

# TEACHER LEARNING WITHIN THE CONTEXT OF LESSON STUDY

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*Lesson study is a professional development strategy that is grounded in daily practice. A team of teachers collaboratively studies teaching and learning through examining single lessons. By means of live classroom observations and post-lesson discussions, student learning is related to the lesson design and the course of the lesson. Lesson study cases from Dutch secondary schools will be presented during the CERME. In those cases, the professional learning of (mathematics) teachers is captured and will be related to the core of lesson study - observation and discussion - completed with teaching and collaborative planning.*

Keywords: lesson study; teacher learning; secondary education

Lesson study is a professional development strategy in which teachers collaboratively study teaching and learning by means of live classroom observations and post-lesson discussions (e.g., Fernandez & Yoshida, 2004; Saito, 2012). Lesson study originated over a century ago in Japan where it is widely viewed as the foremost professional development strategy for teachers (Fernandez & Yoshida, 2004; Stigler & Hiebert, 1999). By the end of the '90s, lesson study gained worldwide attention and spread over different Western countries.

The goal of my research is to gain understanding of what and how teachers learn when participating in lesson study. On the basis of previous research, Lewis (2009) presents a schematic that can be used to address the impact of lesson study on teachers and instruction. The schematic explicitly links lesson study to teacher learning but it does not elucidate the influence of different activities in the lesson study process on teacher learning. This has become an important focus of my research.

By means of a single case study, we investigated a secondary school mathematics teacher's learning outcomes - particularly changes in pedagogical content knowledge (PCK) - and related those to teachers' learning activities within the context of lesson study (Van Smaalen, Verhoef, Yoshida, & Pieters, 2012). This exploratory study shows (a) the importance of live classroom observation for developing knowledge of student learning, and (b) the significance of imagination when creating a (research) lesson.

In a current follow-up study, which started in 2011, we broadened our view from PCK development to professional learning: the development of knowledge, skills, and habits of mind necessary to professional thinking and practice, and (intentions

for) changes in practice itself. Fifteen secondary school teachers - including nine mathematics teachers - participate in this study. To gain a deeper understanding of teachers' learning - especially the relation between lesson study activities and teacher learning outcomes - we asked the participants to fill in a learner report (e.g., Van Kesteren, 1993) after each lesson study activity (planning, teaching or observing, and discussing). Besides this, we recorded the teachers' joint reflection at the end of each lesson study cycle. We are currently analyzing the data that has been collected so far (data belonging to six lesson study cycles), describing diversity of learning experiences (i.e. learning outcomes related to lesson study activities) using qualitative survey analysis (Jansen, 2010).

During the CERME, I will present the results of both the single case study and the follow-up study. The poster starts with the conceptual framework (i.e., lesson study and professional learning) and the research questions. Next, the method will be presented, in particular the learner report and qualitative survey analysis. Then the results will be described by picturing the diversity of learning outcomes (e.g., knowledge of student learning) and their relation to lesson study activities (i.e., collaborative planning, teaching, live classroom observation, and post-lesson discussion). The poster ends with the findings of the study (e.g., the importance of live classroom observation) and points for discussion.

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