LESSON STUDY IN THE U.S.: A DECADE OF LESSON STUDY ENDEAVOURS

Akihiko Takahashi

DePaul University

Since no professional development practice similar to lesson study has existed in North America before, it has been challenging to implement lesson study for more than a decade. Lesson study has, however, become highly visible in many state, national, and international conferences, open houses, high-profile policy reports, and special journal issues in North America. Moreover, numerous schools and school districts in the United States have attempted to use it to change their practices and to impact student learning. This paper is intended to look back at the first ten years of endeavours in implementing lesson study in schools and school districts in the U.S.

Lesson Study in North America

For more than a decade, many U.S. educators and researchers have been interested in lesson study as a promising source of ideas for improving education (Stigler & Hiebert, 1999). A number of school districts in North America have attempted to use it to change their practices and to impact student learning (Council for Basic Education, 2000; Germain-McCarthy, 2001; Catherine Lewis, Perry, Hurd, & O'Connell, 2006; Research for Better Schools Currents Newsletter, 2000; Stepanek, 2001; Weeks, 2001). In 2003, at least 29 states, 140 lesson study clusters/groups, 245 schools, 80 school districts, and 1100 teachers across the United States were involved in lesson study. (Lesson Study Research Group). Although these are the only numbers that we have regarding how widely lesson study has been implemented, more and more teachers and educators have become more familiar with lesson study and have participated in lesson study after this data was collected. In fact, many federal and state grant programs that focus on teacher development include some aspects of lesson study in their plan. The following are some of the examples of lesson study programs that many U.S. schools and teachers are currently involved with:

- Content-Focused Professional Development with Lesson Study[1]
  The proposed project is a three-year effort between DePaul University's School of Education and Mathematical Sciences Faculty to help high school teachers in Chicago improve mathematics instruction and boost student achievement. The project involves sustained, intensive collaboration with teachers from two Chicago public high schools, that include activities designed to reach other teachers as well, and to impact district policy. The project addresses both teacher knowledge—of math curriculum, content and pedagogy—and teacher expertise—their ability to use their knowledge to create and teach effective lessons. Teacher knowledge is addressed through workshops during the summer and school year; teacher expertise is addressed through lesson study, a process through which teachers design, test, and reflect on lessons together, and

[1] http://www.ibhe.state.il.us/Board/agendas/2010/April/Item2d.pdf

thereby help each other learn new approaches to teaching and new insights into student learning.

- Every Student Succeeds (ESS): Improving Student Reading Through Research-Based Vocabulary and Comprehension Instruction[2]
  A research-based model of professional development grounded in work on meta-cognition (i.e., declarative, conditional, and procedural knowledge), and incorporates core features of effective professional development: content focus, collective participation, active learning, duration, and coherence. Specific features of the model are sustained year-round in teacher development on comprehension and vocabulary instruction through (a) an intensive summer institute; (b) group lesson study sessions focusing on analysing teacher implementation of featured instructional strategies and reviewing student data; (c) three regiments of Gradual Release Coaching for each new participating teacher; and (d) continuous online teacher support groups through *Desire 2 Learn* at the University of Oklahoma.
- The Coconino County Education Service Agency supports professional development in math and science for county teachers[3]
  Participating in an ongoing lesson study and Math Science Partnership projects in collaboration with NAU, and offering professional development in math and science standards, curriculum alignment and mapping, and researched-based instructional strategies for 2007-2008. Hollace Bristol is the Math/Science Project Coordinator.
- Lesson Study and the Teaching of American History: Connecting Professional Development and Classroom Practice[4]
  In the library of an Oakland, CA middle school, four eighth grade American history teachers gather around a table. A doctoral student in U.S. History, the school librarian, and two staff members from the Oakland Unified Teaching American History (TAH) Grant's professional development project join them. The teachers have come from three different schools to observe a lesson on the Fourth Amendment they have planned together.
- Lesson study: Professional development for empowering teachers and improving classroom practice[5]
  This study used a multiple case study approach to investigate to what extent and how Japanese lesson study conducted in one elementary school enabled teachers to direct their own professional growth in the areas that they identified as in need of improvement.

As you can see in the above quotes, the lesson study programs in the U.S. have been involving not only various grade levels in mathematics that include kindergartens to high schools but also other subject areas such as English Language Arts and American History. Since this is only the

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[2] http://www.okhighered.org/itq/2010-nclb-grant-overview.pdf
[3] http://www.coconino.az.gov/schools.aspx?id=544
[4] http://teachinghistory.org/tah-grants/lessons-learned/19226
[5] http://gradworks.umi.com/33/21/3321528.html

tip of the iceberg, I believe that lesson study can be implemented in many different subject areas and many different schools and districts throughout the United States and Canada.

This rapid growth of lesson study in North America has been lead by several key researchers, practitioners, and organizations that support teacher professional development. At the beginning of lesson study endeavours in the late 1990's, a research project conducted by Catherine Lewis (C. Lewis, 2000; C. Lewis & Tsuchida, 1998) and Makoto Yoshida (Yoshida, 1999a, 1999b) drew interest among several schools and practitioners. Working with , a classroom teacher and a math coach at the San Mateo School District in California, Catherine Lewis supports the teachers in San Francisco Bay Area in practicing lesson study. This project was supported by The Noyce Foundation through The Silicon Valley Mathematics Initiative[6] and by several federal grants led by Catherine Lewis. For establishing lesson study in California's Bay Area, Lewis invited several Japanese researchers of mathematics education and Japanese lesson study practitioners in order to learn the mechanisms of lesson study in order to implement lesson study in U.S. schools. At the same time on the East Coast, Makoto Yoshida and Clea Fernandez support the teachers at Paterson School Number 2 in New Jersey to start lesson study. This NSF funded project enabled the teachers at Paterson School Number 2 to work with teachers at the Greenwich Japanese School in Connecticut to learn how to plan, observe, and reflect on teaching through lesson study during the years 2000 and 2002. Even after the funding ended, teachers at both schools continued their collaboration and conducted lesson study open houses in their schools with the support of Makoto Yoshida at the Global Education Resources and Patsy Wang Iverson at Research for Better Schools.

In addition to these two major lesson-study projects, several lesson-study initiatives were conducted by professional organizations. On the west coast, the Northwest Regional Educational Laboratory supported local public schools to explore lesson study, and Sonoma County Office of Education initiated lesson study among their schools. On the east cost, Research for Better Schools supported schools that include the Paterson School Number 2 to support the implementation of lesson study. National organizations such as The National Council of Teachers of Mathematics (NCTM) and The American Federation of Teachers (AFT) also supported lesson study. NCTM offered online workshops for teachers to learn about lesson study. AFT offered nationwide support for schools and teachers to learn and try lesson study as professional development. These schools include those in Rochester, New York and Volusia County, Florida.

Looking at the successes of the pioneers' work above, many researchers and practitioners applied to state and federal professional development grants to try implementing lesson study to support their teachers in developing knowledge and skills to improve teaching and learning. As a result, many universities and school districts receive a large amount of grant money to initiate lesson study in schools throughout the U.S. These lesson study initiatives include the program led by Fresno Unify School District, California, New Mexico State University, New Mexico, Albuquerque Public Schools, New Mexico, Little Rock Public Schools, Arkansas, Loras College, Iowa, Eastern Michigan University Michigan, and Lancaster School District, in

[6] http://www.noycefdn.org/svmi.php

Pennsylvania. Since most early research on lesson study examines lesson study in mathematics, many state and federal funded projects focus on improving mathematics teaching and learning. There have only been a few lesson study initiatives in other subjects, such as social studies and language arts in the United States.

Chicago Lesson Study Group

Unlike other grant funded projects, the Chicago Lesson Study Group originated as a volunteer teacher group for exploring the possibilities to replicate the success of Japanese lesson study in a U.S. setting. The Chicago Lesson Study Group was launched in November of 2002.

One of many lesson study groups in North America, the Chicago Lesson Study Group has become well known among lesson study researchers and practitioners as one of the few groups that conduct public research lessons. The first public research lesson was conducted by the Chicago Lesson Study Group in May of 2003. This was the beginning of the Annual Chicago Lesson Study Conference. The Chicago Lesson Study Group has conducted this conference every year. A unique feature of the conference is that the participants can observe a live research lesson, in addition to presentations given by leading researchers and practitioners involved in lesson study. In each conference, teachers and educators from not only the Chicago area, but also from other states have been invited to discuss how to implement student-centred classrooms in mathematics. Around one hundred participants from various U.S. states and around Canada have attended the conferences each year and have discussed how to help students develop algebraic thinking skills through problem solving.

Although the most popular form of lesson study in Japan takes place within a single school as a school-based professional development program (Yoshida, 1999), the Chicago Lesson Study Group adopted a cross-school volunteer model for its lesson study group at the beginning. The reasons for this adaptation are twofold. First, an effective model of lesson study is often one that is started as a grassroots movement of enthusiastic teachers rather than as a top-down formation (Lewis 2002; Takahashi & Yoshida, 2004; Yoshida, 1999). For this reason, starting a lesson study group as a cross-school volunteer group was thought to be appropriate. Furthermore, it is sometimes difficult to establish a school-based lesson-study group in the U.S. because many teachers do not have experience working with other teachers in the same school as a group to accomplish a shared goal. Secondly, in order to have a sufficient number of enthusiastic elementary and middle school teachers who are interested in lesson study focusing on mathematics, a cross-school model was found to be more appropriate in the U.S. setting.

After several years, the teachers and the educators who have been a part of the Chicago Lesson Study Group started establishing their own lesson study teams. Now various schools and teachers are conducting lesson study at their schools. The Chicago area schools that have been practicing lesson study since 2002 include:

- Adlai Stevenson High School,
- Albany Park Multicultural Academy,
- Alcott High School,

- Chavez Elementary Multicultural Academy,
- Chicago Vocational Career Academy,
- Evanston Township High School,
- Kenwood Academy High School,
- National Teachers Academy Professional Development School,
- Newberry Math and Science Academy,
- Notre Dame High School for Girls,
- Oscar Mayer School,
- Sabin Magnet Spanish Language School,
- St. Josaphat School,
- Theodore Roosevelt High School,
- Thurgood Marshall Middle School,
- Walter Payton College Prep,
- Williams Multiplex Elementary School, and
- York High School.

Challenges

Nearly a decade of tireless efforts made by leading researchers and practitioners and many schools and teachers have experienced lesson study have passed. Among these lesson-study projects, we have been able to see some of the vital impacts that lesson study has had on student learning (Catherine Lewis, Perry, & Hurd, 2009; Catherine Lewis, et al., 2006; Perry & Lewis, 2010).

At the same time, there remains a challenge for many lesson study projects. Since many U.S. schools do not have much time for professional development on regular school days, it is difficult to include lesson study in a formal school schedule. Lesson study is often considered to be an additional activity for teachers who chose to participate. Thus, it is hard for many teachers to continue lesson study after the extra funding ends.

From these successes and challenges, some school districts and national organizations have decided to seek the possibility for establishing a school system that includes time for teachers to engage themselves in lesson study during regular school days. If participating school districts can bring strong evidence of improvement, lesson study will become a core activity for professional development in U.S. schools.

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