a Thai EP school, what are their preferences regarding the LMS, and how satisfied are they with using the LMS?

How does the use of a free, general-purpose, web-based learning management system (LMS) by foreign teachers and Thai students fit in a blended learning (BL) paradigm at an English Program (EP) private school in Thailand?

The data from the questionnaires and interviews showed that Schoology has become indispensable for the students and the teachers. Students believe that the system helps them with their schoolwork and teachers gain benefits from using Schoology. Ultimately, all of them would like to continue using Schoology.

The success of Schoology adoption may be due to several factors. The school's technology support was already established. The school has several computer labs, computers, tablets, and projectors in every classroom as well as Wifi access on campus. Prior to adopting Schoology, technology integration was encouraged but no clear direction was given on the process of the integration. Thus, technology usage was independently adopted by individual teachers using different platforms.

The data collected in the study reflected the practical usage of the LMS by students and teachers and showed that the features that were most liked and useful were the ones that provided new capabilities and improvement over existing systems. To illustrate, prior to the adoption, the students' grades were not published consistently. However, Schoology's Gradebook provides a constant update for teachers and students. Thus, this feature was one that both students and teachers mentioned as the most useful. The cloud-based nature of Schoology also allow all of the students' work and resources to be reviewed and presented without the need to be physically printed out.

Schoology provides students a place to submit work as well as self-assess their performance on quizzes and other activities that the teachers provided. Furthermore, the use of Schoology has become a central place for students and teachers to keep track of the class and work progress.

The messaging feature was one that students and teachers utilized inconsistently. The reason may be that the students and teachers are already physically present in the same location, or that they may already prefer to communicate using a different channel from the Schoology messaging system.

How do Thai students use an LMS at a Thai EP school, what are their preferences regarding the LMS, and how satisfied are they with using the LMS?

The students access Schoology daily at school and weekly at home. They use most of Schoology's features such as reading instructions, submitting assignments, taking quizzes,

participating in class discussions and checking their grades. The students access Schoology through smartphones and computers equally. The students are satisfied overall with using Schoology.

Students use Schoology to view grades, submit work and do quizzes on the system. The students like the always-accessible nature of Schoology. In addition, the students like the ability to view progress information on the course taken.

There were reports of inconsistent notifications and quizzes that cause students to have difficulties completing tasks. However, the majority of students like Schoology and believe that the LMS helps in completing tasks.

The feature that students would like to improve is the ability to leave courses by themselves. Students' course lists are populated by active and inactive courses that they cannot leave without teachers' action. Also, the user interface on the mobile application needs to perform better.

How do foreign teachers use an LMS at a Thai EP school, what are their preferences regarding the LMS, and how satisfied are they with using the LMS?

The teachers' usage is higher than that of students. Teachers access the system several times per day at the school. However, use at home and on mobile devices is rare. The teachers use Schoology for viewing grades, creating assignments, and posting and organizing class materials. The teachers also organize the Gradebook, which is done weekly. As with students, messaging is rarely used.

Teachers are satisfied with Schoology features such as viewing grades, creating assignments, and organizing course materials. The ability to calculate grades and organization make teaching more efficient. However, the teachers also mentioned the user interface, which makes the organization and creation of quizzes and grade book difficult. The main improvement that the teachers would like to see was regarding the user interface.

7.1. Implications for Practice

Although the teachers and students mentioned the user interface as a feature of Schoology needing improvement, the overall satisfaction of the platform was high and they would continue using the platform.

The results from the study showed that the utilization of an LMS such as Schoology can provide a good experience and benefit students and teachers. The school should aim to provide guidelines and support for LMS usage so that the teachers can benefit and the school can ensure that the LMS is utilized in a manner that is effective.

Future research on the subject should further explore the use of other LMS. In addition, the view of parents toward the LMS or training in the LMS for teachers should provide more information that can help the school develop proper guidelines for LMS integration into the classroom.

8. CONCLUSION

The results from the study showed that LMS adoption at the school was a success. Students and teachers utilized the LMS effectively and were highly satisfied with the system. The ability to create and post content for students to access anywhere and anytime helped students stay aware of their learning progresses and tasks required. The Gradebook provided students with updated information faster than traditional methods. There were difficulties in using and getting

accustomed to the user interface, which might need improvement. In addition, the communication tools within the system were rarely used. However, Schoology became an effective digital platform for students and teachers that complimented the current traditional classroom. Thus, when students and teachers were already meeting face-to-face, the communication tools in the LMS may not have been needed since there could be other communication channels that were more preferred by students and teachers.

The research could be expanded to cover other LMS available or the support of the school toward providing guidelines or official training for teachers. More data could help school administrators plan the adoption of an LMS to improve teaching and learning at the school.

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