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How Early Year Children Learning Ordinal Number in a Context of Lesson Study Incorporating Open Approach

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As children begin to learn mathematics in elementary school, much of their number activity is designed to help them become proficient with single-digit arithmetic, namely mastery of the sums and products of single-digit numbers and their companion differences and quotients (Verschaffel, Greer and De Corte, 2007). In the earliest grades, children learn to write and manipulate numerals and operation signs (Goldin, 1998). In this study focused on the topic 'ordinal number' and develop the context of mathematics classroom by using lesson study incorporating Open Approach based on Inprasitha's framework; 1. Collaboratively design lesson plan focusing on open-ended problem situations and students' representation 2. Collaborative classroom observations focusing on four steps of Open Approach and students' representation 3. Collaborative reflection on teaching practice (Inprasitha 2011; 2016).

This research aimed to analyze how early year children learning ordinal number. Target group was eight 1st grade students and lesson study team. The lesson study team consists of two student teachers, one in-service teacher, one doctoral student and the researcher. The lesson study team worked together to plan a lesson, observed the lesson and having reflection on classroom teaching every day. Open Approach with emphasis on real world problems and students' learning by themselves was used as a teaching approach in this study. Data were collected by video recording in all process of lesson study and students' worksheets. Data analysis was conducted based on content analysis on 4 categories; students' representations of real world, semi-concrete aids, students' representation of mathematical world and students' authentic problems (Inprasitha, 2016).

The results found that 1) students' representations of real world; they could using daily life words to explain problem situation. 2) semi-concrete aids; using arrow to represent position or mark starting point. 3) Students' representation of mathematical world; they could use word and symbol to explain position such as ordering from the last car, ordering from the first from left or right, above, the first from downstairs. 4) Students' authentic problems; they had difficulty to mark starting point such as left or right and difficult to explain the difference between the first 4 children and the 4th children.

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Keywords: Ordinal Number, Lesson Study incorporating Open Approach, students' representations

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Listening Skill Development of Kindergarten 3 students by 5 Steps Learning Process and Group Activity through Lesson Study with PLC

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Background and problems:

Listening skill is one of the most important skills that a child has to acquire in learning, working and living in society. It is very essential to be developed in the early years of life. Being a teacher of kindergarten III students at Satit Pattana school, a big and famous private school situated in a suburb of Bangkok, Thailand which is fully equipped with educational facilities and with innovative principles on education, the school is expected to yield exceptional educational result from parents. To respond to this need, I have found out one critical need among students, the need for listening skill development. Fortunately, the school started to implement LS/PLC concepts to support teachers to redesign lessons by employing 5- step Learning Process and Group Activity to increase active and collaborative learning. Consequently, I decided to focus on students' listening skill development.

The study objective :

To study the outcome of listening skill development of kindergarten III students by redesigning lessons with 5- step Learning Process and Group Activity through LS/PLC.

Target Group :

24 Kindergarten III students

Study Instruments

1. Listening Skill Observation Guidelines Form
2. 3 Redesigned Lesson Plans
3. Teacher Log Book

The findings were as follows :

1. After 3 redesigned lessons by using 5- step learning process and group activities through LS/PLC, all targeted students had a development in their listening skill. Eight got a high level of listening skill development scores, while the other 16 students got the scores between high and moderate levels.

2. The students demonstrated four key behaviors of listening skill,

'Be attentive while listening' br>'Be prompt to act as message sender and receiver' br>'Possess listening etiquette, i.e., be quiet, be polite, with eye contact, no interruption.'

'Saise questions with appropriate time and manners'

3. Working collaboratively with buddy teachers and PLC members supported my professional development effectively. The success derived from practicing LS/ PLC in redesigning the lessons helped teachers to be more professional and inspire students to learn better.

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Adopting Learning Study to Explore 'Worthwhile' Object of Learning to be Taught for Students with Severe Intellectual Disabilities

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Special education teachers not only need to equip themselves with the abilities of classroom teaching, but also have to understand the special needs and developmental needs of their students with intellectual disabilities. However, special education teachers always have the difficulties in selecting the appropriate topics to be taught in their lessons, especially when facing a class of students with diverse special needs. Learning Study is grounded on the theory of variation with a systematic process as a powerful tool to help teachers examine their practices and enhance student learning. Moreover, the use of pre-posttest can help teachers understand students' learning needs and identify appropriate object of learning.

This paper reports on an experiment in adopting the Learning Study approved to help students with severe intellectual disabilities explore and experience the weather of 'Spring', one of the four seasons. Students were tempt to use the 'five senses' to identify the critical feature of spring in the natural environment around their school campus, the lesson also hoped to make learning relevant to their daily life.

The research lesson demonstrated that, students were able to feel a sense of 'dampness', one of the critical features of the topic of 'spring'. Students could also associate spring with humid weather. Results show that students with severe intellectual disabilities could discern the concept of 'dampness' and distinguish between the concepts of 'dampness' and 'dryness' through the contrast variation. The lesson seemed to be able to help students develop their skills of self-care. Learning Study is regarded as a hybrid between Lesson Study and design experiments so as to facilitate students' learning as well as teachers' professional development. The paper concludes with reflections on selecting the worthwhile object of learning to teach so as to make learning meaningful and relevant to students' daily life with special needs.