

Development of a Method Using Cards for Promoting Awareness and Exchange of Teachers' Views of Teaching: Action Research in a Lesson Study by a Team of Fourth Grade Teachers

Daisuke Hashimoto

Graduate School of Informatics, Kansai University, Japan
hashimoto.yrj@gmail.com

Wakio Oyanagi

Faculty of Informatics, Kansai University, Japan
oyanagi@kansai-u.ac.jp

The purpose of this study is to develop a method of lesson study that contributes to enhancing the relationship among teachers to learn from each other. Specifically, a practical examination of methods is proposed that can further polish teachers' views of instructing by making them more clear and sharable with other teachers. Four teachers were involved in the study, including the study author. Before and after the lesson study, the four teachers reflected upon their views of teaching through the use of cards. Teachers who participated in this study were further interviewed by the authors. The analysis was conducted qualitatively. The results suggest that this method contributes to the improvement of the teachers' learning relationship with each other, as their views of teaching are expressed, visualized, and exchanged. This study's findings supported using cards for reflection purposes and a discussion of the results were deemed to be effective.

Keywords: Lesson Study, Teachers Relationship, Views of Teaching, Reflection, Mental Models

Introduction

According to the World Association for Lesson Study (WALS), lesson study continues to expand its research internationally. “Lesson Study as a tool for professional learning is now practiced in many countries and it has helped schools around the world develop into learning communities.” Lesson studies include : 1) Teaching study, which focuses on teachers' teaching behavior and the development of teaching materials; 2) Learning study, which focuses on students' learning activities and their learning outcomes; 3) Communication study, which focuses on the communication process between teachers and students as well as among students in the classroom; 4) Curriculum study, which focuses on the application of lesson study to curriculum development and evaluation, and 5) Learning Community study, which focuses on the professional and continuous learning of teachers and the formation of a professional learning community in schools.

It is well known that Japan has been referenced as a model for Lesson Study (jugyou kenkyuu) as well as recognized internationally for its research (Lewis and Hurd 2011, Dudley 2015, Saito, Murase, Tsukui, and Yeo, 2015). “Lesson Study is a Japanese model of teacher-led research in which a triad of teachers work together to target an identified area for development in their students' learning. Using existing evidence, participants collaboratively research, plan, teach and observe a series of lessons, using ongoing discussion, reflection and expert input to track and refine their interventions” (Teacher Development Trust).

However, since 2005, many teachers with experience in lesson study have reached the point of retirement in compulsory education in Japan. As a result, schools that are becoming more digitally oriented and facing more contemporary social challenges are having to manage them with many younger teachers, a small number of mid-career teachers, and teachers nearing retirement. Among these, what has been conducted more recently in schools is a workshop-type lesson study, which is also related to the Teaching study and the Learning Community study, regarding the construction of PLCs.

While these workshop-type lesson studies are being conducted, there are some issues that need to be addressed. Workshop-type lesson study conducted in schools allows the teachers who participate in it to study teaching and learning with a common vision toward a certain goal, work as a team, visualize issues, talk about them, and understand each other. However, it is difficult to make frequent school-wide efforts to conduct lesson study in many daily tasks and meetings. The issues felt by individual teachers do not necessarily coincide with the issues to be addressed by the school as a whole. In particular, there is often a discrepancy between the issues felt by young teachers and those addressed by the school as a whole. As for guidance for young teachers, the system guarantees that first-year teachers

are assigned a mentor. However, from the second year onward, such training opportunities are limited. Thus, it is difficult for individual teachers, especially younger teachers, to engage with their own issues while also promoting their professional growth merely through a workshop-type lesson study provided by the school as a whole.

The purpose of this study is to develop a method of lesson study that contributes to enhancing the relationship among teachers to learn from each other. Specifically, a practical examination of methods is proposed that can further polish teachers' views of instructing by making them clearer and more sharable with other teachers. With the main purpose of guaranteeing opportunities for personal reflection and increasing the frequency and quality of lesson study, this study focuses on the lesson study in a particular group of teachers in charge of a certain grade level in an elementary school.

Research Design & Methods

We examine the design of lesson study methods by referring to the five disciplines described in Peter Senge's "Schools that learn" in order to consider lesson study that contributes to the construction and development of relationships in which teachers learn from each other. In particular, we focus on "Mental Models" to examine the methods of lesson study (Senge 2012).

The cooperating school for the study was an Elementary School, a public school in Japan. The school size included 288 students, 12 classes, and 23 teachers; lesson study was conducted six times a year (three times with invited lecturers and three times without).

This study was conducted as a lesson study by a group of teachers in charge of one grade apart from the efforts positioned by the school. Four teachers, including the author, participated in this study. Three teachers in charge of the fourth grade and the first author were involved in the lesson study. Teacher F is a 5th year classroom teacher and researcher for a prefectural physical education research group. Teacher B is a 10th year, special-needs classroom teacher, licensed in middle and high school health and physical education. Teacher I is 19th year classroom teacher. The first author of this study is a 10th year classroom teacher and researcher for the Prefectural Physical Education Research Association.

The subject matter covered in physical education involved the jump rope. Teacher F taught the class for a total of four hours, and B, I, and the first author observed the class and conducted a workshop type lesson study. The first author planned this class study and played the part of a facilitator during the discussions.

Before and after the lesson study, three teachers reflected on their views of teaching by using cards.

The lesson study program we planned is designed around three main frameworks: **(1) unit planning meeting**, **(2) classroom practice and post-conference meeting**, and **(3) unit review meeting**. The **(1) unit planning meeting** consisted of four parts: 1) setting up a self-assignment, 2) extracting cards, 3) rearranging cards, and 4) explaining the rearranged cards; **(2) Classroom practice and post-conference meeting** consists of the following six parts: 1) Classroom practice without observation (practice 1), 2) Classroom practice with observation (practice 2), 3) Post-lesson discussion using cards, 4) Classroom practice without observation (practice 3), 5) Classroom practice with observation (practice 4), 6) Post-lesson discussion using cards; and **(3) The unit review meeting** consisted of three parts: 1) rearrangement of the cards, including the cards added individually, 2) explanation of the rearranged cards, and 3) summary of the class research.

By incorporating opportunities for individual reflection, this lesson study program aims to further promote the following two goals: (1) to make teachers aware of and recognize their own presupposed view of teaching in the classroom, and (2) to further deepen their view of teaching by exchanging that view among teachers.

Data collection and analysis proceeded as follows. In this study, a video camera was used to capture the card extraction scene at the unit planning meeting, the card reordering scene, and the discussion on the card reordering initiative at the unit planning review meeting. Later, a speech record (protocol) was created. The rearranged cards were captured by the camera. In addition, after each discussion, the three teachers described what they had learned and their impressions on the reflection cards. The first author interviewed them about the contents and the order of the cards.

We reviewed the speech recordings (protocols), extracted the situations in which "expression and awareness of the teaching perspective" were observed, and created the analysis categories. The first author divided the statements in the speech record (protocol) and the reflection card after each consultation by proposition. The speech record was read again based on the analysis categories. Based on the results, the contents that "expressed or made conscious the view

of teaching" were extracted. In addition, since the card rearrangement format was set to an open-ended format, we proceeded with a discussion of the card rearrangement of Teacher F based on his description of the cards.

Further additional interviews were conducted by the first author. The analysis was conducted qualitatively.

Results

First, the results of **(1) the unit planning meeting** are as follows: Teacher F uttered six propositions in explaining the rearranged cards, and four of these propositions were extracted as expressions of his view of teaching.

The cards are arranged as shown in Figure 1. Due to the width of the paper, only the arrangement of the cards for Teacher F is shown. Although not shown here, the cards of Teachers B and I are also arranged in different ways.

At the beginning of the explanation, Teacher F conveyed his own image by gesturing from the bottom of Figure 1 (b) to the top of Figure 1 (a). He then stated that "the most important thing is to motivate the students (a)" and "the most important thing is that they are willing to do it themselves (a)." Here, we can identify that the most important thing is to motivate the children, which is the view of Teacher F's teaching.

Next, he explains that "the teacher's knowledge is important for this (b)." Then, while pointing, he next explained, "Instruction and technical guidance are important (c)," and after that, while pointing, he explained, "There are things like talking to them to motivate them (d) and praising them (e)."

From this explanation, we can find that Teacher F shows a view of teaching that requires first the teacher's knowledge to motivate, and that the content of the other cards is the link between the two.

Teacher B made nine propositions, all of which were extracted as expressions of her view of teaching. Teacher B explained, "In my case, I always linked 'praising (e) when the child does well' with 'motivating (a).'" From this, we can see from Teacher B's viewpoint that she motivates her students by praising them.

Teacher I spoke of five propositions, four of which were extracted as expressions of her view of teaching: Teacher I said, "If the teacher does not have expertise (b) (pointing to "knowledge of how to jump (b)"), he cannot show students "small steps (f)" or "specific goals (g)". to the students. In her reflection card after that day's lesson study, teacher I wrote, "Writing and explaining in cards revealed what I usually do in my teaching without thinking about it."

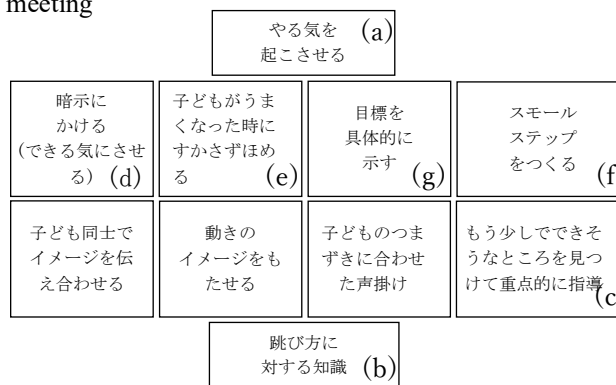
Next, we will discuss what we learned from **(2) classroom practice and post-conference meeting**.

In this lesson study program, class observations and post-classroom discussions were conducted twice within a unit (4 hours). This design was based on the expectation that by holding two such meetings within the same unit, the content of the first discussion would be utilized in subsequent Class Practice. Classroom observations were made during Class Practices 2 and 4. Discussions were Then held after school.

In his reflection after the post-conference meeting for Class Practice 2, Teacher F wrote, "I thought it was important to grasp how far the children were able to go, and to talk to them and watch over them so that the children could grasp the feeling that they were able to do it. The first author asked teacher F about the meaning of the card. At that time, Teacher F said, "I was conscious of talking to the children as if I thought they could do it, as if I was saying, 'I can do it,' and I talked to them. He stated, "I tried to make them feel like they could do it." And Teacher F responded, "I was asked from other teachers in the post-conference meeting, and because I thought about it myself, it may have been a reference for the next practice".

This indicates that Teacher F deepened his understanding of the "suggest (make them feel like they can do it)" card made from Teacher B's narrative through the Class Practice and the post-conference meeting. This means that some

Figure 1 Cards sorted by Teacher F in the unit planning meeting



influence was exerted on his view of teaching. However, we have not been able to fully examine the process of how this learning was generated in this study. More detailed analysis is needed in the future.

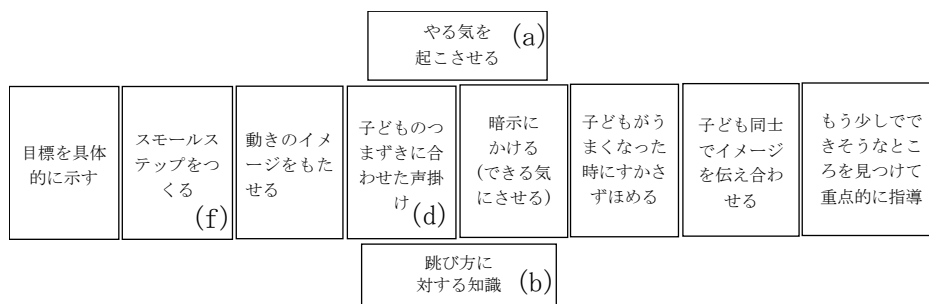
Finally, we discuss the results revealed from the **(3) unit review meeting**.

The participating teachers added cards individually. They then rearranged the cards again to include those cards and explained them to each other. Afterwards, a final summary was made by endorsement.

There, four propositions were found to be uttered by Teacher F, and three of these propositions were extracted as expressions of his view of teaching.

Figure 2 shows the rearrangement by Teacher F. Teacher F thought that "the teacher had to give specific instructions and motivate the children (a)." Even if "the teacher knows how to jump (has expertise (b)), it is not enough for the children to be able to jump. Two components, "small steps (f)" and "talking to children as they stumble (d)," are also necessary to motivate students.

Figure 2 Cards resorted by Teacher F in unit review meeting



This can be interpreted as Teacher F's understanding of the importance of "small steps" and "talking to children as they stumble." This indicates a deeper understanding of the content written on the cards and a deeper understanding of the relationships among the cards in the perceptions of teacher F.

Teacher B and Teacher I also added cards in the **(3) unit review meeting**. Teacher B added "importance of understanding and analyzing the actual situation," "record keeping," "children praising, recognizing, and finding each other," and "praising children who praise each other." In the case of Teacher I, "understanding the actual situation," "praise (child to child)," and "a sense of achievement and joy of being able to do something" were added. From the addition of these cards, it can be interpreted that learning occurred between the two teachers as a result of their collaborative discussion of Teacher F's self-assignment. Furthermore, we would expect the two teachers to have been influenced in their views of teaching. However, it was not possible to analyze in detail what influenced the transformation between the two teachers. This is an issue to be addressed in the future.

Discussion

From the above, it is clear that all of the teachers who participated in this lesson study program showed a deeper understanding of the cards, a deeper understanding of the relationships among the cards, and additional forms of cards, which indicates that the program caused some changes in the teachers' view of teaching.

Whether the reason for such changes was due to the use of the cards or the fact that the lesson study was repeated twice, the exact relationship of influence could not be clarified in this study. However, the fact that the teachers were given the chance to describe in their own words what was important for their teaching, to become aware of it, and to discuss the arrangement of the cards in relation to their priorities, was an effect of the method used in this study.

Furthermore, it became clear that this lesson study program has the potential to contribute to the transformation of classroom practices that could not be adequately verified through workshop-type class research.

Conclusion

In this study, as part of the lesson study program, 1) a unit planning meeting, 2) two class observation and discussion meetings, and 3) a unit review meeting were conducted, based on the principle of carding, rearranging, and explaining important points in response to the young teachers' self-assignments. In the lesson study program the teachers' views on teaching were expressed through visualization and verbalization, and an awareness that included the development

of their views on teaching was observed through exchanges with each other. These are considered to be the methods that contribute to actually applying the principles of the "Mental Models" described by Senge (2012). Since this study is a case study, we intend to enhance the reliability and validity of this lesson study program as we conduct further practical research.

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