

Development of Online Learning Network Innovations for Supporting Physical Education Teaching Professional Experience in the 21st Century

Pensri Srisawat¹

and Preedaphorn Douangjaidee²

Institute of Physical Education Suphanburi, Thailand

¹srisawatt.ps@gmail.com

²preedaphorn@hotmail

Abstract - The purposes of this study were: 1) to develop the online learning network innovations for supporting physical education teaching professional experience in the 21st century and 2) to evaluate the effectiveness of those online learning network innovations. This research and development study was carried out by employing mixed methods with the embedded design. A quasi-experimental design of equivalent time-sample design was used in this qualitative and quantitative study where one experimental group was tested at equivalent intervals. A post-test was used for self-evaluation at the end of the experiment. The sample were 9 supervisors, 27 cooperating teachers, and 54 student teachers. The research instrument used in this study comprised a self-evaluation questionnaire of mentoring competencies with the online social network, a questionnaire for evaluating teacher's characteristics of student teachers, and a questionnaire on satisfaction with the online learning network innovations. The statistical devices employed for data analysis were arithmetic mean, standard deviation and content analysis. The research results were as the following:

1. The online learning network innovations for supporting physical education teaching professional experience in the 21st century consisted of six components: 1) network leader; 2) network members; 3) network objectives; 4) manual for teaching professional

experience; 5) social network; and 6) learning network procedures containing four major stages: (1) Orientation; (2) Planning; (3) Implementation; and (4) Assessment.

2. The effectiveness of the online learning network innovations for supporting physical education teaching professional experience in the 21st century revealed that: 1) Teacher's characteristics of student teachers were found at a high level and comprised five domains: (1) planning for learning management, (2) classroom management, (3) teaching professional competencies, (4) ability to use information technology, and (5) professional codes, ethics and morals, 2) Supervisors and cooperating teachers possessed mentoring competencies at a highest level, and 3) As a whole, supervisors, cooperating teachers, and student teachers were satisfied with the online learning network innovations at a highest level.

Keywords - Online Learning Network Innovations, Teaching Professional Experience, Supervisor, Cooperating Teacher, Student Teacher

I. INTRODUCTION

Institute of Physical Education Suphanburi offers study programs and teaching professional courses served for qualified physical education and health education students as required for labor markets. Eleven major teaching professional

standards and internship standards including pre-teaching professional experience and one-year teaching professional experience on their specific field of study are set up in order to be compiled with the educational development plan issued by the Ministry of Education together with teaching professional standards inaugurated by the Teachers Council of Thailand's regulations on the 2013 professional standards [1].

The study of Sarocha Klaipan [2] indicated that teaching professional experience on physical education played an important role in effective instructional management of physical education students studying at the Faculty of Education, Institute of Suphanburi Physical Education. Not only was the importance of curriculum management for learners' educational quality, but the senior physical education students' teaching professional experience supervised and approved by professional experience committee was also needed. Also, well-planned handout designed for physical education courses, oral presentation skills, classroom action research skills, well-designed lesson plans, well-preparation in week-day lesson plans, construction of item-testing and evaluation on student's learning achievements, as well as their teaching demonstration in assigned classes were all required for teaching professional characteristics. In fact, the students' problems with teaching professional experience were all caused by lack of contact with their on-site supervisors, together with their remote school areas, lack of in-time problem-solving skills, the fewer numbers of on-site supervisors, the on-site supervisors' teaching overloads, as well as lack of well-preparation for on-site supervision. Also, lack of self-confidence on their instructional management, and lack of pedagogical approaches, and their inadequate numbers of learning resources related to student's teaching professional experience were found most frequently. With references to the previous study of Khanitha Hin-on and Surapan Tansriwong [3] it stated that Institute of Physical Education Suphanburi also emphasized on solutions for teaching professional experience so that school networking collaborations with

school administrators and supervisors should be provided for the better understanding and awareness on coaching and mentoring, as well as good interaction with their advisory teachers, and counseling services. Moreover, the on-site supervisors' and cooperating teachers' responsibilities in academic collaboration with the Institute of Physical Education should be enhanced for the targeted numbers of qualified teachers, and technological advancements in the 21st century.

In order to serve the teachers' self-development on technological applications the teachers' characteristics in the 21st century were suggested as the following: teaching professional experiences, experiences in new technology-based learning management such as extended knowledge exploration via technological media should be for their self-academic development; meanwhile, teacher's expanded knowledge-transferring should be enhanced for their technology-oriented learning management. Furthermore, their abilities of exploring updated and insightful contents should be conducted for teacher's exploration. Good and fair evaluation with their technological applications for their students' learning evaluation should be needed in terms of the teacher's evaluation. Also, a variety of technological applications should be facilitated in terms of the end-users, the enablers, the teachers for creating learning modules and contents.

According to the study of Rungrot Kaewurai and Sarunyu Muendech [4] it also stated that teachers played very important roles in developing students' competencies, improving the teachers' abilities of technological applications for their students' effective learning management, as well as mentoring and teaching professional self-development. In order to facilitate students' information retrievals and to enhance students' idea-sharing classrooms with good learning atmospheres, as well as new pedagogical approaches used in the 21st century were all resulted from the implementation of social media for effective instructional management. Also, the study of Siriwan Chatmaneerungchareon

[5] said that the students' information retrievals were not only provided for their useful information services, but the teachers' applications of social media for effective classroom management based on the implementation of social media should be also served for their required teaching professional skills.

In this paper, in order to develop the student teachers' technological capabilities, and to support on-site supervisors, and cooperating teachers to share their ideas and teaching experiences via using social media. Online network innovations for supporting physical education teaching professional experience in the 21st century, should be developed.

II. RESEARCH OBJECTIVES

The objectives of this research were:

1) to develop the online learning network innovations for physical education teaching professional experience in the 21st century.

2) to evaluate the effectiveness of the online learning network innovations.

III. SCOPE OF STUDY

A. The Population and the Sample Study

The research population investigation were 22 supervisors, 104 cooperating teachers, and 195 student teachers. The samples in this study were 9 supervisors, 27 cooperating teachers, and 54 student teachers.

B. The Variables in Study

The research variables comprised:

1) Independent variables were innovations for physical education teaching professional experience.

2) Dependent variables consisted of (1) mentoring competencies of supervisors and cooperating teachers to use the online network innovations for physical education teaching professional experience, (2) The teacher's characteristics of student teachers, and (3) The satisfaction with online learning network

innovations for physical education teaching professional experience.

IV. RESEARCH METHODOLOGY

The procedures for developing online learning network innovations for physical education teaching professional experience consisted three stages as the following:

1. The first stage was designed to study, analyze and synthesize the data for summarizing the current situation of professional experience.

The first stage was divided into three major steps:

1) Analyzing and synthesizing the data from related document and researches about development of online learning network innovations, social network, teaching professional experience, teachers' characteristics.

2) Constructing the five-scale-rating questionnaires for focus group containing three forms; a questionnaire with 50 items of teacher's characteristics of student teachers, a questionnaire with 32 items of mentoring competencies of supervisors and cooperating teachers by using innovations for physical education teaching professional experience, and a questionnaire with 13 items of satisfaction with online learning network innovations for physical education teaching professional experience.

3) Doing a focus group with 3 supervisors, 3 cooperating teachers, 3 administrators from network schools and 3 student teachers by purposive sampling method. The data were analyzed and the items used in the next step were selected by mean scores above 3.50 and the content analysis was also conducted in this step.

2. The second stage was to develop online learning network innovations for physical education teaching professional experience.

The second stage was divided into five major steps according to ADDIE's concept:

1) Analyzing and synthesizing the data from related document and researches about development of online learning network innovations, social network, professional experience teaching, teachers' characteristics.

2) Designing online learning network innovations by using online social network, Facebook, comprising six major aspects: network leader, network members, network objectives, manual for teaching professional experience, social network technology, and learning evaluation, and learning network procedures containing four major stages: (1) orientation preparation; (2) planning; (3) implementation; and (4) assessment.

3) Developing online learning social network innovations by using Facebook, uploading manual for teaching professional experience in "Suphanburi Physical Education Teachers", and adding network leader and members in online learning network. The quality of all constructed questionnaires were examined, consisting of the questionnaire on teacher's characteristics, the IOC of which was found between 0.67-1.00 and the reliability of which was 0.87; the questionnaire on mentoring competencies, the IOC of which was found between 0.67-1.00 and the reliability of which was 0.82; and the questionnaire on satisfaction with online learning network innovations, the IOC of which was found between 0.67-1.00 and the reliability of which was 0.86.

4) Implementing the online learning network innovations with the small groups of three, six, and nine. Fifteen physical education teachers were used to find out the effectiveness.

5) Evaluating the quality of online learning network innovations by a panel of fifteen experts. Its quality was found at 4.68.

3. The third stage was to investigate the effectiveness of online learning network innovations for physical education teaching professional experience.

The third stage was divided into four major steps:

1) Orientation (O) letting supervisors, cooperating teachers and student teachers participate in the orientation activities in order to make the same understanding and attend the training about online learning network innovations for physical education teaching professional experience comprising teacher's characteristics, mentoring competencies and satisfaction with online learning network innovations.

2) Planning (P), time-lining for on-site school supervision among supervisors, cooperating teachers, and student teachers. The discussion was set up for well-planned on-site supervision.

3) Implementation (I), mentoring services via online social network called "Suphanburi Physical Education Teachers" which was provided for counseling, coaching, idea and knowledge sharing among the network members and attending the physical education teaching professional experience seminar. The implementation comprised four steps: planning, doing activities, observing, and reflecting.

4) Assessment (A), mentoring services in relation to the required characteristics of teacher actualization, together with the better understanding of mentoring services via online social networks, and satisfactions towards online learning network innovations were all provided and evaluated by using the three constructed questionnaires.

All stages for online learning network innovations for physical education teaching professional experience were shown in the model below:

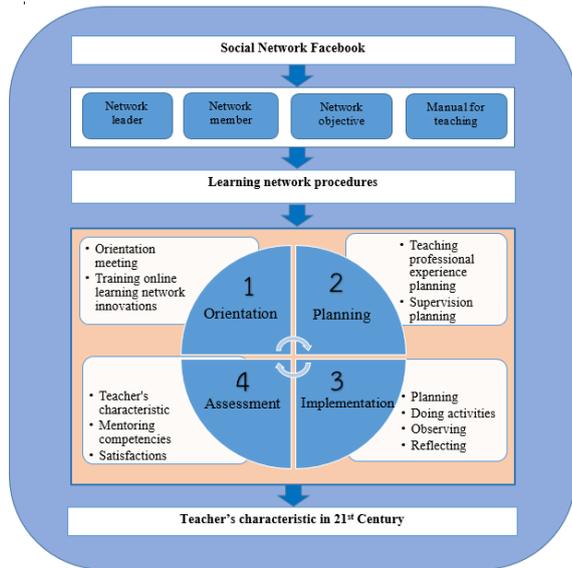


Fig. 1 OPIA Model by Pensri

V. RESULTS

A. Teacher's Characteristics of Student Teachers

TABLE I
MEAN AND STANDARD DEVIATION AND QUALITY EVALUATION OF STUDENT TEACHERS

Teacher's Characteristics	\bar{x}	S.D	Level
1. Planning for learning management	4.42	.25	high
2. Classroom management	4.53	.26	highest
3. Teaching professional competencies	4.25	.22	high
4. Ability to use educational innovation and information technology	4.38	.26	high
5. Professional codes, ethics and morals	4.45	.18	high
Total	4.41	.20	high

Table I, showed that the teacher's characteristics of student teachers were rated at a high level as a whole ($\bar{x} = 4.41$). The classroom management held the highest mean score.

B. Supervisors and Cooperating Teachers Possessed Mentoring Competencies

TABLE II
MEAN AND STANDARD DEVIATION AND QUALITY EVALUATION ON MENTORING COMPETENCIES

Mentoring Competencies	\bar{x}	S.D	Level
1. Knowledge and understanding of mentoring	4.72	.20	highest
2. The process of mentoring	4.59	.36	highest
3. The attitude of mentoring	4.54	.29	highest
4. Ability to use online learning network	4.65	.22	highest
Total	4.60	.16	highest

Table II, showed that all of mentoring competencies were self-evaluated at a highest level ($\bar{x} = 4.60$). Knowledge and understanding of mentoring held the highest mean score.

C. Level of Satisfaction with the Online Learning Network Innovations

TABLE III
MEAN AND STANDARD DEVIATION AND QUALITY EVALUATION ON SATISFACTION

List of Satisfaction	\bar{x}	S.D	Level
The Components of Online Learning Network			
1. The objectives of online learning network	4.22	.42	high
2. The components of online learning network:	4.39	.49	high
3. The process of online learning network	4.58	.50	high
Total	4.40	.27	high
The Process of Implementation			
1. The student teachers' orientation activities and well-preparation for their better understandings of mentoring activities-based online learning network applications were provided.	4.53	.51	highest
2. The application of mentoring service-based online learning network innovations organized by supervisors, cooperating teachers, and student teachers was well-planned.	4.72	.45	highest
3. The cooperation of mentoring services set up by provided schemes was supported.	4.33	.48	high
4. The supervisors' and cooperating teachers' collaboration on student teachers' application of online learning network innovations based on teacher's professional characteristics was enhanced.	4.75	.44	highest

5. The online evaluation of student teachers' teaching professional experience reflecting their improvement of required teacher's characteristics was implemented.	4.56	.50	highest
Total	4.58	.33	highest
Benefits of Online Learning Network Innovations			
1. Mentoring services based on the application of online learning network innovations were resulted in supervisors', cooperating teachers' and student teachers' mutual panel discussion. (anytime anywhere)	4.58	.50	highest
2. Follow-ups on student teachers' teaching professional experience activities based on the application of online learning network innovations were supported continuously.	4.86	.35	highest
3. The members' good interpersonal relations based on the application of online learning network innovations were enhanced.	4.58	.50	highest
4. The supervisors' cooperating teachers' and student teachers' intensive skills on the application of online learning network innovations were improved for their learning facilities.	4.89	.32	highest
5. The networking members' academic, professional, and experiential exchanges could be all shared.	4.83	.38	highest
Total	4.75	.22	highest
Overall	4.60	.18	highest

Table III, showed that supervisors cooperating teachers and student teachers were satisfied with online learning network innovations at a highest level ($\bar{x} = 4.60$). The two highest mean scores were found as the following: the process of implementation and benefits of online learning network innovations.

VI. CONCLUSIONS

1. The development of online network innovations for supporting physical education teaching professional experience in the 21st century conceptualized with the ADDIE's model was divided into six major aspects: 1) network leader, 2) network members, 3) network objectives, 4) manual for teaching professional experience, 5) social network, and 6) learning network procedures containing four major stages: 1) Orientation, 2) Planning,

3) Implementation, and 4) Assessment. Although different steps based on the process of professional experience via online learning network innovations, both the members' good working cooperation and their technological applications of on-line social networks to effective supervision management were enhanced. Most importantly, the procedures for working cooperation designed for online learning network innovations were divided into four major steps: 1) planning; 2) action; 3) observing; and 4) reflecting. With reference to the previous study of Yupin Yuenyong [6] stated that not only follow-ups on student teachers' teaching professional experience, and cooperating teachers' mentoring services, but also the supervision via online learning network innovations should be all implemented in various face-to-face online social networks with different optional textures, pictures, live-videos and sounds. Moreover, online social networks, particularly Facebook could be used due to its convenient and economized supervision [7].

2. The effectiveness of implementing on-line learning network innovations designed for teaching professional experience was discussed as the following: 1) The supervisors' and cooperating teachers' self-assessment on their deeper understanding of mentoring management via online learning network innovations was rated at a highest level in accordance with the study of Warunyu Klip-ngeun [8] insisting that this was because the supervisors' and cooperating teachers' understandings of their teaching professional roles were well-prepared in the orientation step. Moreover, intensive training on the applications of online learning network innovations for effective mentoring management and 2) The student teachers' characteristics of professional teachers obtained from the applications of online learning network innovations designed for student teachers were all rated a high level in terms of their, classroom management, instructional management, academic and professional knowledge, utilization of educational information technology, and professional codes, ethics and morals. The study of Siriporn Angsopha [9] insisted that this was because the student teachers' panel

discussions via online social networks related to “Suphanburi Physical Education Teachers” could be interacted with their cooperating teachers and supervisors; moreover, their mentoring services, follow-ups and feedbacks on student teachers were all supported for their mutual problem-solving occurred during teaching professional experience.

Also, Watanyu Klip-nguen [8] agreed upon that the teachers’ applications of technological information to their effective learning management were all rated at a high level in terms of their well-plane instructional management, followed by their classroom management, their self-responsibility, and their utilization of information technology.

3. Their satisfactions towards benefits of online learning network innovations were found at a highest level. This was because the procedures of mentoring services through utilizing online learning network innovations in relation to its orientation, planning, implementation, and assessment were done for supervisors’, cooperating teachers’ and student teachers’ discussions and mutual follow-ups on student teachers’ teaching professional experience. Also, easy-to-access online learning network innovations together with useful information services, additional databases, as well as their accessibility of indigenous information via online learning network innovations were all supported in accordance with the study of Boonkeu Krutkham [7] on the development of information technology organized by Teaching Professional Internship Center, the Faculty of Education, Sakon Nakhon Rajabhat University stating that the users’ satisfactions were all rated at a high level because the users’ databases on student teachers’ teaching professional experience met their needs [10].

VII. ACKNOWLEDGMENT

The researchers gratefully acknowledge the financial support given by the Institute of Physical Education. Thank you for the kindness of research committee who sponsored the study until it was complete successfully.

REFERENCES

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

- [1] Teachers Council. (2013). “Regulatory Act”. <<http://www.ksp.or.th/ksp2013/download/index.php?l=th&tid=3&mid=119&pid=31>>. Accessed 19 March 2017.
- [2] Khlayphanthu, S. (1970). “Problems and Guided Development in Professional Practices of Teacher Students from Institute of Physical Education Chonburi Campus”. *Journal of Educational Administration Burapha University*, Vol. 8(1), pp. 63-76.
- [3] Hiron, K. and Tansriwong, S. (1972). “The Problems of the Practice of Professional Experience Teaching and the Solutions for Future Improvement Faculty of Technical Education King Mongkut's University of Technology North Bangkok”. *Technical Education Journal King Mongkut's University of Technology North Bangkok*, Vol. 6(1), pp. 159-167.
- [4] Kaewurai, R. and Hmuendech, S. (2014). “8 step of Project-Based Learning with social media for learning in the 21st century”. *Educational Technology and Media Convergence*, Vol. 1(1), pp. 1-2.
- [5] Chatmaneerungjaruan, S. (2014). “21st Century Skills: A Challenge for the Future”. Faculty of Education, Phuket Rajabhat University.
- [6] Yuenyong, Y. (2010). “The Development of Differentiated Supervision Model for the Enhancement on Classroom action Research Competency of Teachers in Bangkok Archdiocese, Educational Region 5”. Thesis Doctor of Philosophy in Curriculum and Instruction, Grade School Silpakorn University.
- [7] Krutkham, B. (2015). “Development of the Information System for the Teacher Professional Experience Training Center of Faculty of Education at Sakon Rajbhat University”. Thesis Master of Science in Information Science and Technology, Sakon Rajbhat University.
- [8] Klip-ngoan. (2013). “The development of a mentoring social media technology blended model for pre-service teacher

- professional experience practices”. Thesis Doctor of Philosophy in Curriculum and Instruction, Grade School Silpakorn University.
- [9] Angsopa. and Other. (2015). “A Consultation and Recommendation Model for Student Teacher Interns”. *Technical Education Journal King Mongkut’s University of Technology North Bangkok*, Vol. 6(2), pp. 41-47.
- [10] Sungpum, S. (2014). “Development of Teacher Field Experience Information Technology System for Pre-service Teachers, Faculty of education Rajabhat University in Bangkok Metropolitan”. *Technical Education Journal King Mongkut’s University of Technology North Bangkok*, Vol. 8(1), pp. 191-199.