

A Repairable of Primary Science Lesson Plans Based on Lesson Study Process

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ABSTRACT

The objectives of the research were to investigate the results of the repairable of inquiry science lesson plans of primary school teachers. The target groups were: four participant science teachers from Banhuanachorakhe -Nongpan School ,one Khon Kean University science education doctor students, one Khon Kean University science education instructor , one expert from Toho University, Japan. And twenty of grade five pupils at Banhuanachorakhe - Nongpan School, Khon Kean Province, Thailand. The results revealed that: The participant science teachers realized that the lesson study process helped them to improve their inquiry science lesson plans. They gained a lot of experience from teaching, observing and reflecting in real situation. Teaching and Learning base on lesson study process was a new teaching technique that can foster teacher's and student's performance.

Keywords: Primary school teachers, Lesson Study, Inquiry science lesson plans

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Introduction

After the 1999 Educational Acts were enacted, Thailand was put into an educational reform movement. Most school teachers have been attempting to improve their teaching practices. Unfortunately, they do not find good ways to improve their everyday work. Most teachers still use a traditional teaching style focusing on coverage of contents, but they do not italicize students' learning processes and their attitudes toward learning with understanding. More substantially, a number of teachers categorize themselves into a reforming group but, in effect, do not realize that they are still in an old paradigm group. (Chamnanwong &Yuenyong,2014; Inprasitha, 2011 ; Office of The National Education Commission, 1999)

Similarly, the assessment of the Office of the Education Council [ONEC] (2013) reported that there were several problems, such as the teaching style of teacher focus only the content of lesson and give homework as it is in textbooks. Teachers lacked of teaching skill that can persuade students learning. There were too many contents of science in the text books. As a result, students lacked of enthusiasm for learning. The curriculum also less emphasized on scientific and thinking skills. To improve the student's achievement, many educators suggested that one of the most important thing is teachers should change their teaching style. Currently, there are several departments in Thailand. Such as Institute for Promotion of Science and Technology [IPST] (2009) has tried to raise the academic achievement of students by developing a model of teaching for teachers to increase the academic achievement of students. But, it was found that most teachers, after finished the training program. They cannot implement the knowledge in their schools. This reflected that the training system of Institute for Promotion of Science and Technology [IPST] were not much effective.

Lesson Study is a "comprehensive and well-articulated. In Japan, teachers improve their teaching through " Lesson Study," a process in which teachers jointly plan, observe, analyze, and refine actual classroom lessons called " research lessons". Lesson Study is widely credited for the steady improvement of Japanese elementary mathematics and science instruction. Since 1999, Lesson Study has rapidly emerged in many sites across the United States. The Lesson Study gives Japanese teachers opportunities to make sense of educational ideas within their practice and change their perspectives about teaching and learning. Teachers learn to see their practice from the child's perspective and enjoy collaborative support among colleagues. In Thailand, there is also another initiative to use Lesson Study to improve the teacher education program in mathematics. In 2002, the Faculty of Education at KhonKaen University, in an attempt to improve the teacher education program, conducted a project to investigate how student teachers develop their own pedagogy. In addition, to investigate how students in the classroom are responding to the open-approach teaching method and whether or not they recognize their learning experiences. (Inprasitha & Loipha, 2007)

According to the relevant literature, Lesson Study is sustainable development of good teaching method for teacher. Due to it was developed and improvement for a very long period (Lewis & Perry, 2003;Lewis & Tsuchida, 1997; Stigler & Hiebert 1999; Yoshida, 1999). Therefore, researchers conducted the Lesson Study workshop to enhance primary school teachers to implement the science lesson plans. This research investigates the results of the second round of workshop. The first workshop was conducted at Bannakanluang School, PhuWiang District, Khon

Kean Province, Thailand on July 1-3, 2014. This workshop used the revision lesson plans after the first workshop. This revision lesson plans were taught on October 9, 2014

Objectives:

The objective of this research was to investigate the results of the repairable of science lesson plans to grade five students by participant primary school teachers.

Participants:

The participants were four participant primary school science teachers, twenty of grade five students and the researcher at Bannanachorakhe -Nongpan School , KhonKaen Primary Education Service Area Office 5, Khon Kean Province, Thailand. One Khon Kean University science education doctor students, one Khon Kean University science education instructor , one expert from Toho University, Japan.

Instruments:

The research instruments were as the followings.

1. The four revision science lesson plans (Before revision, these science lesson plans were taught at Bannakanluang School, KhonKaen Primary Education Service Area Office 5, Khon Kean Province, Thailand during July, 1-3 2014).
2. The participant teachers' notes,
3. The researcher field notes , and
4. The digital VDO cameras

Data analysis:

The participant teacher' s notes, participant researchers' notes and VDO record were analyzed by content analysis and report in narrative form.

Research Results

The four lesson plans, were taught to one classroom (twenty grade five students) by four teachers; each teacher taught one lesson plan. While each teacher was teaching, other participants and researcher observed activities and behavior of students and teacher. The results were as the followings.

1. The results from the participant teachers' note:

The participant teachers' notes reflected that lesson study was an effective process of professional development. It was the process that teachers had to learn together. The teachers said that lesson study changed their perceptions of teaching and learning style. They continuum improved their own teaching and learning activities. Lesson study help teachers to develop lesson plans to solve classroom problems by themselves.

The examples of participant teachers' notes were excerpted as the followings.

... Lesson study process helps teachers gained knowledge about the teaching techniques, the teaching models and the reflection process. These supported teachers to see their weakness and know how to manage their teaching better. (Teacher A)

... The development of effective teaching and learning process according Lesson Study by participants. We developed lesson plans and tried to improve lesson plans together. The developed lesson plan help us to have more confident in teaching. As a resulted, the students gained better achievement. (Teacher B)

...Open mind to accept criticism from observers have a positive impact on our teaching in the future. (Teacher B)

2. Results from researcher reflections' notes

The researcher reflections' notes revealed that most of the teachers realized the benefits of Lesson Study. They realized that doing Lesson Study process can help them gained wider perspective on how to view their classrooms. Moreover, they acknowledged that lesson study process helped them to improve teaching performances. However, teachers still lack the skills in using open-ended questions to encourage students to learn and think.

The example of researcher reflections' note was excerpted as the following.

... Teachers always forget to ask open-ended questions in the lesson plans. They were unfamiliar with observation by the participants. (Researcher's notes)

3. The results from the VDO protocol

The protocol from VDO transcription revealed that process of Lesson Study can enhanced teachers' teachings' confidence during their teaching. They were very excited while they were observed by participants. The atmosphere of classroom revealed that teachers are rather concerned about the content knowledge in curriculum. They worry that the students will gain less contents knowledge will effect test results of the students. They used quite a lot of time to explain the contents knowledge in the curriculum. So some students showed boring behavior. Some activities the students were eager to learn. However during the activities they discussed with a round noise. But the

teachers thought that the students were not interested in the lesson. The teachers ordered them to keep quiet. Therefore the students had less opportunity to discover knowledge by themselves.

The example excerpt from VDO:

... The teachers sometime forget to provide some detail mention in the lesson plans during their perform teaching. Due to they were excited from participants' observation

(VDO transcription)

...Teachers didn't manage time from student's presentation and teacher's explanation the results well enough. Some activities take too long that made students' boredom

(VDO transcription)

...The teachers tried to summary the results or contents for student

(VDO transcription)

...The teachers inadequate used of open-ended questions to encourage student thinking during the teaching activities

(VDO transcription)

Conclusion

The results of this research revealed that the participant primary school science teachers realized that the Lesson Study helped them to improve their lesson plans. The results were congruence with Lewis & Perry (2003); Lewis & Tsuchida (1997); Yoshida, (1999). They gained a lot of experience from teaching, observing and reflecting in real situation. They were very excited while they were observed by participants. However they thought that the whole process of Lesson Study enhanced their teachings' confidence. They thought that teaching and learning base on Lesson Study process was a new teaching technique that can foster teacher's and student's performance. The results consisted with Inprasitha & Loipha (2007).

Recommendation

The results of this study revealed that Lesson Study can effectively enhance teachers to create and improve the lesson plans by teachers themselves. The Lesson Study process fostered both teachers and students performance. Therefore it is suggested that the Lesson Study should to be introduced into every school that willing to upgrade their teaching and learning outcome.



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