LESSON STUDY FOR THE PROMOTION OF THE EDUCATION FOR THE SUSTAINABLE DEVELOPMENT

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Development of the practice
  - ESD is a broad interdisciplinary concept
    - Hard to determine what kind of practice does or does not contribute for the sustainable development
    - How do we involve the teachers with other subject?

Disseminating the practice
  - How do we disseminate the practice? Easy to transfer the big idea, but Hard to transfer the nuances in the practice

Discussing the practice
  - How do we localize the disseminated practices?
OVERCOMING THE CHALLENGE
- 3C’S APPROACH -

- Community based
  - Localize the problem and develop the teaching/learning material for locally unique material

- Comprehensive
  - ESD is broad and big idea, so it requires to interpret the concept in a comprehensive level

- Collaboration
  - It require the multi-dimensional perspective, therefore, the collaboration among the teachers with different academic background.
A local teacher interprets and implements the idea to the class.

Lesson Study

Teachers in Different School

Reflect and improve

Conduct the lesson in front of colleagues & teachers in other school

Communication

Community-based

Comprehensive!
CONCEPTS OF THE LECTURE

- Concept: What is Lesson Study?
- Issue and Trend: What is the current situation?
- Role and Function: What is the LS all about?
Lesson Study (Jugyou Kenkyu):

“... In lesson study, groups of teachers meet regularly over long periods of time (ranging from several months to a year) to work on the design, implementation, testing, and improvement of one or several research lessons (Kenkyu Jugyou).”

(Stigler, J.W. & Hiebert, J. 1999, p.110)

“Lesson study is a teaching improvement activity in which instructors jointly develop, teach, observe, analyze and revise lessons for their courses.”

(Homepage of Lesson Study Project, http://www.uwlax.edu/sotl/lsp/)
A lesson is carefully planned by a group of teachers

A lesson is conducted by a teacher (Research Lesson)

A lesson is carefully observed by colleagues or mentor teacher

The lesson study is a strategy to improve the teaching techniques by repeating the PDSI cycle

Observer and the teacher will make a discussion about the research lesson
Clarify the concept of the lesson

- View of the Learning Contents/Material: What can you teach through the content?
- View of the Learner: What knowledge or skill have students already known/acquired?
- View of Teaching => Reflect to the lesson plan

By clarifying lesson concept, the lesson will send the clear message to observer why to do certain teaching behavior.

Develop the lesson plan collaboratively.

- Working w/ other science teacher
- Working w/ Mentors (ex. Veteran teachers, Superintendent, College professors)
<table>
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<tr>
<th>Phase</th>
<th>Learning Activities</th>
<th>Support and Instruction</th>
<th>Evaluation Viewpoint</th>
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| Introduction  | -Reviewing the previous study  
-Grasp the goal of this lesson  
**Key Question:** Is there any differences between the direct work and work with the tools?  
- Practice the calculation of the work | Confirm the student’s understanding of the calculation of the work through the practice problem | Students can solve the problem |
| Development   | -Calculate the force to pull the objects in direct and in using the pulley.  
-Observe the experiment ..... | -Let students state the reason of the prediction.  
-Teacher present the guideline for the making summary ..... | Students can make the prediction with reasons |
| Summary       | Summarizing the learned concept                                                      |                                                                                        |                     |
Research lessons will be conducted in front of the observer.

Research lesson is only a attempt and suggestion to provide the observer with the opportunity to think what works or not.

It is important for teachers to think why works or why not work?
The observers can observe teaching behavior, students reaction, or interactions, anything interesting to them. But record the evidence that will be used for the discussion.

Focus on the relationship among the teacher’s intention, behavior, and student’s reaction.
In order to sustain the lesson study, CONSTRUCTIVE discussion is the key. Teacher must have the reasons for certain teaching behavior and be able to explain why to do. Observer must respect the teachers attitude to open the class and make constructive comment, such as “if I were you...,”.

The purpose of the lesson study is to create the better lesson, not to evaluate the teacher.
The practice of lesson study is spreading in world-wide.
- East-bound: Through American Educators
- West-bound: Through the JICA (Japanese ODA)

Quality of the Lesson Study
- Cultural biases may cause the mis-understanding ...or evolution?
- Is the difference from Japanese Style “an error” or “a variation”?
- What is the criteria to judge if it is an error or variety”
The LS practice itself is not new at all in Japan. It is originated in early 20 centuries.

In late 80’s, many Science/Math Educator come to Japan to observe the success in science and math education.

Some group consider the LS is the Key of success in Japanese Science/Math Education (Ex. Catherine Lewis “Educating Hearts and Minds in Japanese School”, James Stigler “Teaching Gap”)

English translation (or validation from the American Researcher) made the LS popular in the World.
WESTBOUND LS

- The other flow of the LS came through the JICA cooperation project.
- Science/Math Education project in Kenya (SMASSE) adopted the PDSI strategy and Lesson study.
- Simultaneously, Eastbound LS was becoming popular, so in almost every JICA science education project, such as in Bangladesh or Cambodia adopts the LS.
ROLE AND FUNCTION OF THE LESSON STUDY

- Strengthen the collegial relationship between teachers.
- Clarify the teaching problems.
- Disseminate the good practice.
- Share the practical idea for teaching.
- Will know more children’s thinking/reaction for the learning material.
- Increase the opportunity of reflective thinking.