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Dear Arthitaya Khaopraay,

We are pleased to inform you that the Advisory Board of INTE 2019 - International Conference on New Horizons in Education, after rigorous blind peer reviewing, has decided to ACCEPT your article to be presented at INTE Conference.

INTE 2019 will be held in Prague, Czech Republic, July 3-5, 2019.

Your article will be published in the Abstract Book, Proceedings Book and be reviewed for the special issues (October 2019 and January 2020) of TOJET and TOJNED.

Paper Title: DEVELOPMENT OF THE INSTRUCTIONAL ACTIVITIES FOR ENHANCING STUDENT TEACHERS' ABILITY IN DEVELOPING INSTRUCTIONAL INNOVATION FOCUSING ON LOCAL-RELATED CONTENT BY USING LESSON STUDY APPROACH

**Presentation Type:** Oral Presentation

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Sincerely,

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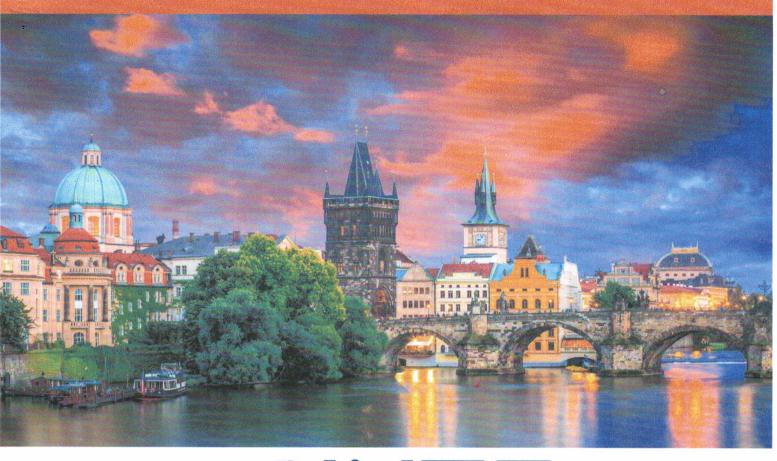








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INTERNATIONAL CONFERENCE ON NEW HORIZONS IN EDUCATION



INTERNATIONAL TRENDS AND ISSUES IN COMMUNICATION & MEDIA CONFERENCE

**JULY 03-05, 2019 PRAGUE, CZECH REPUBLIC** 

# **PROCEEDINGS** BOOK

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INTE, ITICAM conferences are now well-known international academic events and the number of paper submissions and attendees are increasing every year. This year our conferences have received more than 900 applications. The Conference Academic Advisory Board has accepted approximately 600 papers to be presented in Prague, Czhech Republic.

We would like to thank Prof. Dr. Fatih SAVAŞAN, Rector of Sakarya University, Prof. Dr. Nuri AYDIN, Rector of Istanbul University- Cerrahpasa and the President of the Association of Quality in Higher Education Prof. Dr. Muzaffer ELMAS, for their support of organizing these conferences.

We also would like to thank our distinguished guests, keynote speakers for their collaborations and contributions for the success of these conferences.

And finally, we would like to thank to all of our participants who have presented their academic works in INTE and ITICAM - 2019, Prague, Czhech Republic.

Without your participation, INTE & ITICAM-2019 would, of course, have been impossible.

We would like to sincerely thank all of you for coming, presenting, and joining in the academic activities.

We would also like to thank all of those who have contributed to the reviewing process of INTE & ITICAM conference papers, which will be also published in TOJET, TOJNED, TOJDEL and TOJCAM.

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DIFFUSION OF YOUTUBE IN TURKEY  Aytekin İŞMAN, Kübra GÜZELSOY	170
DIGITAL LITERACY OF SCHOOL ADMINISTRATORS IN WORLD-CLASS STANDARD SCHOOL: A CONFIRMATORY FACTOR ANALYSIS  Panita ARDWONG, Dawruwan THAWINKARN	183
<b>DIGITALIZATION OF THE STUDY PROCESS: CASE STUDY OF LATVIA PUBLIC UNIVERSITIES</b> Gunta Grinberga-ZALITE, Andra ZVIRBULE, Baiba RIVZA, Tatjana TİHANKOVA	191
DİJİTAL ÇAĞDA YENİ ÇALIŞMA BİÇİMLERİ VE ÇEVRİMİÇİ PAYLAŞIM PLATFORMLARI ÇALIŞANLARI Ayhan ŞENGÖZ	196
DISSEMINATION AND TRAINING EFFORTS IN THE FRAME OF EUROPEAN RESEARCH PROJECTS  Werner BRENNER, N. AdamOVIC	197
DOĞRULAMA PLATFORMLARINA YÖNELİK KULLANICI ALGISI: TEYİT.ORG ÖRNEĞİ Gülçin SALMAN	202
DÖNÜŞTÜRÜLMÜŞ ÖĞRENME MODELİNİN ÖĞRETİM TEKNOLOJİLERİ VE MATERYAL TASARIMI DERSİNİ ALAN ÖĞRENCİLERİNİN ÜST DÜZEY DÜŞÜNME BECERİLERİNE ETKİSİ Fatoş SİLMAN, Tolgay KARANFİLLER, Güliz ÖZÜTÜRK, Behbood MOHAMMADZADEH	203
EBÜ'L-BEREKÂT EL-BAĞDÂDÎ'NIN TABIPLIĞI ÜZERINE NOTLAR Tuna TUNAGÖZ	204
EBÜ'L-HASEN ES-SUĞDÎ VE ADALET MESLEK ETİĞİ Mustafa Hayta HAYTA	206
EMPLOYABILITY SKILLS AS PERCEIVED BY EMPLOYERS AND UNIVERSITY FACULTY IN THE FIELDS OF HUMAN RESOURCES FOR ENTRY LEVEL GRADUATE JOBS IN EUROPE: A REPLICATION STUDY  Bassou EL MANSOUR	215
E-PORTFOLIO IN ALTERNATIVE EVALUATION Omaç RUŞTİOĞLU, Osman VAİZ, Akış Yeşilada	216
ETHICAL ISSUES IN EDUCATION AND THE ROLE OF TEACHERS IN ETHICS EDUCATION: FROM PAST TO PRESENT Nur Yeliz GÜLCAN	217
EVALUATION OF TECHNICAL COURSES FOR ENGINEERING AND POST GRADE STUDENTS WITH A METALLURGICAL PROFILE Adan RAMÍREZ, Luis MONCAYO-MARTÍNEZ, Juan Alberto ALCANTARA-CARDENAS	221

### DEVELOPMENT OF THE INSTRUCTIONAL ACTIVITIES FOR ENHANCING STUDENT TEACHERS' ABILITY IN DEVELOPING INSTRUCTIONAL INNOVATION FOCUSING ON LOCAL-RELATED CONTENT BY USING LESSON STUDY APPROACH

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#### **ABSTRACT**

The aims of this research were to develop and study the effect of using instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content by using lesson study approach. The target group included 24 third-year student teachers who majored in General Science at the Faculty of Education, Phetchabun Rajabhat University, This study was consisted of 3 steps. The first step included developing instructional activities and carrying out a pilot study on the implementation of the instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content by using lesson study approach. The second step was to implement instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content by using lesson study approach. The third step was to improve the instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content by using lesson study approach. The research instruments were instructional activities plans by using lesson study approach, learning achievement test, the instructional innovation development ability which focuses on localrelated content test and the instructional innovation assessment form.

The research results showed that the development instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content by using lesson study approach consists of 6 learning activities including 1) analyzing problems together 2) selecting appropriate innovations 3) selecting local-related content 4) designing instructional innovation 5) implementing instructional innovation and 6) publishing instructional innovation. This was a three-phase lesson study cycle including 1) plan 2) see and 3) reflect. The instructional activities were considered feasible at high level. The results of using instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on localrelated content by using lesson study approach were as follows; the student teachers had the knowledge for developing instructional innovation which focuses on local-related content after learning higher than before learning at the significant level of .05, the student teachers had abilities for developing instructional innovation which focuses on local-related content after learning at 80.25 percentage which was significantly higher than the predefined criterion standard (75%) at the significant level of .05 and the local contents in which the student teachers had into the instructional innovation were relevant to the student and school' contexts. Every single one of their developed instructional innovations was evaluated and ranked at a very good level.

Keywords: Instructional Activities, Instructional Innovation Development, Lesson study, The Infusion of Local-Related Contents, Student Teachers

#### INTRODUCTION

The ability to develop innovation is an important skill of the 21st century, especially for teachers because a quality of teaching can occur if teachers are able to apply new knowledge, concepts, methods, techniques or inventions in teaching to suit the problems or real conditions that occur in their own classes in accordance with the Teachers Council of Thailand regulations Regarding professional standards, 2013, item 8, innovation performance and educational information technology that teachers should have. In addition to Dachakupt and Khaengkhan (2012) suggested that the performance of the teacher should have one aspect: use of information technology and educational innovation. Therefore said that the ability to develop innovative teaching is one of the key talents of teachers and is considered an important role of the teacher production institute to develop this ability for students teachers to prepare for becoming a professional teacher in the future. Tantaviwong (2014) said that the quality of modern thai teachers in the 21st century, teachers must have deep science, subject matters and art in teaching (Methodology). There is a technique to transfer to learners with the spirituality of teachers that aims to create learning for the learners and themselves. By being able to think and analyze to create knowledge to link local conditions to international standards. Therefore, the ability of teachers to link local conditions or local learning materials into the class which may be an issue that is often overlooked in the development of teachers, although it is very important because learning that relates to the real life of the learner is meaningful learning. Therefore, modern teachers should have the ability to link local learning into the learning management that is consistent with the context in order to make an impact on community and society change to be stronger if the teacher is able to bring local learning content, integration into teaching and learning in the classroom considered a professional teacher, not only developing knowledge but also enhance the desirable characteristics for learners. Therefore, it is necessary to develop teachers to be able to develop teaching innovation that focuses on local-related content. Researcher as a course instructor in scientific curriculum development of Bachelor of Education Major of General Science, Faculty of Education, Phetchabun Rajabhat University in Thailand has designed teaching processes to enhance the ability to develop innovative learning management for students by using the process of teaching innovation and research process as a basis which is widely used in the development of teaching innovation. But still found a major problem is that students cannot design innovations and cannot design innovations that integrate local-related content or can design innovations but cannot actually be used with students in the school. The study found that because students are not able to truly identify the problems of learning of students, lack of data collection or observing students in real class context, lack of thinking and systematic planning students often design teaching innovative according to their own interests. There is a lack of education in local information. Students will study only documents, texts or websites did not survey or collect data from the actual area and also found that when the teaching innovations of the developed students were not able to solve the problems of the students at the point. Lesson Study originated in Japan (Isoda 2007, Saito 2012). It has the characteristics of effective professional development: teachers are actively involved in both the process as the products, the focus is on content and specifically on students learning this content, it takes place over a longer time span, and there is coherence between the activities (Garet et al. 2001, Penuel et al. 2007). In Lesson Study, teachers in collaboration select a topic and plan and prepare a lesson (called a research lesson), one teacher enacts the research lesson and the others observe the students in class, and finally teachers discusses their observations (Lewis et al. 2006, Isoda et al. 2007, Stepanek et al. 2007) the implementation cycle with 3 phases: 1) plan which is identify students' problems targeting and planning lesson development together. Which the words here are meant to cover the teaching and learning plans state of teaching and learning management and learners' learning results. 2) see to observe and collect information about thinking and learning of learners directly while studying and 3) reflect by discussing reflection examination of performance results from empirical evidence obtained from classroom observations for improvement of lessons and exchange. This research is interested in applying the concepts, principles and processes of developing lesson study together to be applied and developed as a teaching process for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content so that students can identify problems of students, define the objectives of innovation and can design innovation to truly solve problems.

#### THE STUDY

This research is conducted by using the research and development process. There are 3 steps to proceed.

Step 1: Creating and inspecting the quality of instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content by using lesson study approach. This step was researcher studied the basic information about the development guidelines for instructional innovation and lesson study development concepts then designed the instructional activities and checking quality by experts in curriculum and instructional, measurement and evaluation, and lesson study for 5 persons, considering the suitability. The tools used in the research were: 1) plans to organize instructional activities using the concept of lesson study and 2) assessment form for instructional activities appropriateness which is characterized by rating scale 5 levels, data analysis using average values and standard deviation.

Step 2: Experiment using instructional activities. This step is the implementation of the instructional activities created in step 1 to be used to test the effectiveness of the student teacher' ability in developing instructional innovation which focuses on local-related content 3 aspects: 1) comparing knowledge in developing instructional innovation which focuses on local-related content before and after organizing activities 2) comparing on the ability in developing instructional innovation which focuses on local-related content threshold to 75 percent, and 3) evaluation instructional innovation of student teachers. The samples used in the experiment were student teachers, General Science Major, 3rd year, Faculty of Education, Phetchabun Rajabhat University in Thailand who studied in the course of the development of science courses, 24 people by purposive sampling. The tools used in the research consisted of 1) plans to instructional activities using lesson study concept 2) knowledge test on developing instructional innovation which focuses on local-related content were 4 choices, 20 items with IOC between 0.80 - 1.00. The test is used to experiment with student teachers of general science, 3rd year, which is not a sample of 30 people. The Discrimination by Brennan's method is between 0.40 - 0.82 and has the reliability by Lovett's method of 0.86. 3) The assessment of the ability to developing instructional innovation which focuses

on local-related content by analytic rubric with IOC between 0.80 - 1.00 with inter-rater reliability to 0.84 4) innovation evaluation for instructional innovation of student teachers by 5-level rating scale 5) learning log form as open-ended questions and 6) AAR assessment form as open-ended questions with 5 items

- Step 3: Improve instructional activities by questioning the opinions and satisfaction of the student teachers who were the sample groups for instructional activities and bring the process to the experts for review again and improve according to observations and suggestions. Present the research results according to the research objectives and summarize the research findings and give suggestions and this research used one group pretest posttest design.
- 1. Test the knowledge in developing instructional innovation which focuses on local-related content before organizing instructional activities.
- 2. Conduct instructional activities according to the activities plan. The period of trial operation between February March 2019 for 16 hours
- 3. During the course of instructional activities the researcher observed behavior and asked student teachers to write a learning log.
  - 4. After the trial is completed, the researcher will proceed as follows:
- 4.1 Testing of knowledge in developing instructional innovation which focuses on local-related content by testing as well as testing before class
- 4.2 Assess the ability to developing instructional innovation which focuses on local-related content by checking the activity sheet and evaluation of instructional innovation that which focuses on local-related content of assigned students
  - 4.3 Students to write a learning log.

Data analysis was divided into 1) quantitative data analysis; 1.1) comparison of knowledge in developing instructional innovation which focuses on local-related content of students by t-test dependent samples, 1.2) compare the ability to developing instructional innovation which focuses on local-related content of students after organizing activities with 75 percent criteria by t-test, one sample and 1.3) evaluating student instructional innovation by finding the mean, and standard deviation 2) qualitative data analysis by content analysis from learning log.

#### **FINDINGS**

1) The results of creating and monitoring the quality of instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content by using lesson study approach. It was found that the activities of instruction were 6 activities; 1. analyzing problems together 2. selecting appropriate innovations 3. selecting local-related content 4. designing instructional innovation 5. implementing instructional innovation and 6. publishing instructional innovation. The six main steps were according to the concept of the lessons study. This was 2 lesson study cycle and each cycle had 3 phases: 1) plan 2) see and 3) reflect. The 1st cycle in steps 1-4 is the development of lessons study in the context of peer-to-peer teaching. And the second cycle in step 5 and 6 is the development of lessons study in the context of real instructional activities for students in the school (Figure 1) at a high level.

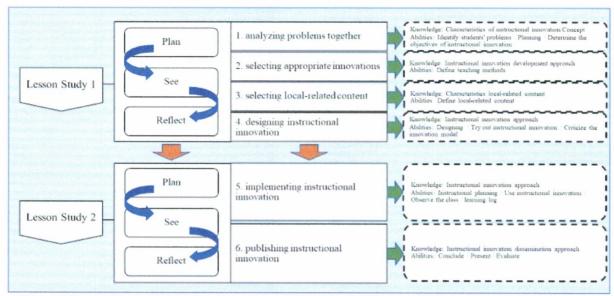


Figure 1 instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content by using lesson study approach

2) The student teachers had the knowledge for developing instructional innovation which focuses on local-related content after learning higher than before learning at the significant level of .05 (Table 1.)

**Table 1.** the results of comparison of knowledge in developing instructional innovation which focuses on local-related content before and after learning (n = 24)

activities	full mark	$\overline{x}$	S.D.	t	P
before	20	8.50	0.55	57.74*	.000
after	20	14.50	0.67		

P < .05

3) The student teachers had abilities for developing instructional innovation which focuses on local-related content after learning at 80.25 percentage which was significantly higher than the predefined criterion standard (75%) at the significant level of .05 (Table 2)

**Table 2.** Comparison of the ability to develop instructional innovation which focuses on local-related content after learning with 75 percent criteria standard (n = 24)

Instructional Activities	full mark	$\overline{x}$	percent	S.D.	t	P
Analyzing problems together	5	3.88	77.60	0.54	7.74*	.000
Selecting appropriate innovations	5	4.23	84.60	0.56	13.25*	.000
selecting local-related content	5	4.15	83.10	0.62	14.25*	.000
designing instructional innovation	5	4.18	83.70	0.45	12.45*	.000
implementing instructional innovation	5	3.83	76.70	0.55	14.68*	.000
publishing instructional innovation	5	3.79	75.80	0.58	7.58*	.000
Total/Average	30	4.01	80.25	0.58	21.36*	.000

P < .05

4) The results of content analysis from student learning log showed that students had a view on instructional innovation and development of instructional innovation that integrated clear local-related content especially in the issue of choosing the right innovation to connect to the selection of local-related content and design of instructional innovative and can be used practically and appropriately. The local contents in which the student teachers had into the instructional innovation were relevant to the student and school' contexts. Every single one of their developed instructional innovations was evaluated and ranked at a very good level. Most of the work is instructional media and instructional activities.

#### **CONCLUSIONS AND DISCUSSIONS**

Instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content by using lesson study approach consists of 6 learning activities including 1) analyzing problems together 2) selecting appropriate innovations 3) selecting local-related content 4) designing instructional innovation 5) implementing instructional innovation and 6) publishing instructional innovation. This was 2 lesson study cycle and each cycle had 3 phases: 1) plan 2) see and 3) reflect. The instructional activities were considered feasible at high level. The results of using instructional activities for enhancing student teacher' ability in developing instructional innovation which focuses on local-related content by using lesson study approach were as follows; the student teachers had the knowledge for developing instructional innovation which focuses on localrelated content after learning higher than before learning at the significant level of .05, the student teachers had abilities for developing instructional innovation which focuses on local-related content after learning at 80.25 percentage which was significantly higher than the predefined criterion standard (75%) at the significant level of .05 and the local contents in which the student teachers had into the instructional innovation were relevant to the student and school' contexts. Every single one of their developed instructional innovations was evaluated and ranked at a very good level. Developed instructional activities can help student teachers instructional design activities that focuses on local-related content successfully and can be used effectively because the instructional activities encourage student teachers to think and work systematically. Promoting cooperative learning until it can produce innovation successfully and efficiently able to link local knowledge to instructional activities that is in line with the context in order to have a stronger impact on the change of community and society. Moreover, this instructional activities has a strength that encourages student teachers to take active learning, to learn to solve problems through practical work in class. Use knowledge in a variety of disciplines that have previously led to the practice of teaching. Resulting in learning and being able to develop instructional innovation very well and clearly. Participating student teachers reported that engagement in this form of lesson study with a mentor was an effective way to help them grow individual teaching skills, knowledge and confidence in teaching placements (Cajkler and Wood, 2016) and Lesson study contributed teachers' PCK development. The combination of two phases in this professional development program proved instrumental for this PCK development (Coenders and Verhoef, 2019). In addition to clear knowledge and understanding. Student teacher also develop skills and characteristics in many areas, such as good attitudes towards instructional development, being a teacher, working with others and being open-minded to the opinions of others which corresponds to the results of the joint lesson development that many experts (Lewis, 2002, Baba & Kojima, 2004 & Yoshida, 2005) indicate that developing lessons together helps develop student teachers to think deeply about long-term goals for students. To help student teachers learn about observation and criticism while building a teacher image. Helping student teachers become more confident and develop competency through their own initiative. Complementary cooperation and mutual respect.

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