Lesson Study Development in Asian Countries:
－ Focusing on "School Improvement Program" in an Indonesian Primary School －

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【概要と意義】
インドネシアにおける授業研究は、1990年代後半より急速に発展してきた。その背景には、日本国際協力事業団（JICA）によるインドネシア教育大学への授業研究開発支援がある。インドネシア教育大学は、現在においてもインドネシアの授業研究を牽引するリサーチセンターであり、そこから生まれたプログラムは、インドネシアの多くの地区に広がっている。
本稿は、ジャカルタ市中心部にある聖ウルズラ小学校における「授業研究による学校改善プログラム」に着目し、JICAによる日本型授業研究がどのように受容され、また変容し、各国の学校や教員研修に影響を与えているか明らかにすることを目的としている。具体的には、①教師の学びを促す授業研究の組織構成、②教師の学びのステージとなる授業研究サイクルの2点を視点に、授業研究の体制づくりとそれによる教員の資質向上の取り組みを明らかにする。
本稿が示したインドネシアにおける日本型授業研究の影響とその効果の一端は、例えば、授業計画に「予想される児童の反応」を加え、子どもの視点を元に授業を組み立てることなどに現されている。このことは、単に授業研究をどのように実施するかという表層的な手順論を越えて、授業は誰のものかという本質的な議論と認識を必要とし、必然的に授業観や教育観に至る認識の交流をもたらすものとなる。教師のプロフェッションとは何か、それはどのように形成されるのか、授業研究は教師のプロフェッション形成にどのように有効に働くのか、教師の専門性形成に有効な授業研究とはどのようなものか。これらの問いは、日本の授業研究の水準をもう一段階高めるために必要な検討課題である。本講が持つ重要な意義は、インドネシアやシンガポールなどアジアの授業研究を視点に置いて日本の授業研究の質的改善を図ると共に、世界的な授業研究・教育学研究のステージから授業研究の意味や位置付けを探ることにある。

Introduction

This study highlights a professional learning approach, so called Lesson Study, in which provides learning situation of teacher through researching teaching and learning from practice setting at St. Ursula Primary School in central Jakarta, Indonesia.

St Ursula Primary is a private catholic school. One of key feature of St. Ursula Primary School is the vision to become a critical, creative and innovative learning community. In this case, the notion of learning community involves not only the learning process of student, but also teacher learning and school learning as the system. This paper describes current effort implemented by the school in enacting its vision through a program called *School Improvement Program: A Lesson Study Approach* (SIP-LS). The program is started from January to June 2010.

SIP LS is aimed at building the framework of professional learning community at SD St Ursula (Suratno et al., 2010). Therefore, SIP-LS developed continuous workshops discussing the nature of professional learning of teacher. The first workshop was called *Leadership for Learning* that focused on exploring the nature of learning, teaching and the role of teacher in Lesson Study activity. The second one was *Lesson Study* workshops that involved a plan-do-see cycle for

designing, implementing and reflecting upon teaching and learning activities. In general, SIP-LS workshops focused on facilitating participants to understand, develop, implement and analyse teaching from student learning situations.

As to explore the basic knowledge of teaching, SIP LS applies some views from Ball and Cohen (1999) pertaining to the efforts from teachers in mastering the teaching practice. First, teachers should master subject matter (conceptual aspect) and reasoning aspect of the content taught (habits of mind), not only procedural/superficial aspects as has been showed by most of teachers in many Lesson Study teams in Indonesia. Second, teachers should understand children whether in the terms of their background, thinking or reasoning, or their development. This kind of matter pertains to teachers' knowledge in comprehending students' reasoning on an idea/content, instead of insisting their reasoning to the students. Third, they should understand the context of meaningful learning as well as ask for others' view on learning believed by teachers for years. For example, is there any student who looks 'interested' in the activities that experience the true learning process? Do quiet students learn or not? Is the content represented from concrete to abstract more helpful to students' learning? Fourth, understanding pedagogy, namely connecting students to the content including how to create learning situation collaboratively to optimize their learning potentials, how to make teaching media/worksheet, whether students task helping them to learn, how to manage class and class/group discussion, and how to intervene students' unanticipated responses.

Such an approach is basically at the heart of Lesson Study activities. In implementing SIP-LS, St Ursula Primary School appointed seven participating teachers as Lesson Study team. In the *Plan* stage, the team conducted several workshops aiming firstly, to identify teaching sequences and possible student learning trajectories based on both student needs and learning styles, and the nature of content to be taught; secondly, to design and to develop teaching strategies (lesson plans, student worksheets, teaching materials, and assessment strategies); and thirdly, to try out developed teaching sequences and materials. During the *Do* stage, also called as open lesson, one teacher or model teacher conducted a planned lesson by applying the developed teaching strategies in the real classroom setting, while other team members observed the lesson. The focus of the observation was student activities, such as interaction of student-student, student-teacher and as well the interaction between the students and the teaching materials. Finally, in the *See* stage, the team met for post-class discussion to reflect upon the lesson. Observers framed the learning obstacles faced by student, gave comments and suggestion regarding alternative solutions and possible improvement for future lessons.

SIP-LS, therefore, was designed to facilitate teacher learning in which developed participating teachers the following capacities: 1) value student's prior knowledge; 2) engage and scaffold student thinking; and 3) foster metacognitive attainment and other potential learning outcomes that characterize what so called as independent learner, i.e. creativity. Those capacities were viewed to provide foundation for developing the notion of learning as cultural activities in which: 1) school is viewed as learning site for both teacher and student; 2) professional learning of teacher is embedded into daily work; 3) emerging teacher roles from teacher learning activities. Those capacities and

foundations were analysed in terms of : 1) the analysis of teaching practice; 2) the analysis of disequilibrium; and 3) *community of practice* (Ball & Cohen, 1999). These analyses would articulate key features of professional learning community at St Ursula Primary school vision.

Enacting that vision needs appropriate frameworks that represent many aspects such as social, cultural, conceptual and procedural as well. This paper describes the 'what's works' in SIP-LS from earlier stage to current development by highlighting how the relation, norm and tool were developed and applied, and how those aspects influenced particular stage of development, i.e. teacher learning, within St Ursula Primary School learning community.

In so doing, the author documented (e.g. field notes, artefacts and pictures) and recorded (i.e. audio-video recording) SIP-LS activities. By using interpretative approach to some selected important situations, and applying discourse analysis to the recorded transcripts in particular, the author characterize the nature of those relation, norm and tool of teacher learning. In addition, from a deeper analysis, the author identifies key factors in terms of cultural, structural and conceptual aspects of SIP-LS implementation.

1. SIP-LS: A Brief

In general, SIP-LS designed three important activities which were continuously conducted, namely: 1) Leadership for Learning workshop; 2) Lesson Study cycles; and 3) School Forum. The three activities were developed based on understanding to the nature of school learning community as highlighted in the previous section. This section focuses on the first two activities.

2. Leadership for Learning workshop: developing relation and norm for teacher learning

This two days workshop that involved all teachers and principal focused on developing leadership aspects and powerful learning environment within school learning community. Particular attention given to develop the role of participating teachers in Lesson Study through the following activities:

- Reflecting upon teaching and learning activities experiencing by participating teachers and video analysis of teaching and learning processes that demanded participating teachers to think about the nature of the right to learn and the authority of student learning. The discussion provided opportunity for participants to articulate the nature of student as independent learner, the notion of learning and learner centred within constructivist framework and the role of teacher in terms of devolution by facilitating and scaffolding student learning in meaningful ways.

- Discussing the nature of interaction in instructional processes: teaching-knowledge-learning. The trialiogue underlies the knowledge base of teaching and has important roles in determining the pattern of teacher thinking and pedagogical decision making. Particular attention gave to develop teacher's argumentation skill, i.e. pedagogical argument of teacher, which was derived from video analysis and reflection.

- Discussing the nature of teacher thinking at before, during and after the instructional processes. Frameworks for analysing those thinking processes were provided, namely prospective analysis (planning and designing the lesson), situative analysis (teaching and

observing the lesson) and retrospective analysis (reflecting the lesson). In general, the focus of discussion derived to identification of what condition that foster student learning and what kind of learning obstacles faced by student. Those frameworks by which constitute teacher thinking and learning represent the very substantive aspects of Lesson Study.

Table 1. The role of Lesson Study team

LS team coordinator	**Roles and responsibilities**
Leading LS team in planning, implementing and evaluating LS activities.	● Coordination (*action planning, monitoring, resourcing, reporting*). ● Collaboration (working closely with school leaders and collaborating resource person). ● Consolidation (preparing and directing the learning process of teacher and student).
Model teacher	**Roles and responsibilities**
Leading LS team to design lesson (Plan) and to scrutinize teaching and learning practice in his/her classroom.	● Coordination (leading *lesson planning* preparation, implementation and improvement). ● Collaboration (structuring discussion of lesson planning and teaching preparation with other participating teachers). ● Consolidating (organizing teaching preparation and other supporting things ready before open lesson implementation). ● Modelling (providing case for teacher learning through observing his/her classroom).
Moderator	**Roles and responsibilities**
Leading teacher discussion in each Do-See sessions of Lesson Study.	● Coordination and collaboration (developing the focus of discussion and its guideline). ● Consolidation (organizing teacher learning tool ready to use: forms, guideline) ● Moderating the flow of talk and directing to analysing evidence, framing problems and formulating alternative solutions.
Observer	**Roles and responsibilities**
Collecting data and evidence to be discussed and reflected.	● Applying observation guidance and rule during classroom observation. ● Taking note and conveying findings in reflection session. ● Taking active participation during discussion ● Supporting other roles in coordination, collaboration and consolidation.
Note taker	**Roles and responsibilities**
Documenting the results of LS discussion.	● Taking note of each discussion session. ● Documenting all Lesson Study activities (notes, artefacts, etc.).

- Discussing two key factors within school learning community, i.e. learning and leadership, that framed from the ideas of leading for learning. Knapp et al. (2003) identified three learning agendas in school: student learning, teacher learning and school learning as the system. The three learning situations demand strong leadership of educators in order to succeed. To contextualize such leadership into Lesson Study activities, the discussion identified several roles played by participating teacher, namely: 1) coordinator of the Lesson Study team; 2) moderator of Lesson Study activity/discussion; 3) model teacher, a teacher who is appointed toimplemented the planned lesson; observers who observe the teaching and learning processes, and note taker who documents and takes field notes of activities. It was discussed that such roles represented agency in three general responsibilities: coordinating, collaborating and consolidating teaching and learning activities (see Table 1). These roles and responsibilities represent the agreed relation within the Lesson Study team.

To develop the context of teacher learning, it needs agreed norm. During the workshop, participating teachers discussed and articulated the followings that considered as initial agreement grounding the context of teacher learning through Lesson Study implementation (Suratno et al., 2010): 1) collegiality that value diverse experiences and expertise of participating teachers; 2) focusing on student learning and how to develop collaboratively an effective learning (avoiding to criticise teacher's teaching); 3) vision of effective teacher and teaching; 4) individual and collective improvement; and 5) value ethics and polite behaviour during discussion.

3. Lesson Study cycles: Developing and applying tool for teacher learning

During the program implementation, the team conducted two Lesson Study cycles in which consisted of once Plan and twice Do-See stage. The aim behind two times Do-See stages was to provide opportunity to revise the first lesson in order to have continuous improvement of the lesson. In order to have meaningful Lesson Study sessions, the team discussed the tool to be used that would enable participating teachers to understand the substantive aspects of Lesson Study, i.e. teacher thinking. The following sections highlight each implemented session by focusing on the tool used respectively.

a. Plan Stage

During Plan stage, the discussion focused on designing teaching sequences based on identification of student needs and learning styles, and the conceptual structure of content to be taught. In doing so, the team applied 'Content Representation (CoRe)' framework for analysing pedagogical content knowledge developed by Loughran et al. (2006) at Monash University and lesson designing form being used by Japanese teacher (see Table 2). Both tools were used to develop two important aspects: teaching sequences and student learning trajectories (Suratno et al., 2010).

In general, Plan stage focused on analysing teaching materials, problems to be solved, teaching aids, classroom management and assessment strategies. Analysis of teaching materials applied 'CoRe' framework by analysing conceptual proposition of the topic to be taught (big idea) and the broader context

of teaching and learning (aim, reason, student need, etc.) (detailed discussion see Loughran et al, 2006). During problem formulation, the key issues were: 1) does the presented problem represent the proposition of big ideas; and 2) does the presented problem enable student learning to understand the topic? These issues lead to identification of possible student responses and ideas to anticipate those responses.

In the session that follows, the team developed and examined the teaching materials used such as student worksheet. This effort represented the way the team experiencing the materials as if they were a student: 1) Are the terms, languages, symbols and instructions easy to understand? 2) Is there any possible learning obstacles faced by student? Is there any possible alternative interpretation? Finally, the team developed tasks structure and questions to assess student learning.

In addition to developing teaching materials, the team also discussed classroom management such as sitting arrangement and blackboard management. Detailed discussion conducted by exploring possible anticipation/ intervention based on predicted students' responses. Through this approach, the team identified possible learning trajectories of student. At the end of the Plan stage, the team discussed the role of each participating teacher and formulated the focus of classroom observation and discussion guideline.

Table 2. General feature of lesson design form containing prediction and anticipation

Teacher activity	**Predicted student's response**	**Form of activity**	**Remarks**
Describe progression of teaching sequences from posing problem (exploration), main activities that facilitate action-reaction process (elaboration) and closing activities such as reflection (confirmation)	Identify at least two possible students' responses, that is, expected understanding and alternative conception.	Describe possible intervention that integrate between individual and collaborative learning situation and provide scaffolding strategies.	Describe things related to teacher actions, teaching materials used such as worksheet or other teaching aids, possible learning obstacle, and others that clarify the context of teaching sequences.

b. Do-See stage

Do-See stage consisted of three following activities: 1) briefing (pre-class discussion); 2) open lesson (classroom observation); and 3) debriefing (post-class discussion/reflection). Do-See sessions were lead by moderator who structured the flow of the talk. During briefing, usually moderator opened the session and explained the focus and guideline for classroom observation. Meanwhile, model

teacher explained his/her teaching sequences and predicted student' response, teaching materials used and the ultimate goal of the lesson.

During observation and reflection sessions, the team used the following guiding questions: 1) How does student response to the problems? 2) Is there any student who find difficulties in understanding problem and concept being taught? 3) Do worksheet, group discussion and other activities enable and engage student to learn? 4) Do planned prediction and anticipation emerge? Is there any change made by teacher and why? 5) Is the learning goal achieved? Does the lesson run effectively? Those guiding questions were developed to dig into broader context of teaching and learning practices which provided evidence for framing problems and formulating alternative solutions.

Initially, those questions were used to measure overall processes of teaching and learning but it perceived as too general. Therefore, current practices applied chronological observation by integrating those questions into each teaching sequence (Suratno et al., 2010). In addition to guiding questions, there were several underlying principles underpinned the development of teacher reflection guideline in which consisted of the following aspects: 1) developing teacher reflection mechanism; 2) framing problems by which used guiding questions for classroom observation and reflection; 3) emphasizing on factual observation analysis; 4) emphasizing on lessons learned and alternative solutions analysis from observed teaching and learning situation and problems.

Based on analysis to the content of reflection, the author summarizes following aspects that represent participating teacher's view to Lesson Study implementation: 1) understanding student learning is of paramount important for teacher; 2) understanding the principle, substantive and procedural aspects of Lesson Study enables them to articulate the nature of learning both of teacher and student; 3) By developing and applying pattern of relation, norm and tool used would enhance teacher understanding to substantive aspects of Lesson Study fruitfully; 4) growing improvement in teacher knowledge, experience and belief about powerful teaching and learning.

Conclusion

The School Improvement Program of St. Ursula Primary school explore following three aspects for teachers development: i) Professional learning community, ii) practice based professional development, and iii) proposing framework for teachers' professional learning.

i. Learning in a professional learning community

Developing a sustained professional learning community is at the heart of Lesson Study cycle. Within a learning community there exists relation, norm and tool for studying teaching and learning activities (content of teacher learning) and analysing student needs and learning obstacles (problems being studied). Therefore, Lesson Study activities consciously consider the notion of learning within a learning community: what is learning, who is learning, and what kind of learning to be learnt? Discussion about 'learning' within a professional learning community drives to identification of teacher role in which embedded into teaching and learning processes: what is the vision about learning; who is leading for learning and what are leadership characteristics that support powerful

learning situation? These issues are related to the notion of leading for professional learning community.

ii. Lesson Study as practice based professional education of teacher

Considering the principles of Lesson Study, there were some aspects of *learning in practice and from practice* and aspects of *professional discourse and engagement in communities of practice* (Ball & Cohen, 1999). This is because that within Lesson Study, there are discussion, analysis, and reflection towards teaching practice observation: asking, investigating, analyzing, and improvement focusing on substantive aspects of teaching and learning as well as values within.

iii. Framework for professional learning of teacher community

In order to sustain teacher learning, it is not merely a need, but it should be fruitfully articulated in a meaningful ways. By using Loughran's (2002) idea about teacher reflection, therefore, teachers should understand the *context*, the nature of the *problem*, and the anticipated *value* of such learning in all impact on *what is learnt* on and for what *purpose* (Loughran, 2002. Italic by author).

As learning approach for teacher, Lesson Study activities demand teacher thinking and reflection in all stages of Plan-Do-See cycles. This notion defines teacher thinking and reflection as the unity of activity of teacher from lesson planning to reflection session (*the context*). Overall, teachers think and reflect on how to develop pedagogical situation (*the nature of the problem*) that fits student learning demands for which promote student learning. From this notion the author proposes that there are three types of teacher learning (*what is learnt*) during Lesson Study implementation (see. table 3): 1) prospective analysis (Plan); 2) situative analysis (Do); and 3) retrospective analysis. These constitute the substantive aspect of teacher learning through Lesson Study activities (Suratno, 2009a; 2009b).

Table 3. Proposed frameworks for teacher learning practices through Lesson Study activities

Prospective Analysis	Situational Analysis	Retrospective Analysis
Analysing Learning Trajectory Design (LTD) • Analyse possible learning demands and obstacles. • Identify possible student responses (Prediction) and teacher intervention (Anticipation). • Develop Learning Trajectory Design (LTD).	Analysing Actual Learning Trajectory (ALT) • Does prediction and anticipation appear? How is the process? • Is there any new response beyond the prediction and how does teacher interfere? Does it work? • Do students experience learning obstacles? How to help them?	Analysing LTD vs ALT • Analyse student responses (student learning) and how teacher intervenes. • Analyse learning obstacle and how to overcome it in vice versa? • Frame and reframe the analysed problem for alternative LTD.

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