

Conducting Lesson Study Effectively

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www.wpunj.edu/coe/lessonstudy

1. Reflecting on the last 10 years
2. Revisiting lesson study descriptions
3. Essentials of lesson study
4. Conducting lesson study in a more effective and meaningful way
5. Creating high quality learning is the key to the success of lesson study

Lesson Study in the United States

- Idea of lesson study was introduced at the end of 1990s by publications such as:
 - Stigler & Hiebert (1999) – The Teaching Gap
 - Lewis & Tsuchida (1998) – “A Lesson is Like a Swiftly Flowing River”
 - Yoshida (1999) – Lesson Study: A case study of a Japanese Approach to Improving Instruction Through School-Based Teacher Development

Obstacles for Conducting High Quality and Effective Lesson Study

- Misunderstandings and lack of understanding of lesson study
 - Developing a perfect lesson, library of good practice
 - Polishing stone → Polishing lesson
 - R & D system
 - Lesson Study = Japanese way of teaching
- Insufficient content and pedagogical knowledge by teachers
- Lack of support and resources
- Lack of structure and system

What were the Causes?

- Very complex system was oversimplified
 - “Lesson Study” – A simple and catchy name
 - Step by step process was developed and promoted
 - Lesson Study is a cultural activity just like teaching is a cultural activity
- Not many opportunities or places to experience authentic high quality lesson study and not many experienced practitioners
- Not much patience for a steady long-term improvement of classroom teaching and learning
- Lack of time for PD, too many topics to teach in short time, and too much focus on standardized testing

「守」「破」「離」

The term is often used in 剣道 (kendo – Japanese swordsmanship)

- 守 (shu): Study and learn the form from the master, then acquire the form with understanding
- 破 (ha): With the acquisition of the form with understanding, start experimenting with your own ideas (breaking the form). If the experiments go well, start developing your own form.
- 離 (ri): Depart from the form of the master and establish your own form

Revisiting the Description of Lesson Study

- (1) What is Lesson Study?
- (2) What Does Lesson Study Provide?

What is Lesson Study?

Lesson study (授業研究, *jyugyokenkyu*):

- Originating in Japan (It has a long history and helped to change practice and learning)
- Process of professional learning (not PD or training)
- Teachers engage in continuously throughout their careers
- Teachers systematically examine instructional methods, teaching content, curriculum, and student processes of learning and understanding in order to achieve their educational goals

What is Lesson Study?

Key features of lesson study:

- Research Lessons:
 - Teachers collaboratively study instructional materials and design a small number of research lessons
 - Implemented in actual classrooms with students
 - Observed and discussed with teacher-colleagues and other educators to determine the effects of the lessons on student learning and understanding

Classroom Based Research on Learning and Teaching

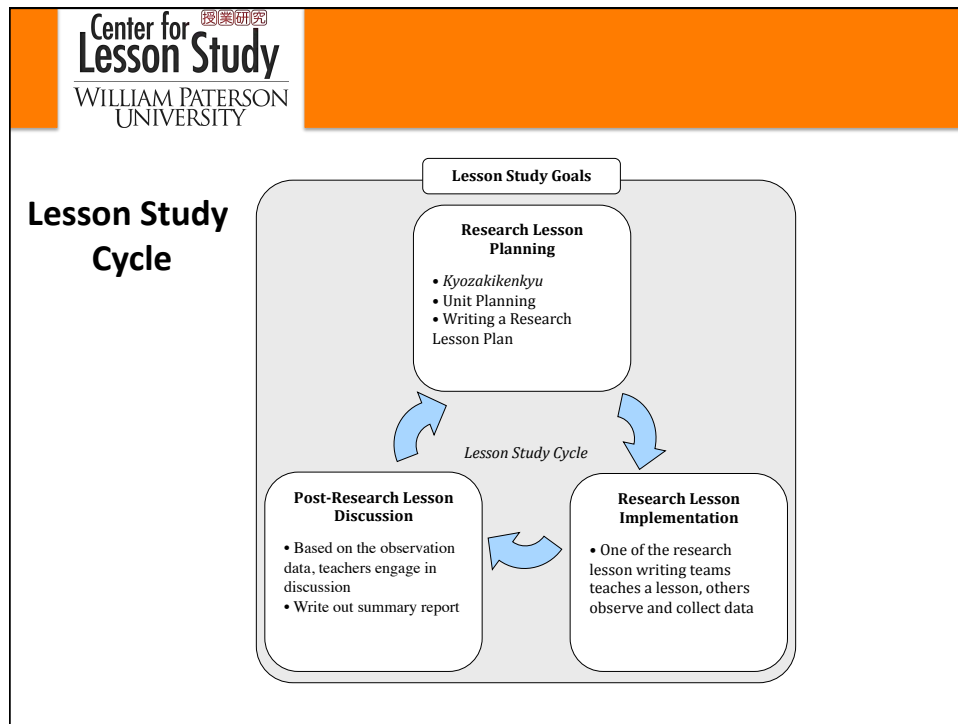
- During lesson study, teachers investigate instructional materials and lesson goals by examining students' thinking, understanding, and learning
- This process generates ideas for improving instructional materials, student learning, and teaching

Focused, Coherent, and Consistent Education for All Students

- Collaborative nature of lesson study offers the promise of a focused, coherent, and consistent education for all students
- Lesson study helps to develop a shared understanding of:
 - ✓ Curriculum aligned with standards
 - ✓ Instruction
 - ✓ Goal of education
 - ✓ Students

Developing Life-Long Learners

- Lesson study is professional learning, not lesson development
 - ✓ Provides opportunities for teachers to think deeply about instruction, learning, curriculum, education
 - ✓ Develop the steady, continuous improvement of teaching
- Teachers become:
 - ✓ Life-long learners
 - ✓ Independent thinkers
 - ✓ Problem solvers
 - ✓ Researchers



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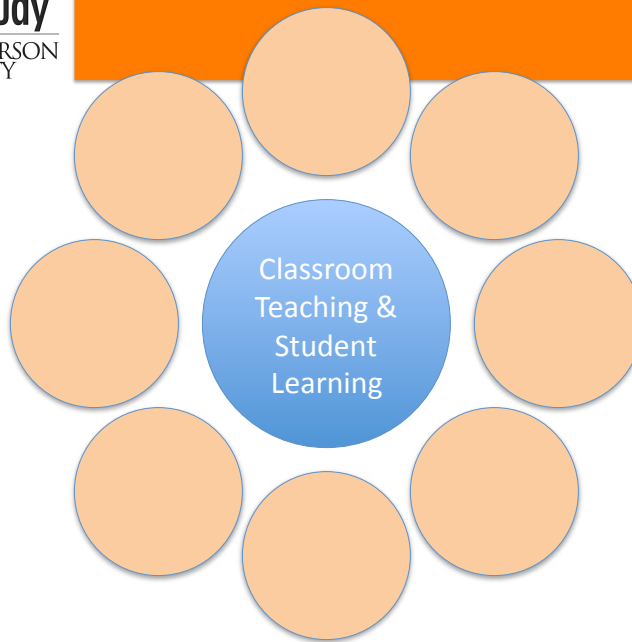
Moving Away from Step by Step Approach to Conduct Lesson Study

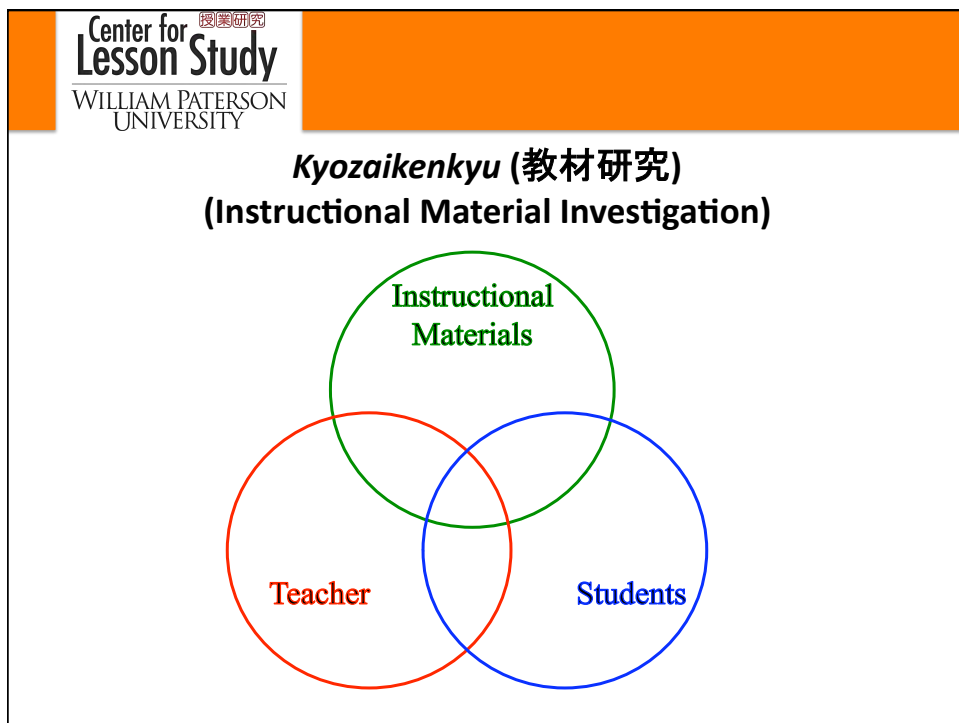
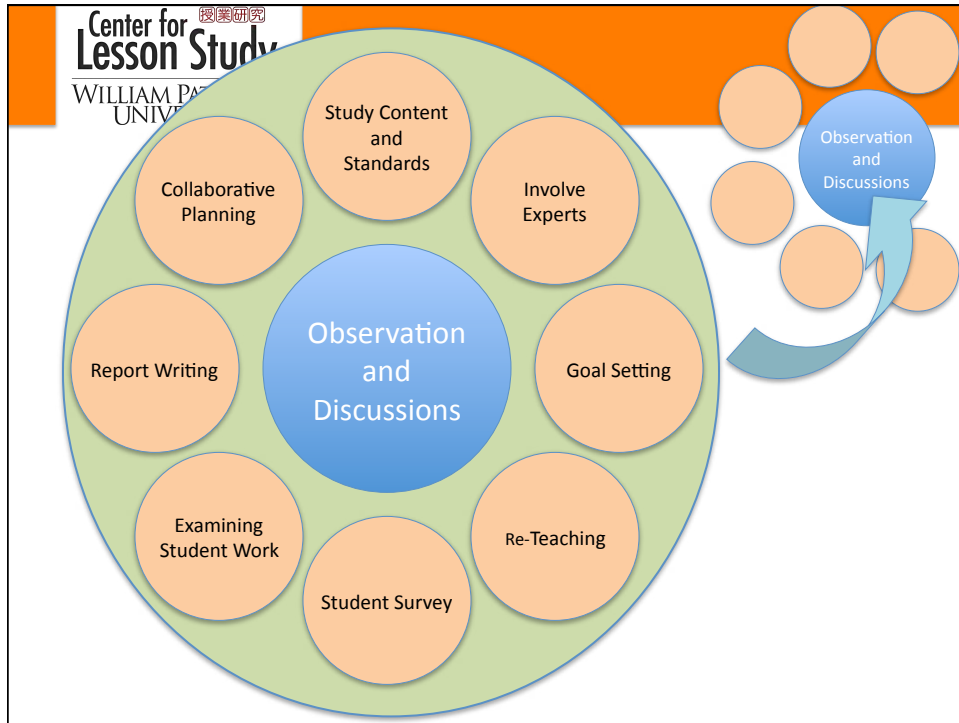
- Instead of following the lesson study process passively, think about how to make the overall learning experience in lesson study more meaningful
- Examine and improve the quality of learning in three essential elements of lesson study

Three Essential Elements of Lesson Study

- Research Lesson Planning
 - Well researched and planned lessons with clear goals, propositions, and hypotheses (research questions)
- Research Lesson Observation
 - Live observation of the lesson with various participants, data collection of student learning
- Post Research Lesson Discussion
 - Focused post-lesson discussion based on participants' observations
 - ✓ Analyzing student learning, design of the lesson, and the instruction
 - ✓ Coming up with ideas for revising the lesson

**High Quality
Lesson Study
for
Improving
Classroom
Teaching and
Student
Learning**





Kyozaikenkyu

- Studying:
 - Subject content and the scope and sequence (standards, textbooks, teacher's manuals, etc.)
 - Values of Math Activities
 - Instructional tools, manipulatives, & representations
 - Student learning (state of learning, process of thinking & understanding, misunderstanding)
- Establishing:
 - Clear understanding of the goals and outcomes
- Developing:
 - Instruction, instructional materials, learning activities, and manipulatives to help students achieve the goals

11 Triangles

Let's make a lot of triangles with 3 sticks.

(A) (B) (C) (D) (E) (F) (G)

Let's find different characteristics of various triangles.

Isosceles and Equilateral Triangles

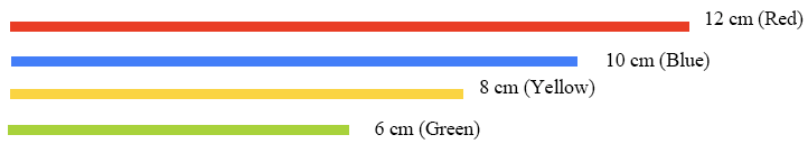
Group triangles A to G, according to the lengths of their sides.

Kyozaikenkyu on 4th Grade Lesson: "Isosceles, Equilateral Scalene Triangles"



Northern New Jersey Lesson Study Group

Let's make a lot of different triangles with straws!



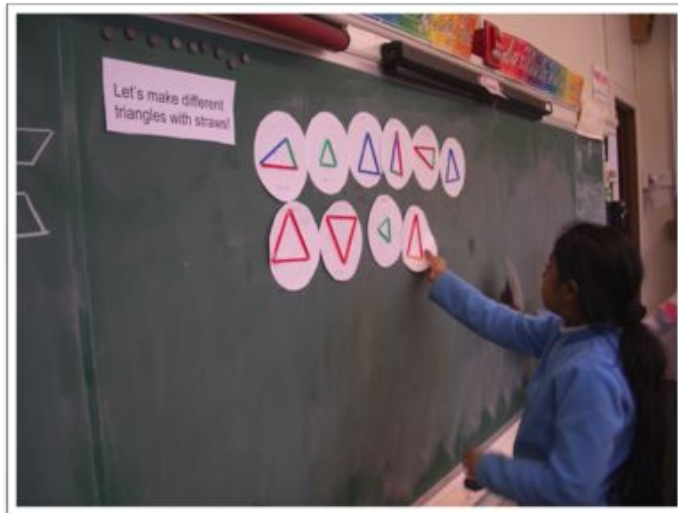
| All possible triangles: | | |
|-------------------------|----------|-------|
| (1) | 12-12-12 | R-R-R |
| (2) | 12-12-10 | R-R-B |
| (3) | 12-12-8 | R-R-Y |
| (4) | 12-12-6 | R-R-G |
| (5) | 12-10-10 | R-B-B |
| (6) | 12-10-8 | R-B-Y |
| (7) | 12-10-6 | R-B-G |
| (8) | 12-8-8 | R-Y-Y |
| (9) | 12-8-6 | R-Y-G |
| (10) | 10-10-10 | B-B-B |
| (11) | 10-10-8 | B-B-Y |
| (12) | 10-10-6 | B-B-G |
| (13) | 10-8-8 | B-Y-Y |
| (14) | 10-8-6 | B-Y-G |
| (15) | 10-6-6 | B-G-G |
| (16) | 8-8-8 | Y-Y-Y |
| (17) | 8-8-6 | Y-Y-G |
| (18) | 8-6-6 | Y-G-G |
| (19) | 6-6-6 | G-G-G |

| Equilateral triangles: | | |
|------------------------|----------|-------|
| (1) | 12-12-12 | R-R-R |
| (2) | 10-10-10 | B-B-B |
| (3) | 8-8-8 | Y-Y-Y |
| (4) | 6-6-6 | G-G-G |

| Isosceles triangles: | | |
|----------------------|----------|-------|
| (1) | 12-12-10 | R-R-B |
| (2) | 12-12-8 | R-R-Y |
| (3) | 12-12-6 | R-R-G |
| (4) | 12-10-10 | R-B-B |
| (5) | 12-8-8 | R-Y-Y |
| (6) | 10-10-8 | B-B-Y |
| (7) | 10-10-6 | B-B-G |
| (8) | 10-8-8 | B-Y-Y |
| (9) | 10-6-6 | B-G-G |
| (10) | 8-8-6 | Y-Y-G |
| (11) | 8-6-6 | Y-G-G |

| Impossible: | | |
|-------------|--------|-------|
| (1) | 12-6-6 | R-G-G |

| Scalene triangles: | | |
|--------------------|---------|-------|
| (1) | 12-10-8 | R-B-Y |
| (2) | 12-10-6 | R-B-G |
| (3) | 12-8-6 | R-Y-G |
| (4) | 10-8-6 | B-Y-G |

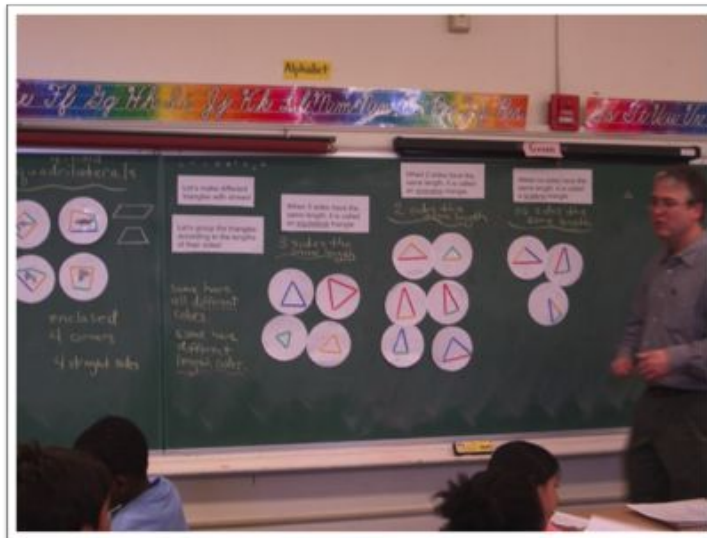




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What Do Japanese Teachers Say About *Kyozaikenkyu*?

“Teachers can provide the richness of learning experiences for students in the classroom only up to the level of their understanding of the instructional materials, so it is important for the teachers to carry out *kyozaikenkyu* every day through classroom practice.”

Enhancing *kyozaikenkyu* (1)

Conducting *kyozaikenkyu* with:

- the best available curricular materials that are grounded in strong content and pedagogical knowledge
- Conducting *kyozaikenkyu* with coherent and focused curriculum (e.g., curriculums that were studied in order to develop Common Core State Standards)

Enhancing *Kyozaikenkyu* (2)

- Accumulating experiences and knowledge through conducting lesson study
- Receive support from knowledgeable others
 - Knowledgeable others need to learn to participate in the lesson study community
- Increase the number of experienced lesson study practitioners who understand the importance of *kyozaikenkyu* in Lesson Study

Conducting *Kyozaikenkyu* in Lesson Study

- Lesson Study enhances the level of investigation:
 - Collaboration helps deepen understanding of the instructional materials
 - Teachers can influence each other to grow together by sharing and contrasting different points of view

CCSS and *Kyozaikenkyu* in Lesson Study

- Understanding the vision, intention, goals, etc. by studying both parts of CCSS:
 - Mathematical Practice
 - Mathematical Content
- Think about and discuss issues such as:
 - How mathematical ideas are developed over a course of years?
 - What do the students learn through studying mathematics?
 - Why do we teach mathematics to the students?

Research Lesson Planning

Through *kyozaikenkyu*,

- Develop unit plan
- Establish clear and focused learning goals and student outcomes
- Decide use of instructional tools
- Student anticipated responses and teachers support
- Methods and points of evaluation

Writing Research Lesson Plan

- Clarify rationale, argument, and proposed ideas of your lesson
- Write as if readers can develop a clear image of your lesson before observing lesson
 - Problems, worksheets, etc.
 - Anticipating student reactions, solutions, and misunderstandings
 - Board organization, student seating charts

Research Lesson Observation

- Read the lesson plan carefully
 - Understand the goals
 - Grasp the image of the lesson (flow, coherence, focus)
 - Think about what you want to observe carefully
- Observation
 - Observe the lesson from both teacher's and students' points of view
 - Observe student thinking, learning, misunderstandings

Research Lesson Observation

- Data collection (use lesson plan, seating charts, teacher/student protocol)
 - Teacher and Student interaction protocol
 - Flow of the lesson and allocation of time
 - Student thinking and learning during individual/small group problem solving (various different solutions, mistakes, misunderstandings)
 - Organization of blackboards, representations, etc.
 - Your own thinking, questions, insights during the lesson

Post Research Lesson Discussion

- Identify important topics to discuss
 - Research questions of lesson planning team
 - Observers' questions
- Conduct Focused discussion
- Discussion, not reporting
- Knowledgeable others
- Recording the discussion (accumulating knowledge and experiences)

Developing Supporting Structure and System for Effective Lesson Study

- **Supporters**
 - Knowledgeable others
 - Experienced lesson study practitioners
 - Administrators
- Conducting different types of lesson study for different purposes
- Lesson study conferences, workshops, and open houses

High Quality & Effective Lesson Study

- Well established learning community
 - high quality of learning is recognized and shared by all participants (teachers, educators, researchers, students, and parents)
 - desire for learning is nurtured
 - high standards of expectations for learning is established
- Well organized system and process
 - systematic and consistent approaches are developed
 - continuous support is established

Sustaining Lesson Study

When lesson study is done well, the learning itself is the most powerful support to sustain involvement and attract new participants. It will grow in the teachers and show in the students.

(Alice Gill, American Federation of Teachers, 2002 Lesson Study Conference, Stamford, CT)

教師は授業で勝負する

- A lesson is a proving ground for a teacher
- The effectiveness of a teacher is tested by their practice (or lessons)

So teachers need to conduct *kyozakikenkyu* and lesson study to enhance their effectiveness for improving student learning

一期一会

- Meeting once in one lifetime (only once in life time)
- Every moment is unique (or precious)
- Live every day as though it were the last

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