An E-Learning Model Combining Moodle Program and Social Networks to Enhance Distance Learning

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Abstract - **This research is aimed to develop an eLearning model combining Moodle with Facebook as a tool to enhance distance learning. The samples were purposively taken from the third year students, Faculty of Education, and consisted of 20 students from the division of Educational Technology & Innovation as the experimental group, and 105 students from the division of Early Childhood Education as the control group. The results indicated that most of the students from both groups connected to social networks more than 3 hours daily. The main purposes in connection to social networks were for music & movies and searching for information. The attitude of the students of both groups towards social networks was at a high level. The top score was technology help speed things up. Concerning students' satisfaction with social networks, overall the experimental group showed a high level of satisfaction whereas the control group only a moderate level with a significant difference (p<0.05). Their top satisfaction levels were for sending messages to learners. The experimental group mostly expressed opinions that Moodle was a well-designed learning management system with the course contents presented orderly, while Facebook was easier to access, simpler to use and more sociable to share ideas which could enhance distance learning.**

Keywords - **E-Learning, Moodle, Social Networks, Facebook**

I. INTRODUCTION

The rapid advance in information and communication technology in the 21st century and emerging of social media have a great impact on our societies globally [1]. A study on the impact of social networks on Education concluded that they were continuously distracting students from their studies [2]. The internet and social networks revolutionized our society, culture, business, politics and people's lifestyles. The internet made it possible for people around the world to access information, news, and knowledge without traveling to the contacted places. Social network services began to emerge at the beginning of the year 2000 and they gained more and more popularity. The number of people using social networks rose tremendously with the total number of people currently registered with the popular social network Facebook, jumping to over 2,000 million in 2017 [3].

A. Objectives

The research objectives were as follows:

1. To develop an online course on the computer for distance learning subject applying Moodle program and the social network Facebook.

2. To study students' behaviors, usages and attitude toward social networks.

3. To study the students' satisfaction and opinions in eLearning combining traditional Moodle and Facebook.

II. LITERATURE REVIEW

Social networking sites have great potential to contribute to educational objectives, and this potential is highlighted by both researchers and students, however, actual evidence of the use of such sites for formal online learning is limited. Nevertheless, a number of researchers have identified a growing use of social software in formal learning contexts. Lam L. [4], for example, conducted innovative research on the usage of Facebook in the higher education context of Hong Kong. The results revealed that interrelationship, communication, social relationship and participation influenced significantly on students' learning motivation. Similarly, Gitanjali K. [5] did a research on social media as an innovative educational tool. The study concluded that the present education system needs change and social media should be widely utilized for educational purposes. Blaschke M. [6] conducted research in learning technology. The results indicated that students perceived specific social media in conjunction with a unique learning activity as influencing specific cognitive skills. Elham M. et al. [7] researched the adoption of social networking in education. Their surprising conclusion was that the use of social networks, for example, YouTube, Facebook, Wikis, and blogs, provides a huge amount of material on a wide range of subjects. Moodle, as a course management and delivery system based on socio-constructivist pedagogy, has great potential to create a successful learning experience by providing a plethora of excellent tools. It can be used to enhance conventional classroom instruction or any distance learning arrangements. Its appeal to teachers rests on the fact that Moodle offers a multitude of course management features, for example, assignments and quizzes can be made a password and time-restricted [8]. Moodle also keeps automatic log reports of each student work, so the teacher knows not only when students have completed or uploaded an assignment, but also how much time they spent on an assigned task or quiz [9]. A study on Integrating a Moodle Course into Facebook was conducted at Dawson College [10]. Another study found that using Facebook for e-Learning could inspire many of students to learn [11].

III. METHODOLOGY

The Methodology is divided into 2 parts:

1. The development of an eLearning course on the computer for the distance learning subject consisted of 12 lessons posted on the Moodle and Facebook closed group namely Dr. Chusak Distance Learning.

Fig. 1 Moodle Program on Computer for Distance Learning.

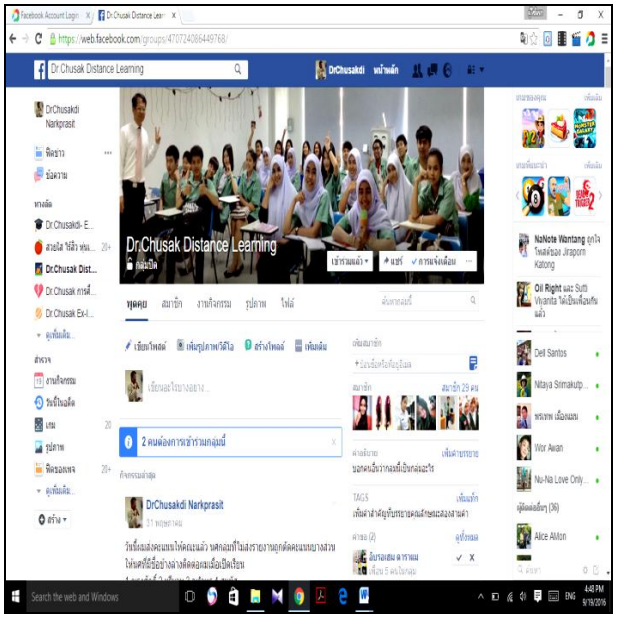

Fig. 2 Facebook Closed Group Entitled Dr. Chusak Distance Learning.

2. Questionnaires were developed to obtain general information and data on students' behaviors, usages, attitude, satisfaction, and opinions on using Moodle with Facebook.

The Alpha reliability coefficient carried out with 30 students from another group was 0.90.

Third-year students from the Educational Technology and Innovation division were designed as the experimental group and the Early Childhood Education division as the control group. The Facebook group was set up entitled Dr. Chusak Distance Learning.

The study was conducted in 2016 (the second term of 2015) and the study period was 15 weeks, during which one lesson was delivered each week to the Facebook group. The data collection was conducted at the end of the course.

IV. RESEARCH RESULTS

The experimental group consisted of 4 (20.0%) males and 16 (80.0%) females, whereas the control group had 3 (2.9%) males and 102 (97.1%) females.

Regarding connecting time, 7 (35.0 %) of the experimental group connected 3-4 hours a day. The rest linked it to 1-2, 5-6, and more than 6 hours/day respectively. The control group showed the same pattern at 32 (31.1%) 3-4 hours per day, 28 (27.2%) more than 6 hours, 22 (21.4%), 18 (17.5%), and 3 (2.9%) less than 1 hour per day respectively.

Data for the experimental group revealed that 17 (85%) linking at their dormitory followed by at the University, while traveling, and in public places respectively. The data for the control group showed the same pattern.

The data for the experimental group showed that 13 (65.0%) occasionally connected during the study period, and 5 (23%) used it for learning. The control group data indicated that 55 (56.1%) connected sometimes during the study period, while 37 (37.8%) used it for study.

TABLE I
COMPARISON OF STUDENTS' USAGES OF SOCIAL NETWORKS.

No.	Activity	Experiment ($\bar{X}$)	Rank	Control ($\bar{X}$)	Rank
1	Chat and communication	4.05	3	3.76	3
2	Online learning	3.70	5	3.27	5
3	Searching for information	4.10	2	3.96	1
4	Online buying	2.40	8	2.97	8
5	Selling and promotion	2.35	9	2.62	9
6	Online paying	2.35	10	2.46	10
7	Follow up news	3.95	4	3.67	4
8	Navigation and map	3.40	6	3.20	6
9	Music and movies	4.30	1	3.86	2
10	Playing games	2.95	7	2.98	7

From Table I, The experimental group's usages of social networks were for music and movies (4.30) as the top usage, followed by searching for information (4.10), chat and communication (4.05), and follow up news (3.95) respectively. The control group showed a slight difference with searching for information (3.96) at the top of the list, followed by music and movies (3.86), chat and communication (3.76), and follow up news (3.67) respectively. Both groups used online learning at number 5.

TABLE II
COMPARISON OF STUDENTS' ATTITUDE.

No.	Satisfaction level	Exp. $(\bar{X})$	Level	Rank	Cont. $(\bar{X})$	Level	Rank	p value
1	Very useful tool	3.75	High	9	3.50	Mod.	7	.421
2	Learning and working tool	4.05	High	3	3.85	High	3	.378
3	Technology helps speed things up	4.60	V.High	1	4.00	High	1	.000*
4	Keeping private information	3.80	High	6	3.70	High	4	.492
5	Huge knowledge resources	4.30	High	2	3.92	High	2	.000*
6	Learning concentration distraction	3.50	Mod.	10	3.49	Mod.	8	.861
7	Deception: money and people	4.00	High	4	3.36	Mod.	9	,218
8	Accident due to carelessness	4.00	High	4	3.58	High	6	.412
9	Sickness due to fewer exercises	3.80	High	6	3.62	High	5	.272
10	Unethical and unlawful acts	3.75	High	8	3.29	Mod.	10	.056
	Avg. Score	**3.96**	**High**		**3.63**	**High**		**.112**

* Significant difference (p<0.05) by Independent sample T-test

From Table II, Overall, the experimental group's average attitude was at a high level (3.96) and that of the control group was also at a high level (3.63). There was no significant difference. The group's score on the top three items was as follows: technology, help speed things up at a very high level (4.6), followed by huge knowledge resource at high level (4.3), and as learning and working tool at (4.05). The control group's top three scores were the same items, all at a high level. In technology helps speed things up and huge knowledge resource there were statistically significant differences (p<0.05).

TABLE III
STUDENTS' SATISFACTION WITH ELEARNING THROUGH SOCIAL NETWORK FACEBOOK.

No.	Satisfaction level	Exp. $(\bar{X})$	Level	Rank	Cont. $(\bar{X})$	Level	Rank	p value
1	Delivery of learning contents	4.20	High	4	3.44	Mod.	4	.488
2	Delivery of supplementary contents	4.25	High	3	3.62	High	2	.351
3	For sending messages to learners	4.40	High	1	3.67	High	1	.038*
4	For asking the teacher questions	4.35	High	2	3.62	High	2	.442
5	Teacher/learners relationship	3.90	High	6	3.22	Mod.	6	.111
6	For learning improvement	4.00	High	5	3.39	Mod.	5	.099
	Avg. Score	**4.18**	**High**		**3.49**	**Mod.**		**.001***

* Significant difference (p<0.05) by Independent sample T-test

From Table III, The results show that the students in the intervention group showed their satisfaction with the social network application at a high level (4.18) while the control group at a moderate level (3.49).There were statistically significant differences between both groups in the overall scores. In the intervention group, the top three benefits of the social network were for sending messages to learners (4.40), for asking teacher questions (4.35), and for delivery of supplementary learning contents (4.25). The control group's top three items were the same as those of the intervention group. There were significant differences between both groups in the overall and the individual aspect in sending messages to learners (p<0.05).Both groups used Facebook as the top and LINE as the second social network service.

TABLE IV
COMPARISON OF MOODLE AND FACEBOOK (GROUP) APPLICATIONS IN ELEARNING.

No.	Description	Moodle	Facebook (Group)
1	Upload course content files and presentation	Yes	Yes
2	Upload pictures and videos	Yes	Yes
3	Announcement and instructor contact	Yes	Yes
4	Group contact and forum	Yes	Yes
5	Assignments	Yes	Yes
6	Delivery report	Yes	Through other applications
7	Quizzes and examinations	Yes	Through other applications
8	Grading report	Yes	Through other applications
9	Keep log in and activity records of each student	Yes	Yes, use Insight management
10	Comments, likes, sharing pictures etc.	No	Yes

From Table IV, Comparison of Moodle and Facebook (Group) application in eLearning, it found that Facebook was unable to replace all Moodle functions particularly in creating different styles of examination form, grading, and some other functions. The experimental group mostly expressed opinions that Moodle was a well-designed learning management system with the course contents presented orderly while Facebook was easier to access and simpler to use as it was easy to view and download files, pictures, videos, and more sociable to share ideas and discussion.

V. DISCUSSION

The research revealed that the students' behaviors of Bangkokthonburi University were similar to Kasetsart University, Kamphaengsaen marketing students [12] and Johnson & Wales University students, where 45% found spending 6-8 hours per day connecting social media sites [13]. Moodle was a well-designed learning management system with the course contents presented orderly while social network Facebook was easier to access and simpler to use as it was easy to view and present files, pictures, videos and more sociable to share ideas and discussion. Therefore, eLearning combining Moodle and social networks, both can be applied to enhance students' learning. The research results comply with research findings as in [4] which revealed that social relationship and participation influenced significantly on student learning and motivation, and [5], which concluded that the present education system needs to change and social media should be widely utilized for educational purposes. In addition, the research results were supported as in [6] which indicated that students perceived specific social media in conjunction with a unique learning activity as influencing specific cognitive skills and [7], that the use of social networks; YouTube, Facebook, and others provide a huge amount of material on a wide range of subjects. It also coincided with 7 eLearning Trends for 2018 that Mobile and Social/Community Learning will be future trends in eLearning [14].

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(Arranged in the order of citation in the same fashion as the case of Footnotes.)

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