

# Research on teachers' thought processes during a lesson study in a Japanese primary school

A collaborative learning perspective

Graduate school of education  
University of Tokyo  
Atsushi Sakamoto

# Outline

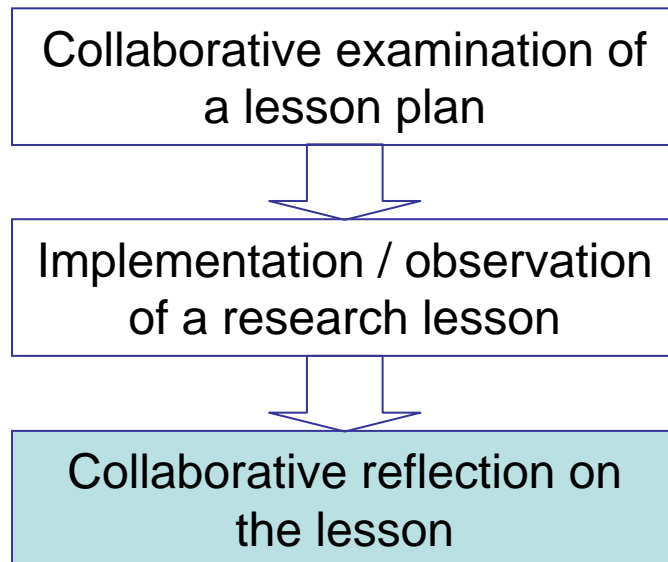
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- Introduction
- Research Question
- Participants
- Methods
- Result
- Discussion
- Conclusion

# Introduction: About Lesson Study

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- Lesson study contributes to improve teaching in some way.
  - to revise a lesson plan.
  - to progress research on teaching.
  - to facilitate teachers' professional learning.



Teachers learn in the lesson study process.

# Lesson study as collaborative learning

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- Teacher = “Reflective practitioner” (Schön, 1983)
  - reflection on teaching experiences constitutes a central point of in-service teacher learning.
- Learning through teachers conversation (Clark, 2001)
  - teachers learn others’ perspectives and teaching methods through their conversations about lessons.
- “Representation of practice” (Little, 2003)
  - De-contextualized      Re-contextualizing by their knowledge
- Teacher’s knowledge is of a personal nature (Munby, Russel & Martin, 2002)
- “Problematizing” (Reiser, 2004)
  - Teachers reflect on a research lesson through collaborative problematizing in order to gain others’ perspectives.

# Research Question

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How processes teachers are thinking and learning during the lesson study?

# Participants

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- 2 lesson study
  - 22 Feb. 2007 = LS A
  - 28 Feb. 2007 = LS B
- A Japanese public primary school
- 3 experienced teachers were interviewed.
  - Teacher A (female; 17 years; LS A & B)
  - Teacher B (male; 22 years; LS A & B)
  - Teacher C (male; 25 years; LS A)
  - Teacher D (female; 35 years; LS B)
- 2 main parameters of the collaborative reflection (Sato, 1997)
  - teachers should talk about student learning in a research lesson.
  - teachers must respect each other as colleagues.

# Methods

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- Video-recording a collaborative reflection after a research lesson.
- After each collaborative reflection phase, all of the teachers completed a questionnaire that asked about memorable events in the collaborative reflection phase.
- Interviewing three teachers individually.
- “Stimulated recall interview”
  - Teachers look at five scenes selected from the video and are asked what they were thinking during each scene.
  - These scenes were selected from the questionnaire results.
  - Each interview was conducted at their school from 1 to 5 days after each lesson study.

# About Lesson studies

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## ○ LS A examined RL A.

- Second-grade / Arithmetic
- Practitioner was Teacher C
- About two-thirds the number of students of an ordinary class.
- Learning the interrelations of addition and subtraction
- Problem statement: “There are some pigeons in a park. Fifteen pigeons flew away. Twenty-four pigeons still remain. How many pigeons were initially in the park?”
- Using tape diagrams
- 6 groups of 3 to 4 students
- After each group resolved the problem, they gathered at the front of the classroom and examined each group’s solution.



# About Lesson studies

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- LS B examined RL B.
  - Second-grade / Japanese
  - Practitioner was Teacher A
  - “Suho’s White Horse.”
  - The students read the material aloud and then wrote their thoughts and feelings on the text. Finally, they discussed what they had written and thought.

# Result 1: Lesson study discourse

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Table 1: *Classification of the content of all utterances of collaborative reflection in the two lesson studies*

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Lesson study	Total number of utterances	Teacher / Strategy / Teaching aid	Learning tool / Subject	Students / Learning activity
LS A	61	35	18	29
LS B	52	21	15	39

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- This result indicates that both LS A and B discourses had a variety of content.

# Result 1: Lesson study discourse

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*Table 2: Rate of the utterance of students' names for the number of utterances and time*

	LS A	LS B
Number of mentions of students' names	59	32
Mentions of students' names per total number of utterances	0.97	0.62
Collaborative reflection time (min)	57.5	52
Mentions of students' names per time (min)	1.03	0.62

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- Names were mentioned more in the LS A discourse than in the LS B discourse. Instead, in LS B, the teacher talked about the lesson more generally.
  - I examined the process of talking and thinking about research lessons. Thus, I later focus on LS A to analyze Teacher A's, B's, and C's thought processes during collaborative reflection.
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# Result 2: Teachers' thought processes

- Teacher A tended to find multiple problems by observing a research lesson.

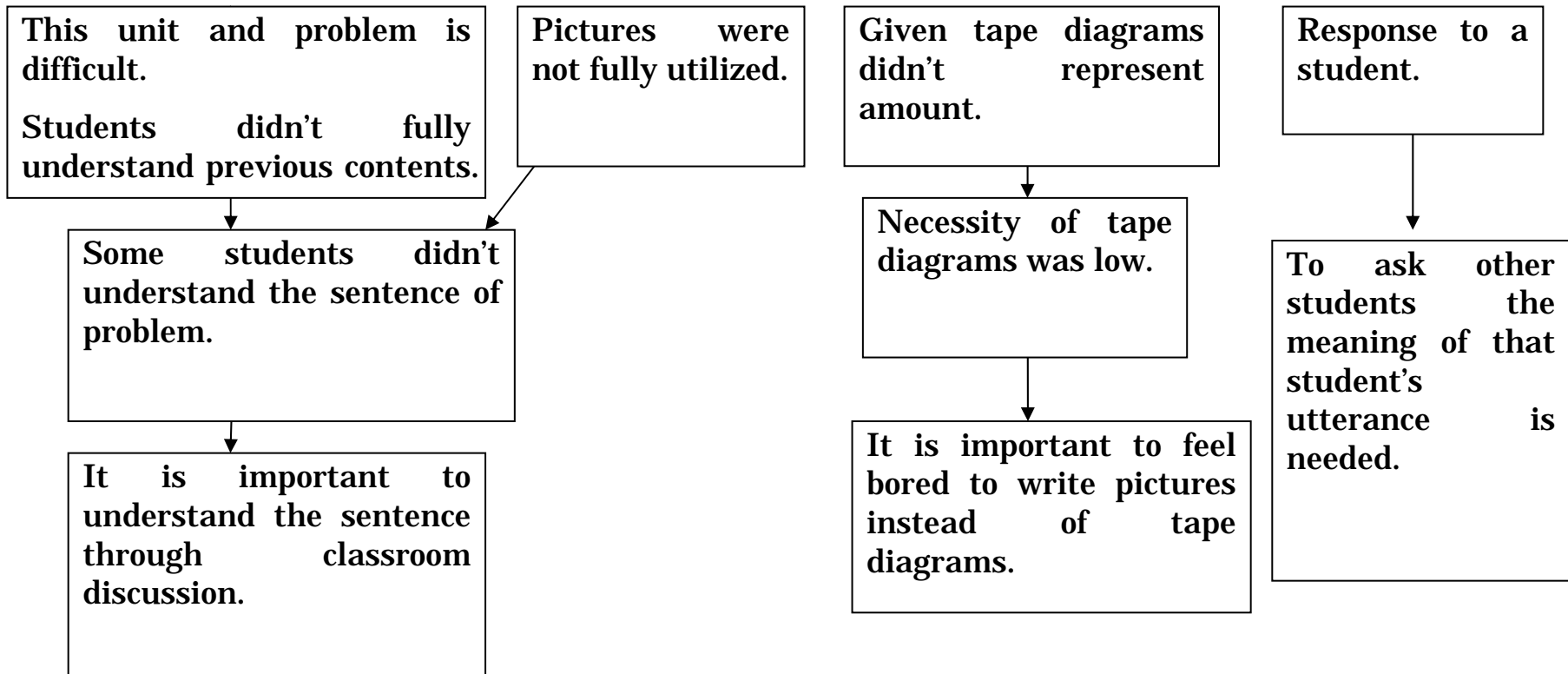


Figure 1: Teacher A's thought process

# Result 2: Teachers' thought processes

- Teacher B tended to develop his interpretation of RL A through discussion. He modified his own perspective many times and changed both his representation and solution to the problem.

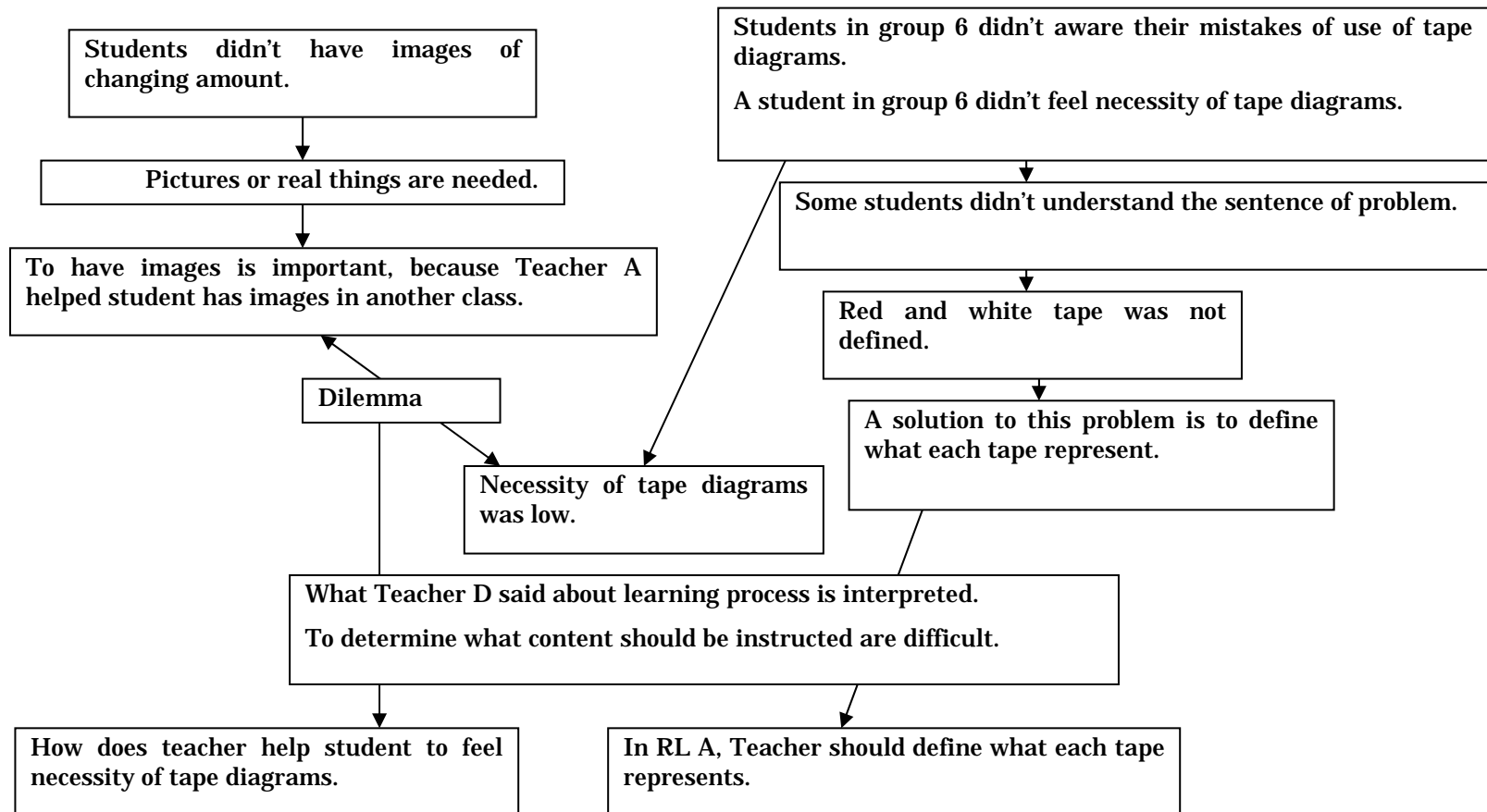


Figure 2: Teacher B's thought process

# Result 2: Teachers' thought processes

- Teacher C consistently problematized his practical judgment about orchestrating the students' discussion in RL A. He did not problematize his lesson plan.

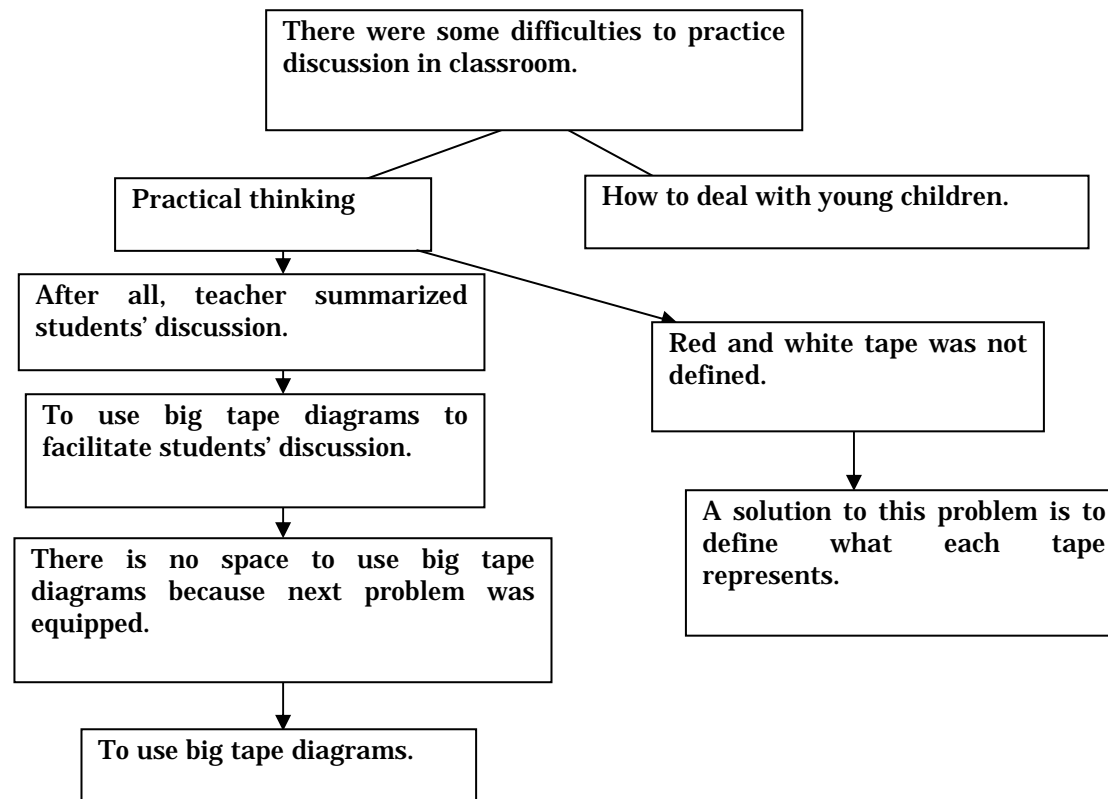


Figure 3: Teacher C's thought process

# Discussion 1: Learning orientation

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- Why did their thoughts follow such different processes?
- Teacher A learned something important from simply observing the lesson.
- Teacher B improved his interpretation of RL A and constructed a point of practicing a lesson through the discussion.
- Teacher C learned a concrete teaching method through lesson study discussion.
- The causes of the differences are various, but it can be presumed that each teacher's learning orientation strongly influenced his or her thought process.

# Discussion 2: Teachers improve their understanding of a research lesson

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- What is the process by which Teacher B changed his perspective?
- To answer this question, I compared Teacher B's thought process with that of Teacher C.
- Teacher B was more empathetic to others' utterances than was Teacher C.
- Teacher C's thought process was influenced by discussions that occurred before RL A.
- Teacher C's thought process was likely to become controversial.
- Teacher B's perspective changed frequently because he empathetically interpreted others' utterances.



# Conclusion

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- Several types of discourse occur during a lesson study.
- Each teacher's thought process is influenced by his or her individual learning orientation.
- Teachers improve their understanding about teaching when they empathically interpret and understand one another's perspectives.

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