

Abstract Number: 20186

Professional Learning in Practice: A Comparative Analysis of Classroom Visits in Japanese Lesson Study and American Math Labs

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Ongoing school-based experiences that are closely connected to practice can support teacher learning. These experiences allow teachers to learn in practice as they enact instruction together with students present (Ball & Cohen, 1999; Kazemi & Franke, 2004; Lampert, 2010; Lewis, et al, 2006; Putnam & Borko, 2000). Building on this idea of learning in practice, a variety of professional learning models have been designed with a classroom visit.

Lesson Study in Japan and Math Labs in the U.S. are two such models that include a classroom visit to support learning in practice. Both models articulate a cycle where teachers collaboratively plan, enact the lesson in a classroom, and debrief the lesson (Fernandez & Yoshida, 2004; Gibbons, et al, 2017; Hart, et al, 2011).

While Lesson Study and Math Labs appear similar, there are important differences, particularly in the purpose and nature of the classroom visit. Despite emerging research on Math Labs and large knowledge base on Lesson Study, there is little research comparing the roles of the classroom visit, arguably the core of both models.

Purpose and Research Question

The purpose of this study is to understand and compare the role of the classroom visits:

- x What are the purpose(s) and the nature of classroom visits in Lesson Study and Math Labs?

Data includes interviews as well as observations and field notes of a complete cycle for each model. Observational data was analyzed to describe the nature and characteristics of classroom visits. Interviews with teachers, administrators, and supporting university teacher educators were analyzed to understand the purpose of these visits and to triangulate findings around opportunities for professional learning.

One public elementary school in Japan and one in the U.S. were purposely selected to provide images of classroom visits. Both schools were selected because of their strong university partnerships. The observed Lesson Study was a fourth grade mathematics lesson. The Math Labs visit was in a third grade classroom.

These two sites capture cultural nuances and context surrounding the use of Lesson Study and Math Labs. While these two examples do not exhaustively capture the wide ranging uses of Lesson Study throughout Japan and Math Labs in the U.S., they do provide images of differing purposes and nature of classroom visits. This is a useful starting point for intentionally examining the role of classroom visits.

Findings and Contribution:

The Math Labs classroom visit was characterized as being exploratory and experimental. Any educator present could contribute and make in-the-moment suggestions. In contrast, the role of participants in Lesson Study was observational. Teachers carefully followed particular students and shared about these students

during the debriefing session. The lesson was more authentic to daily lessons and polished (teachers met multiple times to plan).

In both models, classroom visits were opportunities to make practice public. Through the classroom visits, teachers moved beyond talking about practice to actually enacting lessons with students. The visits provided a common experience for teachers to reflect and learn from.

This study contributes to research examining how professional learning models create opportunities to improve practice in practice, particularly through classroom visits. Continuation of this analysis can highlight innovative practices and connect literature bases from two important models of professional development.

Presentation Outline:

We begin with a brief description of the school sites and contexts. We discuss important characteristics, purpose(s), and nature of classroom visits. We conclude with a discussion of the implications of these findings and how Lesson Study and Math Labs can inform each other.

Implementation of Lesson Study Model by Middle School Mathematics Teachers in Turkey: Challenges and Advantages

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The in-service training applications for teachers in Turkey are mostly carried out via short term seminars based on lecture-based teaching from expert to teacher. Teachers who have attended such seminars have considered these seminars often as workloads since they have difficulty in reflecting their individual experiences in real classes. Thus, professional development activities that teachers have carried out have not been go beyond their individual studies in their isolated classes. It is necessary to investigate the applicability of lesson study model in our country because of the fact that an effective model for in-service training of teachers in Turkey has not been put forward and that there have been continuous positive reports on the effectiveness of lesson study model in international studies. On the other hand, the findings of this study also can be a source of data for to be used in international comparisons of the lesson study in different cultures. The purpose of this study is to evaluate the implementation of the lesson study model in Turkish schools and to reveal the challenges and advantages that can be encountered.

In this study, 11 middle school mathematics teachers and a researcher participated in lesson study model implementations in 3 schools. In the first phase of the study, in which a total of 3 lesson study cycles were carried out, a meeting was held in order to introduce the model. In the second stage, teachers identified problem / focus point in groups guided by the researcher and prepared lesson plans to be applied in research lessons. In the third stage, the lesson plans were implemented in real classes in three different schools, and in the last stage evaluation post-lesson discussion was carried out. Observations were made in working environments and field notes were kept in order to describe the experiences in each phase of the lesson study cycle. In addition, at the end of the study, the teachers' views about the process (feasibility, difficulties, suggestions, etc.) were collected through an open-ended questionnaire and a focus group interview was conducted with all the teachers. All the collected data were subjected to content analysis and teachers' views about the process were tried to be revealed. Findings of the research indicate that teachers' started the process with the prejudice 'it will not help' but the processes that they worked in forefront and in cooperation were realized; they began to show interest to the study. In the study, the parts in which student misconceptions were analyzed in detail pre and post research lessons were evaluated by the teachers collaboratively as very useful. From time to time in the process (particularly in the planning stages) there were deep differences between guide researchers and the teachers on their views about math teaching (For example, teachers proposed procedural learning; researcher proposed conceptual learning in the implementation process). Bearing teachers' explanations for the open-ended questions and focus group discussions in mind, it is revealed that teachers found out the model quite useful and applicable, but formal regulations should be done for effective implementation, the pressure of central examination and the current workload (especially time problem) can harden these implementations.

Abstract Number: 20179

The Relationship between Understandings of Students and Lesson Management of the Elementary School Teacher During One School Year

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Teaching behavior has two functions, teaching subject matter and building/maintaining class community. For most Japanese elementary school teachers, class community is important, which means both learning community and community living together. When they build class community, understandings of their students are also considered as crucial. Whether students can learn what is taught depends on how to manage class by classroom teachers. And whether they can manage class well depends on their understandings of students. Consequently, Japanese school teachers are required to understand their students based on their own framework of understanding students in order to teach and deal with their students individually within lessons. The purpose of this study is to explore the relationship between understandings of students and lesson management during a school year.

The participant is an elementary school teacher, who took charge of 5th grade. We collected two kinds of data. First, we used RCRT (Role Construct Repertory Test) method to identify the participants' framework of understanding students. This method was conducted three times for a school year. Second, 16 lessons of 5th grade Japanese and social study were recorded by 2 video cameras and we made transcripts of them, then analyzed them with the revised FIAS (Flanders Interactional Analysis System) to identify the feature of teaching behaviors which create social emotional climate of the classroom.

Twelve adjective words which represent the framework the teacher has were abstracted. As a result of factor analysis, 'disturbing the harmony' like egocentric or offensive is consistently confirmed throughout the school year. The factors of 'Autonomy' or 'not expressing feeling' also emerged in the former of the school year. However, such factors were not confirmed in the latter of the school year. Alternatively, the factor of 'Accomplishing a task' emerged. In other words, the teacher considered cooperativity as essential for building class community at the beginning. As the class community has been almost formed, whether students can learn what is taught has come up to important. Therefore, community building is fundamental for learning. According to the coding process of FIAS, which mainly divide teacher talk into indirect influence and direct influence, the ratio of indirect influence such as asking questions had gradually increased, meanwhile that of direct influence such as giving directions decreased, especially in Japanese not social study. These are related with the process of how the teacher understand students. At first, teacher-led teaching behavior formed class community, then the teacher left the initiative to the students as class community had almost built.

Generally, a targeted lesson in the process of Lesson Study is discussed as a temporal issue like 'how should a teacher design this lesson or act in this case?' However, class community is fundamental for learning and needs much time to be built. Consequently, teachers possess the long-span framework of understanding students, which reflects lessons. As a result, the feature of teaching behaviors differs lessons of the latter of school year from those of the former. This study shed light of teachers' long-span planning of

lessons from the perspective of building class community, which, in turn, enhance students' academic achievement.