



Lesson study helps improve classroom lessons

The ultimate goal of lesson study is to improve classroom learning. This goal prompted Math in the Middle co-principal investigators Jim Lewis and Ruth Heaton to help the Math in the Middle teachers learn more about lesson study.

Susan Graupner, secondary math curriculum and assessment coordinator for Lincoln Public Schools, and Lindy Bonnett, a Math in the Middle participant and eighth-grade math teacher at Culler Middle School, attended a Japanese Lesson Study Conference in Chicago in 2005. Bonnett agreed to teach a model lesson as part of the summer 2005 Math in the Middle Institute. During the 2005-2006 school year, Graupner organized a lesson study with 11 LPS teachers in grades 5-8. A group of Math in the Middle teachers from Educational Service Unit 13 also conducted a lesson study in 2005.

This fall, another nine LPS teachers are following the lesson study process. Graupner, who recently earned a master's of arts degree from the department of Teaching, Learning and Teacher Education at the University of Nebraska–Lincoln, facilitates the study. The teaching and re-teaching of the lesson will take place December 11 and 12.

“Lesson study seemed to be a natural step in developing meaningful professional development because teachers are actively involved in the process of instructional change and improvement,” Graupner said.

“Although only a couple of lessons are developed each year, the process has a profound effect on teachers’ daily practices,” she said.

Lesson study is a form of ongoing, teacher-led professional development based on a Japanese approach that has recently become familiar in the United States. Teachers work collaboratively to plan and revise lessons; this leads to new understandings of teaching and learning closely tied to instruction in the classroom. The lesson study process is typically implemented through a cycle taking place during a school year.

“Lesson study can help teachers become reflective practitioners...The process can have a profound effect on teachers’ daily practices.”

“Lesson study is different from lesson planning because it focuses on what teachers want students to learn rather than on what teachers plan to teach,” Graupner said. “Lesson study can help teachers become reflective practitioners; it provides them with a systematic way to improve instruction.”

In lesson study, a group of teachers develops a lesson. One teaches the lesson while the others observe student learning. The group gathers to debrief the lesson and often revises and re-teaches the lesson to incorporate what has been learned.

“The lesson is very detailed; a crucial piece of the lesson includes anticipating student responses to various aspects of the lesson and preparing appropriate responses,” Graupner said.

Laura Parn, a fifth-grade teacher at Elliott Elementary School in Lincoln, taught a lesson for the study. “Lesson study has been an extremely positive professional experience for me. Looking at every component of a lesson with a group was extremely powerful,” Parn said.

“I was fortunate to be the teacher who actually taught the lesson my group prepared,” she said. “This provided me with the unique experience to not only prepare a lesson for my students with my colleagues, but to also explain every aspect of my math lesson to the other teachers and utilize their advice to refine my teaching and lesson components.”

Myrna Bornemeier, an eighth-grade math teacher at Lux Middle School in Lincoln, reiterated that lesson study is not just about discussing a particular lesson, but it gives teachers an opportunity to discuss instruction and its effect on students.

“With the LPS lesson study we actually got a chance to observe students, and I’m not talking about from the front of the room. As I sat next to the same student the entire class time, it was amazing to watch as he learned. I could observe the mistakes he made and the processing that occurred as he began to understand the concept.

“I also appreciated that I was able to observe other grade levels. This helps me know what my students know before they come to me,” Bornemeier said.

“Through lesson study I learned so many teaching strategies that I now use in my own classroom.”



Lesson study cycle

Goal-setting and planning

- Identify goals for student learning and long-term development.
- Collaboratively plan instruction designed to bring these goals to life; include a “research” or “study” lesson that will be observed.

Research or study lesson

- One planning team member teaches classroom lesson while other team members collect data on student thinking, learning, engagement, behavior, etc.

Lesson debriefing

- Share and analyze data collected at research or study lesson.
- What is the evidence that goals for student learning and development were fostered?
- What improvements to the lesson and to instruction more generally should be considered?

Consolidation of learning

- Refine and re-teach the lesson and study it again.
- Write report that includes the lesson plan, student data, and reflections about what was learned.
- Share the lesson with all.

Math in the Middle offers professional development courses

The Math in the Middle Institute curriculum consists of seven mathematics courses, one statistics class, three education courses and a capstone course, all focused on learning mathematics for teaching. By that, we mean the courses are focused on offering the mathematical and pedagogical education teachers need to become outstanding teachers of mathematics in the middle grades.

ESU 13 leaders wanted to make these learning opportunities available to a wider group of mathematics teachers. In the summers of 2005 and 2006, they arranged for UNL faculty to teach Math in the Middle courses on-site in Scottsbluff. In summer 2005, we offered Math 800T, Mathematics as a Second Language and in summer 2006, we offered Math 802T, Functions, Algebra and Geometry for Middle Level Teachers.

If you are interested in the possibility of bringing a Math in the Middle course to your community, contact Jim Lewis at jlewis@math.unl.edu or 402-472-7243.

Lesson study resources

Are you interested in conducting your own lesson study or learning more? Suggested resources are listed below.

Articles:

Chokshi, S. & Fernandez, C. (2004, March). Challenges to importing Japanese lesson study: Concerns, misconceptions, and nuances. *Phi Delta Kappan*, 85(7), 520525.

Lewis, C., Perry, R. & Hurd, J. (2004). A Deeper Look at Lesson Study. *Educational Leadership*, 61(5), 18-22.

Books:

Lewis, Catherine C. (2002). *Lesson Study: A Handbook for Teacher-Led Improvement of Instruction*. Philadelphia, PA: Research for Better Schools.

Wang-Iverson, P. & Yoshida, M. (2005). *Building Our Understanding of Lesson Study*. Philadelphia, PA: Research for Better Schools.

Video/Facilitators Guides:

Mills College Lesson Study Group. (2005). *How many seats?* [Video:30 min.] Oakland, CA: Mills College Lesson Study Group.

NATM announces spring conference

Designed for pre-service teachers and new teachers, the NATM spring conference will be held from 8:30 a.m. to 12:30 p.m., Saturday, Feb. 24, 2007, at Lincoln Southwest High School.

The conference will feature teachers from Math in the Middle. Some of the topics will include: writing in the mathematics classroom - a form of communication and reflection; how to better prepare for assessment and create a more technologically advanced classroom; using math vocabulary building to increase problem solving abilities in a fifth-grade classroom; geometric constructions with Cabri-Jr. and the TI-83 calculator; setting up a community of learning through habits of mind; and mathematical games that promote critical thinking.

The cost is \$5. Rolls and juice will be served. Look for more information on the NATM Web site:

<http://www.nde.state.ne.us/NMSI/natm/>.