

# The Development of the Flipped Classroom Model Integrated with the Facebook-Based Learning Platform to Enhance Lifelong Learning Skills for Undergraduate Physical Education Majors

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**Abstract** - The purposes of this study were: 1) to design the flipped classroom model integrated with Facebook-based learning platform to enhance lifelong learning skills for undergraduate physical education majors; 2) to examine the feasibility of using the developed model; and 3) to study students' opinion toward the flipped classroom and Facebook-based learning. The new model was adjusted from review literatures and it was revised by 5 experts. After that it was conducted pilot study with 84 second year students majoring in physical education, who had registered on IT for Learning course, in the first semester of the academic year 2015 at Institute of Physical Education, Chumphon Campus, Thailand. At the end, a course survey and in-depth interviews were used to evaluate students' satisfaction and to study others' opinions. The data were analyzed using descriptive statistics, t-test, and content analysis. The results indicated that: 1) the developed flipped classroom model integrated with Facebook-based learning platform had suitability; 2) the students' learning achievement was 82.52/78.50, which was in accordance with the efficiency criterion (80/80); 3) the developed model can enhance the students' lifelong learning skills; and 4) most students agreed that the use of the flipped classroom has the potential to be an effective and beneficial. However, they also found that the flipped

classroom learning integrated with Facebook-based learning platform had some limitations concerning with students who had no access to the internet. The study is significant, as it indicates that the flipped classroom integrated with Facebook-based learning platform can be incorporate into in a meaningful way to promote lifelong learning and encourage student to apply social networking tools academically and appropriately.

**Keywords** - Flipped Classroom, Facebook-Based Learning, Lifelong Learning Skills, Physical Education

## I. INTRODUCTION

In this rapidly changing society, lifelong learning is become a crucial importance for everyone. The institution of higher education must be able to prepare their students who are able to learn and adapt once they join the working world. Therefore, it is necessary for adapting instructional practices to suit the characteristics of their students and lifelong learning skills. The use of technology and the Internet was also expected to enable a student-centered teaching approach that enhances learner autonomy, supports individualized learning and helps create lifelong learners [1, 2].

To promote the lifelong learning skills, utilize ICT to move forward globalized world is based upon highly educated, we need to teach students to learn via integration of social media tools and be applied with a good teaching. Dunlap [3] advised a specifically, the ability to engage in lifelong learning is based on the development, and subsequent successful application, of two skill areas: metacognition and self-directedness. As O'Neil, Kelly & Bone [4] mentioned the flipped classroom that is an innovative model of teaching which utilizes educational technology and directed activities to positively impact the learning environment. In the flipped classroom, the instructor serves as a facilitator and students are empowered to become active participants in their learning experience. Similarly, the experiences of university of south wales staff showed that the flipped classroom is an evolving approach to teaching and learning that utilizes technology and advanced flipped classroom by activity-based design to encourage students' lifelong learning skills [5].

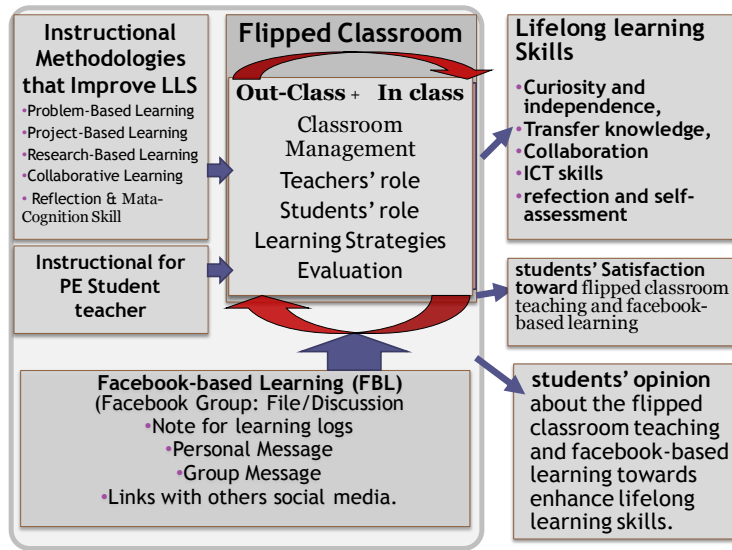
Facebook is currently the most popular social networking service in the world, it is able to facilitate learning activities and beneficial to their learning. The reviewed studies by Manca and Ranieri discovered 23 empirical studies of using Facebook as a learning environment. They identified five main educational uses of Facebook: 1) Support class discussions and helping students engage in collaborative learning; 2) Developing content; 3) Sharing educational resources; 4) Delivering content to expose students to extra-curricular resources; and 5) To support self-managed learning [6]. For an example, building a relationship between social classes stimulating the learners interest in searching for their education, creating an extensive learner-to-learner knowledge exchange for the learning, promoting the learners' interest in

learning activities and encouraging the learners' ability to read lecture notes online [7]. Another vital feature of Facebook is links of educational and social sites which accessed very easily which are available using web 2.0 technologies which are available on various links posted on Facebook wall could be used through classroom instruction. The study of impact of Facebook usage on students' academic achievement, the results indicated that extensive use of Facebook by students with extraverted personalities leads to poor academic performance. However, students who are more self-regulated control their presence on these platforms more effectively [8, 9]. For findings revealed that Facebook method helped in increasing achievement in Educational Psychology subject than the traditional method of teaching [10].

From results of the survey on using Facebook in 2014 year that affected Physical Education students' lifestyles in Thailand of Narumon Rodniam found that most students used Facebook via the access devices such as notebooks, smartphones and laptops. In overview, their regular activities for using Facebook and the impacts of Facebook usage to the lifestyle on the daily life activities were at moderate level. They provided recommendations that it should be applied Facebook to facilitate teaching and learning activities more [11].

Thus, the researcher as instructor of the faculty of Education, Institute of Physical Education (IPE), Thailand, intended to development and implementation of the flipped classroom instructional integrated with the Facebook-based learning to improve learning outcomes and students' lifelong learning skills included 5 domains: 1) curiosity and independence, 2) ICT skills, 3) collaboration, 4) transfer knowledge, and 5) reflection and self-assessment.

## II. CONCEPTUAL FRAMEWORK



**Fig. 1** The Conceptual Framework of the Flipped Classroom Integrated with Facebook-Based Learning Platform to Enhance Lifelong Learning Skills for Undergraduate Physical Education Majors

## III. METHODOLOGY

The research methods were used into two Phases as follows:

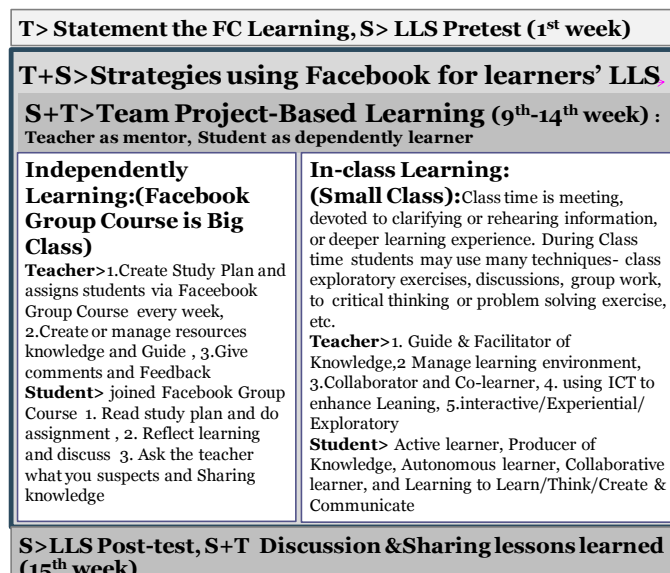
### Phase 1: Model Development

Relevant article and research works were studied, analyzed and synthesized to set a conceptual framework of the model as shown in Fig. 1. Then, the Flipped Classroom model integrated with Facebook-based learning platform was developed in the hope that PE students teacher can active learning to acquire better learning effectiveness and lifelong learning skills. The developed model was reviewed and examined on suitability by 5 experts, whom were chosen by selected sampling. Gathering data by interviewing. Data was analyzed by content analysis. Lastly, the researcher takes summary and comment for improving the model. The developed model had details as follows:

1. **The Features of Model:** The Flipped Classroom integrated with the Facebook-based learning platform to enhance lifelong learning

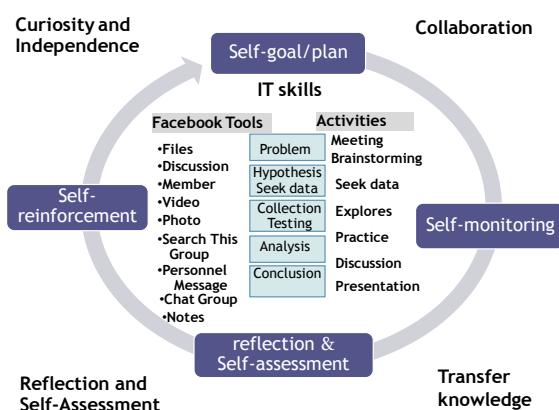
skills for undergraduate physical education majors is a model of learning activities management that integrate Lifelong learning skills and Physical Education activities based on interest of students into contents of each subject. The important objective is to let students learn the subject's contents and learn to understand themselves simultaneously.

2. **The Process of Model:** There are combine two main forms of Flipped classroom management namely: 1) Independent learning-students will prepare and study the lesson in advance through activity plans and learning materials in the classroom such as video and problem scenarios, etc; 2) In-class learning-students can bring problems or their questions from self-studying the lesson to ask the teacher and perform activities together with classmates via brainstorming and discussion to exchange and share knowledge, etc. They will also get chances to practice and present projects in the classroom. As shown in Fig. 2.



**Fig. 2** The Flipped Classroom Model Integrated with the Facebook-Based Learning Platform to Enhance Lifelong Learning Skills for Undergraduate Physical Education Majors. (Rodniam, N. 2015)

### 3. Strategies using Facebook for Promoting Lifelong Learning Skills.



**Fig. 3** Strategies using Facebook for Enhancing Learners' Lifelong Learning Skills (Rodniam, N. 2015)

**4. A Facebook-Based Learning Platform:** it is material used for connecting the independent learning with the in-class learning via the Facebook Group for that specific course. Members in the group can connect to the course's contents via videos, problem scenarios, and other issues of interest at present.

Using Facebook as the platform for the Flipped Classroom:

The researcher used Facebook as the platform for learning. Facebook group was

used as the learning management system, which has these following components.

- **Files:** This part is used by the teacher to inform the plan of learning activities to students and give assignments to them in advance every week.
- **Discussion:** In this part, the teacher and the students can set questions that allow all students to take part in answering them. The questions may be related to problems or scenarios of their interest but they have not had a clear answer. The teacher can link factual data from social media such as YouTube, news, pages, or articles, and then let students practice to develop their thinking and lifelong learning skills. The questions and discussion will be related to direct experiences of students from both in-class and independent-learning activities. This approach will make learning more meaningful and allow students to expand their thoughts and knowledge. Students will reflect their learning and assess themselves each time they do an activity via the Comment section.

- **Member:** This data links to personal Facebook pages of members in the class.

- **Video:** The teacher and students can use videos of their activities or other interesting videos for supporting their learning.

- **Photo:** The teacher and students can upload photos to be stored in this section in order to promote and stimulate their learning.

- **Search this Group:** The students can use keywords to search for information within the group so that they can monitor work conveniently.

- **Personnel Message:** This is used for contacting and inquiring about problems of individual learners.

- **Chat Group:** Students in each group can create a Chat Group to facilitate their group working.

- **Notes:** Students can write journals and learning logs to sharing the experience learning.

5. **Assessment:** use authentic assessment in knowledge, skills, competence by various tools emphasize a rubric scoring criteria allows participants to take part in the assessments, which include self-assessment, peer assessment, and assessment by the teacher.

## Phase 2: Implementation and Evaluation

### A. Participants

This experimental research was of a one-group design. The population of the study was PE students teacher in IPE, Thailand in the first semester of the academic year 2015 (N = 1,615). The sample consisted of 84 second year students enrolled in the IT for Learning course in three sections (section of 28). They were all PE majors, from the faculty of Education, IPE Chumphon Campus was obtained through a convenience sampling method because they belonged to the researcher's registered course sections. Based on Frankel & Wallen [12], the recommended valid sample size for an experimental research is not lower than 100. However, the sample size in this study may not be the representative

for the whole sections, but they could share some characteristics in other similar settings.

### B. Research Instruments

There were 6 instruments used in this phase including: 1) A study plan for IT for Learning course using FC model, 2) Facebook-group for IT for Learning course, 3) Formative and summative assessments, 4) Self-assessment questionnaires for LLS were used for pretest and posttest, 5) The questionnaires to study satisfaction toward the Flipped Classroom (5-point Likert scale), and 6) interview.

### C. Data Analyses

Data were analyzed using frequency, percentage, mean, standard deviation and t-test dependent. The qualitative data were analyzed by using content analysis.

### D. Procedure

The study was conducted according to the following stages.

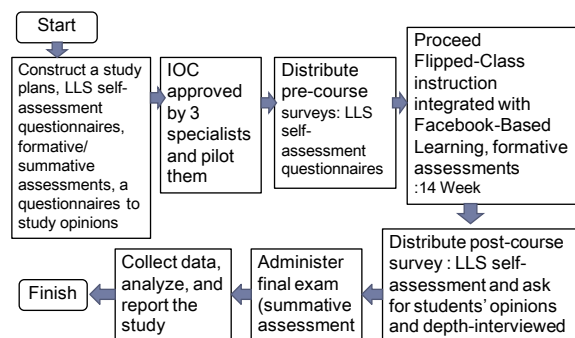


Fig. 4 Framework of Research Procedures

## IV. RESULTS

The sample consisted of males and females, at 69.8% and 30.2%, respectively, aged between 18-20 years, and most of the students (99%) used Facebook in daily life. The results indicated as follows.

1. The students' learning achievement was in accordance with the specified criterion ( $E_1/E_2=80/80$ ) that is, formative assessments score was 80.54, and summative assessments score was rated at 78.13,

2. The students' posttest score in LLS ( $Mean=4.04, SD=0.54$ ) were significantly

higher than pretest score in LLS ( $Mean=3.80$ ,  $SD=0.54$ ) at .01 level, and

3. Overall, students' satisfaction toward the flipped classroom integrated with Facebook-based learning platform was the highest ( $Mean=4.59$ ), when considering at item, it was found that all was the highest. As shown in TABLE I.

**TABLE I  
ANALYSIS ON THE RESULT  
OF STUDENTS' SATISFACTION**

Item	N	Mean	SD
1. Content and Materials	84	4.60	0.54
2. In-Class Learning in Flipped Classroom	84	4.58	0.61
3. Facebook-based learning in Out-Class Learning of Flipped Classroom	84	4.61	0.58
4. Instructional Strategies to Promote LLS	84	4.58	0.63
5. Teacher-Student relationship	84	4.63	0.66
6. Instructional Evaluation	84	4.54	0.65
<b>Total</b>	<b>84</b>	<b>4.59</b>	<b>0.61</b>

**A. Qualitative Findings**

At the end of the semester, semi-structured interviews with 12 randomly-selected students were conducted to understand their opinions toward Flipped Classroom integrated with Facebook in Flipped Classroom, and lifelong learning skills. After the interviews, the content analysis is presented in the following:

Most students agreed that the Flipped Classroom learning had efficient. It made the normal classroom becomes more meaningful and both extend their knowledge width and depth of learning. In addition, Facebook used as learning platform is suitable for independently/out-of-class learning because everyone accustomed with it and it lets our class get close to each other, and it also encourages their learn more. However, they also found that the Flipped Classroom learning had some limitations concerning with students who had no access to the internet.

Finally, when asked to report what they found useful the flipped classroom learning to promote lifelong learning skills in 5 Domain, students reported that: 1) They can improve

curiosity, motivation and independent by taking responsibility for their own learning and project-based work. They could assess what they needed to learn, choose and research the particular topics that they were interested in, and utilize resources in order to build their knowledge, 2) They can improve ICT skills, communication and seeking information. They found that searching for information in assignments and projects, webs was very useful even though it was difficult and time consuming, 3) They improve collaboration and problem solving, especially for learning by Team Project-based learning they used Facebook chat group to contact and engage, 4) They can transfer knowledge, especially involved in their own learning, with some students even applying what they learned in their own projects, and in their everyday lives, it made they able to connect new ideas to previous knowledge and apply it to the real world, and 5) They can self-reflection and self-assessment in own learning to improve self-learning.

Based on the interviews, examples of their dialogues are shown as follows.

• **First Case: Student 1:**

“I like the Flipped classroom learning technique. It helps me understand lessons more. When I have questions, I can ask the instructor immediately via Facebook. I am also able to review the lessons anytime I want”.

• **Second Case: Student 2:**

“The Flipped classroom has made the normal classroom becomes more meaningful. This is because it allows us to work as a team to learn what we are interested in. We have chances to do Physical Education activities. The way that the teacher taught us to reflect our learning and assess ourselves helped me to understand myself better. I am able to link knowledge on Physical Education with knowledge from other subjects. This technique makes my learning not boring. I would like to thank the teacher for always giving me advice and answering my questions whenever I have problems in understanding the contents”.

- **Third Case: Student 3:**

“During the initial Phase of learning, I did not apply to be in the Facebook Group of our classroom. That made me unable to catch up with the assigned work. I felt discouraged in learning. However, the teacher was so kind. She encouraged me, gave me advice, and allowed me to send work late. I then had higher intention to learn. Nonetheless, sometimes I cannot connect to the internet. When that problem happens, I will lose connection with friends. This might make me delayed in submitting work”.

- **Fourth Case:**

“I think this style of learning is appropriate. Currently people use Facebook widely for communicating with others quickly and thoroughly. Facebook facilitates teachers and students to announce news and share knowledge with ease. When I don’t understand any points I can ask the teacher immediately”.

- **Fifth Case:**

“The Flipped classroom makes me have an attitude to learn more. My self-learning skills have been developed. I get chances to utilize technology fruitfully. I understand the lessons a lot more, and I am more ready to attend the classroom. I think this learning technique may solve the problem of students avoiding to attend classes”.

- **Sixth Case:**

“The Facebook used in Flipped classroom is a learning approach that is easy to access and efficient. We can solve problems by searching for information in the internet. It is a way to learn by oneself, and it allows fast communication with the teacher”.

## **V. CONCLUSION AND FURTHER RESEARCH**

In summary, this research supported the learning outcome for developing the students’ learning outcomes and students’ lifelong learning skills included 5 domains: 1) curiosity and independence, 2) ICT skills, 3) collaboration, 4) transfer knowledge, and 5) reflection and self-assessment. The developed

flipped classroom model integrated with the Facebook-based learning platform had suitability and feasibility for the implementation, because it could improve students’ learning achievement and lifelong learning skills, in addition students were very satisfied toward learning approach in the flipped classroom and using facebook-based learning platform.

The flipped classroom approach helped students attain the skills that were necessary to make sense out of the facts they themselves discovered in their goal. Through the use of Facebook which can like multi-tools students were able to explore their own interests and make their own choices, become personally involved in assignments and projects that allowed them to learn a range of skills in the context in which they needed to be used, work collaboratively with their classmates, access database and online information services in an instant, explore an abundance of resources and organize new knowledge quickly and efficiently. Most of that they did through social interaction with their peers. Increasing students’ control and responsibility over the learning process is an important skill for lifelong learning.

The integrated Facebook-group platform into flipped classroom could be applied in academic courses. Due to its current beneficial functions, such as wall posts for messages, videos, photos, and files, it can be implemented appropriately in an academic course, especially for creating additional out-of-class activities, such as discussions, assignments, polls, notifications of events such as exam dates and so forth, and sharing ideas, knowledge, as well as course materials. Therefore, the flipped classroom model integrated with Facebook based learning was effective in improving lifelong learning skills among PE students. The outcome of this study will hopefully enhance the process of teaching and learning using Facebook and enhance PE students’ lifelong learning skills and it helped student-teachers to enhance their various elements of social interaction skills and also



the number of elements of attitude towards use of facebook.

#### **A. Recommendations for Further Research.**

It should have the study and research the effect of the flipped classrooms on lifelong learning skills in depth. That is by learning the basic skills of the students or the learning style and so on.

### **VI. ACKNOWLEDGMENTS**

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

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