

Singapore Lesson Study Symposium 2013
7th June, 2013, Orchard Hotel

Lesson Study:
Beyond the Time
Beyond the Surface,
and Beyond the Lesson

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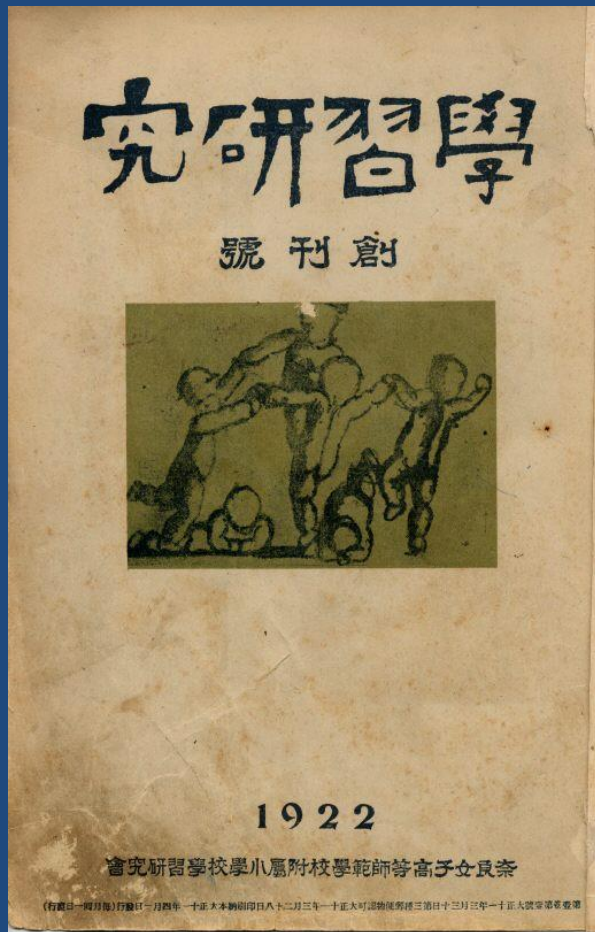
Section 1

Prologue
- continuity and invisible roles of
Lesson Study -

Lesson Study and Continuity







Lesson Study and continuity

- Lesson Study is regarded as if it has been revealed in recent years in the world. But it is not just a short-term trend or established new tool for teacher development.
- Lesson Study is **continual teachers professional development** that has begun before we became teachers and might continue longer than our lives.
- Lesson study is not only teachers learning, but (obviously) refining process of student learning. Then Lesson Study **is a process to interconnect students' learning and teachers' learning**; and vice versa.
- Because Lesson Study connects student learning and teacher learning, the strongest feature of Lesson Study lies is that it not only improves our professional capacities, but also **our capacities as individuals who have humanity, and who are full-fledged members of society**.
- Lesson Study can be “a long journey to meet ourselves”.

“School” is more than a school,
“Teacher” is more than a teacher.







Lesson Study and invisible roles

- We have Learned from “3.11” that teachers have **invisible roles as collaborative communicators** in the school and with the society. Teachers are no longer just a teaching staff tied up inside of school. The roles and responsibilities that teachers have unconsciously owned are more than their abilities as practitioners.
- The **collaborative culture among teachers** that is developed through Lesson Study reveals the invisible value of school as a social facility for refuge, even when “something unexpected” happens.

Section 2

High quality lesson?

High quality Lesson?

- ✓ **Level 1:** teachers can **tell** students **the important basic ideas** of mathematics such as facts, concepts, and procedures (teaching by telling).
- ✓ **Level 2:** teachers can **explain the meanings and reasons** of the important basic ideas of [mathematics] in order for students to understand them (teaching by explaining).
- ✓ **Level 3:** teachers can **provide** students **opportunities to understand** these basic ideas, and **support their learning** so that the students become independent learners (teaching based on students' independent work).

High quality lesson & teacher

Level 3: teachers can **provide** students **opportunities to understand** these basic ideas, and (teachers can) **support their learning** so that the students become **independent learners**.

But how.....?

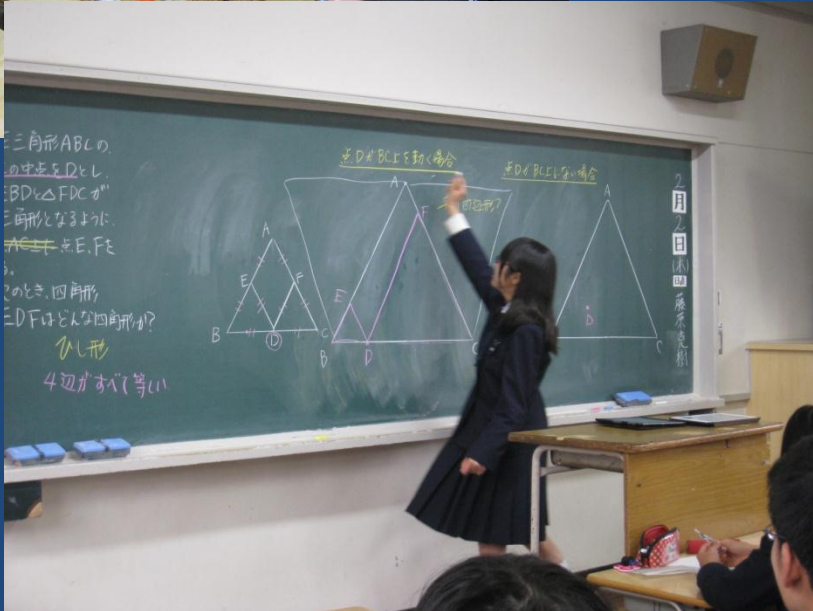
Please talk with your neighbors for a couple of minutes.

High quality lesson?



Inquiry Learning
or Hands-on Learning?

High quality lesson?



or Hybrid?

High quality lesson?



High quality lesson?

Student-conducted Lesson:
to improve
“self-standing learning”



Use thinking method to
develop “Thinking skills”

High quality lesson?



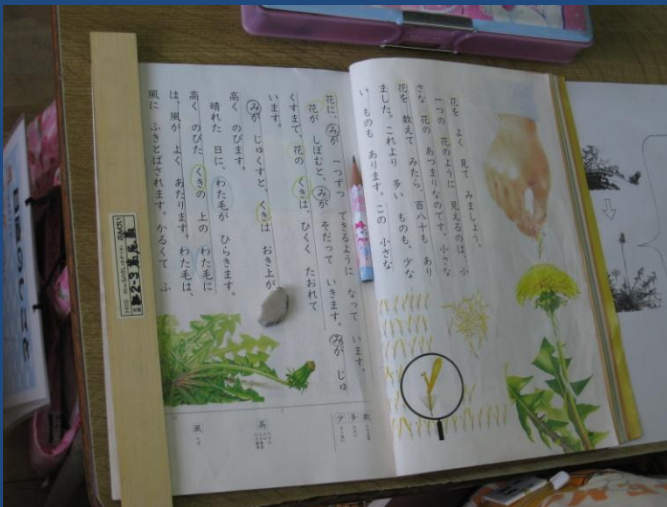
Learning Community:
Students learn collaboratively and fun

Section 3

“Quality Lesson”: What for?

Scientific text reading

“Wisdom of Dandelion” (Primary 2)



Scientific text reading

“Wisdom of Dandelion”

(.....)

Let's examine the flower of a dandelion closely.

It is a collection of many small flowers which looks just like one flower. When counting the small flowers, there were around 180 florets. There can be more or fewer than this. Each floret produces one seed.



As the flowers fade the seeds grow up. The stalk falls low until seeds begin to ripen.

As the seeds ripen, the stalk will rise and will be extended upwards. The downy 'clock' opens on a fine day. The wind catches the high fluffy 'parachutes' that form the round 'clock' and blows them away. The light seed parachutes are blown away by the wind. They ride on the wind and are blown to a great distance.

(.....)



Scientific text reading “Wisdom of Dandelion”

*Photo
Documentation*



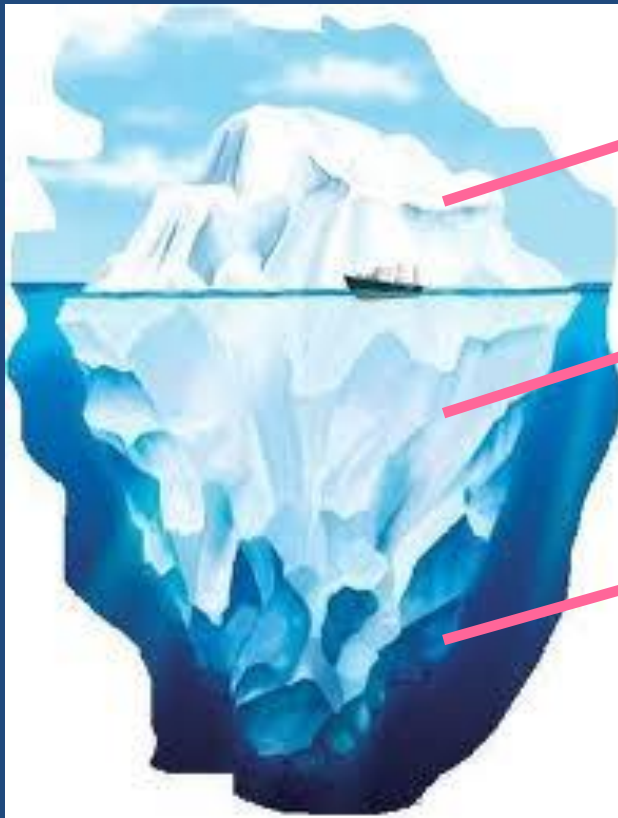
“Quality Lesson”: What for ?

- The concept of this Research Lesson was “Understanding is more over than knowing”. Research Question of this RL is “How P2 students develop their deeply (holistic) understanding in the scientific text reading”. In order to develop this holistic Research Lesson, LS teams had been focusing its concept during their Lesson Plan (re)writing (*Micro Cycle*)
- **Quality Lesson** would **not be an elaborate replica** that someone (or company) has developed for their requirement (or object). QL is rather a lesson that is created to meet the specific needs of the particular class and students.
- **Quality Lessons** are shareable with other teachers, but these teachers have to remake them according to their students’ needs.
- For that reason **Quality Lessons** are designed not only for students’ learning, but also for *teachers’ leaning*

Section 4

*Teachers' Learning
by means of Lesson Analysis*

Lesson Analysis: Bottom of “Iceberg”



Appearance in Lesson

Lesson Study

Lesson Analysis

Lesson Analysis & Lesson Transcript

- Lesson Analysis (授業分析: *Jugyo Bunseki*): through **analyzing transcript** of lesson closely, teachers interpret students' **thinking processes**, and find (discover) the **values** of the lesson to improve teachers' **INSIGHTS** into lesson



- Lesson Transcript:
A Lesson Transcript is **created** which contains everything said by teacher and students in order to make **sharable these experiences to others** who was not observed that.

Lesson Transcript (Science/Pri.6)

“how are the nutrients in potatoes made?”

T (teacher) 1: Today, I'd like you to try saying how and where the main nutrient in potatoes, which you should think of for yourself, is made, along with the experiment you would use.

Masao 2: The nutrient in potatoes is made from seed potatoes. If you put iodine solution on seed potatoes, it shows they contain starch.

Hiroshi 3: My idea is similar. I think it's the roots. First it's in the seed potatoes, but after that the roots grow so the roots make the whole thing work.

Mika 10: My idea is similar in that I think the nutrient is in the roots, but I think they get it from the soil and water.

Sayuri 37: I think that most fields have fertilizer spread on them, so when they are watered it becomes good water, and that goes in through the roots. That's why I wrote that.

Maki 40: Erm, I think the roots suck up water, and that becomes the nutrient. I think when the roots come into contact with places where the earth is wet, that's where the nutrient comes from.
(cont.)

Tomoya 59: I think starch is made in the leaves. The reason is that most plants grow leaves, and if all they needed was water then they wouldn't need leaves.

Atsushi 77: If it was really from the leaves, if it's true that the leaves are making the nutrient, if they're making starch, there should also be a bit of starch inside the leaves, so I think we can try and find out by cutting a leaf in half and putting iodine solution on the cut surface, or on the stem, and seeing if it turns bluish-purple. If the color changes, I think this would show that the leaves are making starch.

Emiko 82: I think it's made in the leaves and the roots. The reason is that the sun shines on the leaves, and the roots get nutrients and food from within the soil.

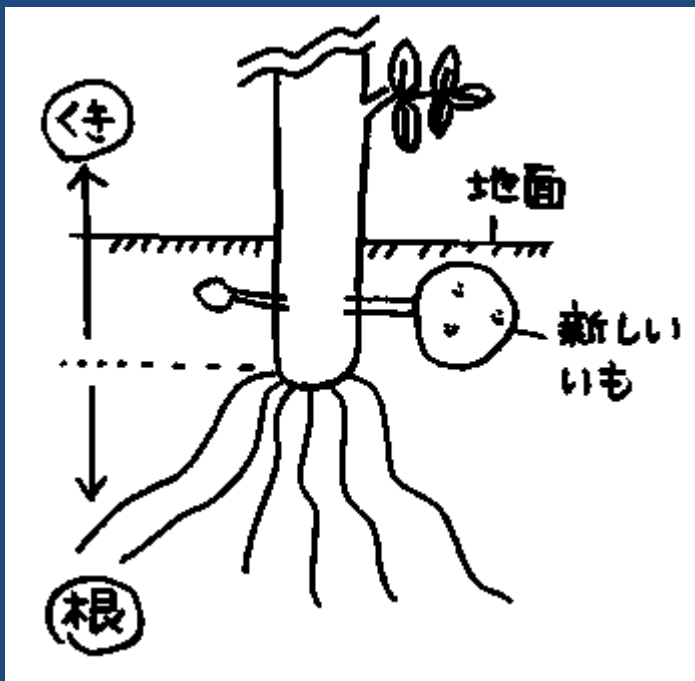
Rika 85: I think the nutrient is found in seed potatoes. ... Seed potatoes get something like nutrient from sunlight and water, store them, and give them to the roots again and again, and I think that's how potatoes are made.

Takuya 113 I think the nutrient is in the soil, the roots take it, and it goes into the leaves and stems.

Ryujiro 114: Before, when we poured water on the potato roots over there, they looked just a little dry, and I think that's how the roots are taking in the nutrient.

Saeko 125: I think that it's the stem, the roots suck in the nutrient, and send it upwards.

How were children's **images** of “starch”?



Starch

is sucked ?

is got from ?

goes into ?

is made ?

comes from ?

is taken?

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Changing students remarks on starch after discussion

T 133: Right, now I want us all to hear the final part of everyone's lesson reflection card

Takuma 149: When I heard what Atsushi said, I thought that yes, the leaves are gummy, so maybe starch is made in the leaves.

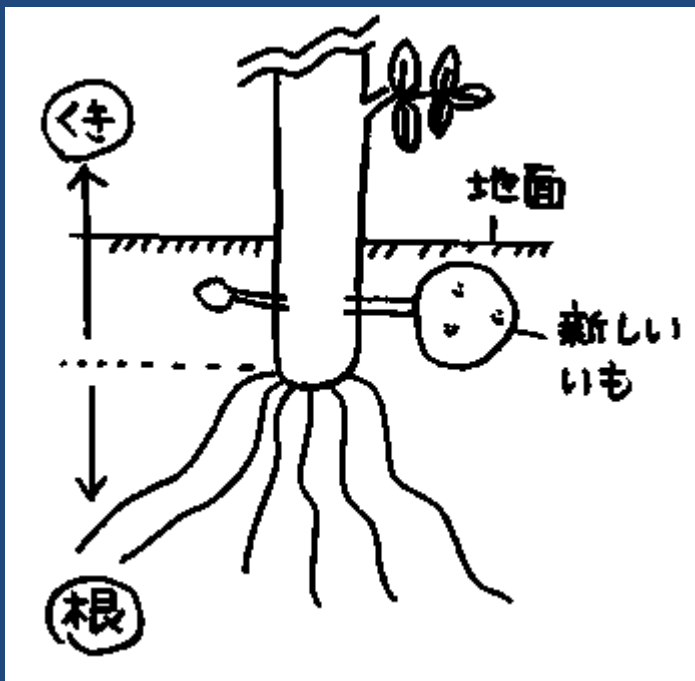
Mika 151: My idea is similar to what Takuma just said, uh, yes, the leaves are sticky, but the roots also produce sap, so I thought maybe the roots also help make the nutrient.

Hiroshi 155: Mika just said that the roots help make the nutrient...

Ryujiro 158 I changed my mind to what Hidenori said, that it's the whole potato, with the root making starch in the soil, and the bits above like the leaves making it with sunlight or something.

Atsushi 170 Erm, I think that the leaves make starch, and nutrients other than starch are taken from the roots.

Transforming children's image of "starch"



Starch

is sucked ?

is got from?

goes into ?

is made ?

comes from ?

is taken?

Teachers' Learning by *Lesson Analysis*

- ✓ Transcript-based Lesson Analysis is a meaningful tool to develop **teachers' insights** into student learning and deeply to understand lessons (learner-centered knowledge)
- ✓ Benefits of Lesson Analysis:
 - to be able to read the lesson transcript repeatedly and find out meaning of the lesson deeply;
 - to be able to choose and concentrate on some valuable sessions in the lesson;
 - to be able to store up the lesson long time (**Evidence**);
 - to be able to share the lesson to someone who did not observe it;
 - to be able to look over whole lesson in one view.

Conclusion

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- *Lesson Study* which has more than 100 years history will continue for generations because *LS* is really generated by teachers' self-developmental mindsets. Even if you don't have any colleagues who share the *LS* values with you, you can still begin to improve yourself. This is nature of *Lesson Study*.
- Some researchers in Japan say that "the *LS* movement in the world is like a sudden storm that will blow over in 10 years". I would say "Yes, it could be." But I certainly believe that teachers who are highly motivated through *LS* to be(come) better teachers for their children and for themselves, exist everywhere around the globe.

Conclusion

- We can find many different kinds of pedagogical values in every single lesson and each scene in each day to day lesson. Even if we observe the same lesson with colleagues together who could be an initial teacher or an expert teacher, we can learn from them because they have another lens of vision on the lessons.
- What the history of Lesson Study tells us is that it is only those teachers who are prepared constantly to improve who become self improving professionals. These teachers who believe in self-improvement will never die out. So Lesson Study will continue for another hundred years long after we retire or die.
- Lesson study can progress and teachers can be improved endlessly, beyond the surface of our understanding, and beyond the lesson we are able to achieve at this moment.

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*Thank you for
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