

Abstract Number: 20125

Developing Global Lesson Study for Physical Education Teachers

Naoki Suzuki, *Tokyo Gakugei University*

Takayuki Abe, *Tokyo Gakugei University*

Karen Richardson, *Bridgewater State University*

Mary Henninger, *Illinois State University*

Heidi Bohler, *Westfield State University*

Hironobu Masuda, *Chuo University High School*

Satoshi Ishizuka, *Tokyo Gakugei University*

Atsushi Nariya, *Tokyo Gakugei University*

Koji Ishii, *Shinden Elementary School at Edogawa-ku*

Sadaomi Iwaki, *Takasato Elementary School at Funabashi*

Seiji Okuma, *Tokyo Gakugei University*

Lesson Study, which is called "Jugyokenkyu" in Japan, has attracted attention worldwide as an effective opportunity to support the professionalization for teachers. The effectiveness of lesson study was featured in the New York Times which is the major newspaper in the US, and was the centerpiece of Green's (2015) popular book *Building a Better Teacher*. Tokyo Gakugei University (TGU) conducted Project IMPULS (International Math - teacher Professionalization Using Lesson Study) since 2011. The project allows overseas faculty members to have the opportunity to participate in lesson study to improve teaching in mathematics lessons. Fukui University has also supported African faculty members to incorporate lesson study into their professional development. The export of the lesson study as Japanese professional development has been carried out positively in other cultural contexts.

The lesson study process typically consists of collaborative lesson planning, presentation of a research lesson for colleagues to observe, formal discussion, and reflection (Stigler & Hiebert, 1999). As in the aforementioned cases, however, just the research lesson and discussion were implemented for the immersion program. In other cases, overseas faculty members have traveled to Japan and participated in Japanese lesson study in schools. Japanese researchers have also incorporated lesson study into overseas local school, such as in Chicago in the US. There are few opportunities, however for international colleagues to consistently participate in the complete cycle of lesson study from lesson planning to reflection. Barriers to global lesson study include differences in educational content depending, and educational jargon/language, and time zone differences. It, however, is important to allow teachers to reflect on their own practices while considering diverse ideas from around the world. The future of physical education in a global society should be constructed based on different perspectives. Therefore, the purpose of this study is to construct an online global lesson study, with teachers from across the globe to form a teacher community of practice for professional development which overcomes barriers of language and time differences.

In 2015 academic year, TGU supported two online lesson studies were held between several Japanese schools (Suzuki et al., 2016). Attendees had difficulty participating in discussions. To make small discussion groups more appropriate, each online group then assigned a facilitator which improved the process. In the

2016 academic year, two international lesson studies were held between Japanese schools and US schools. Translation to English was provided as the lesson was conducted in Japanese. The challenge was for non-Japanese speakers to fully understand what they were seeing and hearing so that they could engage in a deep discussion and reflective process. The current idea is for global lesson study. Global lesson study will involve implementing lesson study between Japanese schools and several over sea's schools. The team will focus on solving the problems identified in the initial collaborative project, which will included multiple languages and time zones, which the group will work explicitly to address. The global lesson study will take place in September of 2017. Global participants will engage in the complete lesson study cycle from planning to reflection in this pilot study.

We will share the achievements and challenges of the global lesson study at the conference presentation based qualitative data collected during this process including artifacts, reflections, and informal interview data.

Green, E. (2015). *Building a Better Teacher: How Teaching Works (and How to Teach It to Everyone)*. WW Norton & Company.

Stigler, J. & Hiebert (1999). *The Teaching Gap Best Ideas from the World's Teachers for Improving Education in the Classroom*. Free Press

Abstract Number: 20150

Perfecting the Blend. Making Regional Cross-school Lesson Study Possible With Blended Learning and Virtual Observation of Research Lessons

Felix VanVugt, *Utrecht University of Applied Sciences*

Theo VandenBogaart, *Utrecht University of Applied Sciences*

Stan VanGinkel, *Utrecht University of Applied Sciences*

While previous research shows Lesson Studies (LS) effectiveness (Ming Cheung & Yee Wong, 2014), a pilot study we conducted showed it remains challenging to organize LS in Dutch schools due to heavy workload of teachers, rostering challenges, the undesirability of cancelled classes (Den Engel & Van Vugt, 2015), and the absence of affordances conducive to teacher learning (Admiraal et al., 2015). Furthermore, expertise in pedagogical content knowledge (PCK) is considered as an essential factor in teacher learning (Desimone, 2009). However, it remains challenging to provide LS-groups with a PCK-expert as facilitator.

These issues raise the question how to develop a LS-design that enables a more flexible organization, enabling both cross-school-LS and deployment of PCK-expertise from a distance, without compromising the quality of learning.

This small-scale qualitative study examines the potential of a blended learning environment (Van Bergen, et al., 2016) aimed to encourage peer interaction in order to enhance the effectiveness of LS. Our design is based on the main principles of the LS-model (Goei et al., 2015) and technology-supported: 1) supporting website, 2) substitution of the majority of meetings with videoconferencing, 3) enhancing cooperation with online tools, and 4) videoregistration (IRIS connect), enabling participants not present at the live observation to contribute meaningfully to the post-lesson discussion.

Data was gathered on four cross-school LS-groups, consisting of on average six teachers of various school contexts and differing school subjects. Both participants and facilitators were interviewed focusing on 1) perceived learning outcomes, and 2) added value of the blended design. The results reveal that the blended LS-design ameliorates cross-school-LS and generates learning outcomes comparable to regular LS. Furthermore, according to participants the cross-school aspect is of added value, and due to the mechanism of decontextualization (Bronkhorst et al., 2011) might add to teacher learning in ways not possible in regular LS. The virtual observation however is not perceived to approach live observation and therefore cannot substitute this logistically problematic component in cross-school-LS. Future research should focus on how to technically approach live observation, for instance by means of virtual reality technology.

Admiraal, W., Kruijer, J., Lockhorst, D., Schenke, W., Sligte, H., Smit, B., . . . de Wit, W. (2015). Affordances of teacher professional learning in secondary schools. *Studies in Continuing Education*, 1-18.

Bronkhorst, L. H., Meijer, P. C., Koster, B., & Vermunt, J. D. (2011). Fostering meaning-oriented learning and deliberate practice in teacher education. *Teaching and teacher Education*, 27(7), 1120-1130.

D. Nickerson, S., Fredenberg, M., & Kinsella Druken, B. (2014). Hybrid lesson study: Extending lesson study on-line. *International Journal for Lesson and Learning Studies*, 3(2), 152-169.

Den Engel Karin, & Van Vugt, F. (2015). A strong beginning. evaluation report lesson study academic year 2014-2015. Utrecht: Utrecht University & Utrecht University of Applied Science.

Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181-199.

Goei, S. L., Verhoef, N., Coenders, F., De Vries, S., & Van Vugt, F. (2015). A Lesson Study team as a Professional Learning Community. *Tijdschrift Voor Lerarenopleiders*, 36(4), 83-90.

Lewis, C., & Perry, R. (2017). Lesson study to scale up research-based knowledge: A randomized, controlled trial of fractions learning. *Journal for Research in Mathematics Education*, 48(3), 261-299.

Ming Cheung, W., & Yee Wong, W. (2014). Does lesson study work? A systematic review on the effects of lesson study and learning study on teachers and students. *International Journal for Lesson and Learning Studies*, 3(2), 137-149.

Van Bergen, H., Blauw, I., Van den Bogaart, T., Van de Kant, H., & Zitter, I. (2016). *Blended learning: Designing Education; a Didactical Concept*. Utrecht: University of Applied Sciences Utrecht.

Abstract Number: 20011

Academic Supervision of Lesson Study in Three Pilot Elementary Schools in the Philippines

Risa L. Reyes, *University of the Philippines National Institute for Science and Mathematics Education Development*

Leticia E. Andor, *Department of Education, Division of Taguig-Pateros*

Amparo F. Olarte, *Department of Science and Technology-Science Education Institute*

The lesson study process was introduced by UP NISMED through two seminar-workshops and implemented at three pilot elementary schools under one division of the Philippine public school system. Two grade levels, 3 and 4, were involved. The project principally aimed to develop inquiry based teaching of Science as inspired by the *La main a la pate* program in France and was conceptualized and funded by the Department of Science and Technology's Science Education Institute with UP NISMED as service provider. In recognition of the hierarchical culture prevailing in the Department of Education, in particular and Philippine society in general, the Education Program Supervisor for Science of the division and principals of the pilot schools as well as of other schools were involved to facilitate project implementation at school and district levels and to serve as knowledgeable others during the post-lesson reflection and discussion (PRD) stage.

This paper focuses on the inputs of nine academic supervisors or instructional leaders consisting of the Education Program Supervisor (EPS) of the educational division where the three pilot schools are located, the principals of each of the three pilot schools, as well as principals of other schools within the district or division, and district school science supervisors. Most of the data were obtained from the EPS and Principals.

Data were gathered mainly during the post-lesson reflections and discussions (PRDs) held immediately after each lesson implementation. The comments of the academic supervisors were compiled and categorized in terms of being a characteristic of inquiry, or other key feature for the teaching of science under the Enhanced Basic Education Program (K to 12 curriculum), a major reform in Philippine education. The comments were intended to make the lessons more effective especially in terms of incorporating more features of inquiry and facilitating construction of science ideas and concepts among the learners. Inquiry and constructivism are hallmarks of the Enhanced Basic Education Curriculum (K to 12 Curriculum) which was implemented beginning June 2012 and enacted the following May 2013. This national curriculum reform serves as the context for the project as well as for lesson study.

A questionnaire was also fielded to the supervisors to elicit their understanding of inquiry and the lesson study process as well as their willingness to promote lesson study as a collaborative teacher practice in the schools for development of more effective instruction.

Results showed that inputs of the academic supervisors were substantially aligned with the features of inquiry as a teaching approach and constructivism as a philosophical basis for teaching practice. The process of lesson study also helped toward fleshing out lessons through collaboration among the teachers and academic supervisors. They were afforded an opportunity to reflect on teaching practice, critically discuss the prepared lessons and learner feedback with the objective of making them more effective in terms of

development of inquiry skills and construction of sound science concepts.

The recommendations include development of policy to institutionalize formation of, and involvement in, lesson study groups of teachers, provision of time devoted to lesson study, and participation in the process by the division supervisor and the school principal especially during observation of lesson implementation and post-lesson reflection and discussion.