LESSON STUDY

A Japanese Approach to Improving Mathematics Teaching and Learning

Clea Fernandez • Makoto Yoshida

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Foreword

James W.Stigler

I will never forget the first time I bought a cookie in a Japanese department store. I looked through the glass bakery case and pointed to the cookie I wanted, much as I might have done in a bakery back home. But that's where similarity to home ended and Japanese culture started to take over. The clerk took my cookie and wrapped it carefully in tissue paper. She gently placed it in a gold paper box, sized perfectly to fit my single cookie. She then took a piece of ribbon and carefully tied it around the box. This elegant package was then placed in a beautiful bag with a handle on top. For Americans, the point is to eat the cookie, not convert it into an artistic masterpiece. We tend to think such details don't matter, but they do. As I later unwrapped my cookie, I enjoyed it in a way I had never enjoyed a cookie before.

It turns out "cookie wrapping" is not an isolated practice, but just another example of the way the Japanese approach many things, including teaching and learning. On that first trip to Japan in 1979, besides eating cookies and riding on trains that departed and arrived exactly on time, I visited an elementary school and observed a Japanese mathematics class for the first time. Impressed by the teaching method, and more so by the teacher, I wondered about the exquisite preparation it must take for someone to learn to teach with such precision and artistry. It was later, after many trips to Japan and many visits to Japanese schools, that I became aware of "lesson study" and the role it might play in the development of teaching in Japan. Just as Japanese cookies are converted into artistic masterpieces, so too are Japanese lessons meticulously planned and teaching improved.

The concept of lesson study seems simple and obvious: If you want to improve education, get teachers together to study the processes of teaching and learning in classrooms, and then devise ways to improve them. Re-markably, lesson study is not only a means of improving the skills and knowledge of teachers, but also a way to improve the knowledge base of the teaching profession. Japanese teachers are not only meeting in groups to improve teaching and learning, but writing books for other teachers in order to share what they have learned. Simple, obvious, and elegant, yet not at all like what teachers do in the United States.

It was Makoto Yoshida, who came to study with me at the University of Chicago, who first told me about lesson study, and who had the wisdom to keep talking about it. It soon became clear that this "lesson study" business warranted further investigation. When Makoto went back to Japan to study the innermost workings of lesson study groups at Tsuta Elementary School in Hiroshima, another of my graduate students (Clea Fernandez) and I started a lesson study group in Los Angeles, and began to explore how it might look in the United States.

Clea and Makoto have gone on to make major contributions to our understanding of lesson study, and this book clearly is one of the most important of these. Clea and Makoto tell the story of lesson study at Tsuta Elementary School in a way that is accurate

and true to this Japanese practice, yet accessible and comprehensible to U.S. audiences. I can't think of two people better qualified to tell this story.

Their book is published at a time when, coincidentally, there is great interest in the United States in learning about lesson study In fact, lesson study is in danger of becoming the latest fad in U.S. education circles, which could well spell its quick demise if we are not careful. Indeed, the history of education in the United States is filled with examples of fads that come and go quickly, never given a chance to really be evaluated or improved or integrated into the lasting fabric of the education landscape. Often, Americans adopt the superficial aspects of some educational idea and miss completely the substance that underlies the idea. A superficial implementation of lesson study is not likely to have any positive impact on the learning of teachers and students, and given our impatient political climate, a lack of immediate results may well lead to lesson study being declared a failure before it is even understood in any deep sense.

What we need to realize is that the devil (and God too) is in the details, which is what makes this book so important for the American audience. This is something the Japanese appear to understand, whether serving cookies or improving teaching. This book is a celebration and exposition of the details of lesson study in Japan. Many Americans who have heard that, in lesson study, teachers meet in groups to collaborate have rushed off to "do" lesson study without ever finding out what, exactly, these groups of Japanese teachers talk about in their meetings. This book presents the details of Japanese lesson study, and these details can take your breath away We know, for example, that Japanese lesson study groups can spend hours and hours planning a single lesson. But what does it mean to "plan" a lesson? What do they talk about for all those hours? Is it anything like what American teachers talk about?

These details will prove to be critical if we want to learn from lesson study, and if we hope to implement lesson study productively in the United States. Some will think the details do not matter, especially given the vast cultural differences between Japan and the United States. But this confuses the issue. True, we cannot implement lesson study in the United States the same way it is implemented in Japan. But we also cannot implement lesson study unless we understand it in a deep sense. Details are important not because we must copy exactly what the Japanese do, but because we must understand its substance. This understanding will elude us unless we come to terms with the details.

Those of us interested in lesson study, and in improving teaching and learning in U.S. schools, should be grateful for the care and clarity with which Clea and Makoto have presented the substance of Japanese lesson study There is much to be learned in these pages. Take your time, and enjoy unwrapping this fascinating glimpse into the profession of teaching in Japan.

Acknowledgments

We wish to express our sincerest gratitude to Jim Stigler who helped plant the seed for the initial idea for this project and played a major role in bringing it to fruition. We are also deeply indebted to Alan Schoenfeld for his very able assistance and incisive comments in every step of the writing process. Alan not only helped us substantially improve our manuscript but we both learned a great deal from working closely with him.

Many thanks are also due to the teachers at Tsuta and Ajinadai Nishi Elementary Schools. They not only graciously let Makoto into their inner circle to observe *Lesson Study* practice first-hand, but they welcomed him whole-heartedly. These teachers also spent many tireless hours answering his queries and sharing their stories about lesson study. We thank them for their time, wisdom, and friendship. Without their help, this study never would have been possible.

An invaluable informant and one that Makoto remembers with great fondness is Ms. Reiko Furumoto, who at the time of data collection was the vice-principal at Tsuta Elementary School. She was a caring individual who devoted all her energy and knowledge to helping teachers grow professionally and who cared deeply about students. Unfortunately, Ms. Furumoto passed away this past year when she was still on duty as a principal at Asahara Elementary School. We are greatly saddened that Ms. Furumoto can not celebrate our achievement of publishing this book with us. However, we find comfort in the thought that her commitment to improving education and the professional lives of teachers will be passed on through this book to lesson study practitioners in the United States. We dedicate this book to Ms. Furumoto.

Makoto also thanks his parents for their patience and support since the onset of this project. They have his deepest gratitude for all their sacrifices, hard work, and worry. Without their unwavering belief in his potential, he never would have been able to achieve this milestone. Unfortunately, Makoto's father passed away while this book was still in its final stages of editing. Makoto regrets very much that he wasn't able to show his father a final published copy of this book. He also thanks his wife Miriam, for her endless support. Of all the people mentioned, she is truly the one that made it possible for him to see this project to fruition. Last but not least, he thanks his daughters Maia and Nina. Their precious smiles and laughs have been his encouragement during the long journey of writing this book.

Clea thanks all the residents of 37th street, old and young, who enrich her life and who enthusiastically live with all her "projects."

1
Introduction

WHY STUDY LESSON STUDY?

During an early afternoon in September 2000 we observed eight Japanese teachers as they sat around a table in their school's staff room planning together a lesson, which was to be the initial lesson in a 12-lesson unit entitled "proportions." In this lesson students would be exploring the idea that variables can covary and would come to see the distinction between linear and nonlinear relationships. Here is a brief excerpt from the 2-hour discussion that these teachers had on that day:

T1: We want students to come up with examples from their daily lives. The issue is, how should we phrase the question so that students can generate varied examples? Mr. Hirano, how did you teach this lesson last year?

T3: I used pictures… for example I showed a picture of a car on a highway. First the students came up with the notion of time and distance. But when I gave them more time, more diverse ideas came up, such as energy consumption and distance.

T1 So the point was to use a picture to imagine a change in quantity. Okay, any other ideas? First let's just come up with different approaches, let's just exchange ideas.

T4: …Students have made potato chips at school. The color of each chip is different so we could ask why the colors of these chips are different. The answers could vary form time in the oil, the temperature of the oil, etc. We could discuss how as one of these things changes, the color changes.

T1: So how would you phrase the question: *There are many potato chips, but why are the colors different?*

T6: … I think it is important to show the real thing, not the picture. It could be putting a bucket under the tap, so that they can see the change in the volume of water.

T8: But if we bring in objects, students will want to do the experiment themselves. So if we bring objects, I think we should allow students to manipulate them. I would stick to showing the pictures like Mr. Hirano suggested. The point is simply to come up with various examples.

T1: I find Ms. Sato's idea of potato chips very interesting … However, strictly speaking, burned-ness as represented by color can be quantified, but it is hard. Similarly, we should avoid examples like *the more homework I have, the worse I feel.*

T4: We also have to be careful that students don't come up with linear relationships only.

On that same afternoon we could have observed many other groups of teachers in Japan having similar conversations about how to plan instruction. These conversations would have taken place in the context of an activity called *lesson study,* which Japanese teachers engage in to improve the quality of their teaching and enrich students' learning experiences. Through lesson study not only do teachers plan lessons together, but they also go on to observe these lessons unfold in actual classrooms and to discuss their observations.

Only a few years ago, lesson study was almost unknown in the United States. This is no longer the case, in great part due to the success of a book entitled *The Teaching Gap: Best Ideas from the World's Teachers for Improving Education in the Classroom* (Stigler & Hiebert, 1999). There, authors James Stigler and James Hiebert describe the essence of lesson study and call for lesson study practice in American schools. Stigler and Hiebert set out "to convince the reader that something like lesson study deserves to be tested seriously in the United States." Judging from the response to the book, the case has been made.[1]

The recognition that U.S. teachers are likely to benefit from an activity that provides them opportunities to work together on their practice and in particular to watch each other teach is not surprising. The question now is how to move forward. We know that Japanese teachers value lesson study highly as a form of professional development—so highly that many of them can not imagine doing without it (Inagaki, Terasaki, & Matsudaira, 1988). Moreover, researchers have identified lesson study as being critical to supporting educational change and innovation in Japan (Lewis & Tsuchida, 1997).

However, little has been written about how Japanese lesson study groups function and how they organize their work. For example, how did the group referred to earlier select the lesson it was working on and what guided that decision? Even less is known about the details of what teachers do and discuss as they carry out lesson study. How typical was the conversation reproduced here? What else would a group like this tend to discuss? How is lesson study embedded in teachers' professional lives? What are the structural and contextual elements that support and sustain lesson study practice in Japan? What is it that makes Japanese teachers consider this activity so valuable to them?[2]

This volume sets out to answer these questions by providing a detailed account of the lesson study work conducted by a group of teachers at Tsuta Elementary School, a public school, in Hiroshima, Japan. We describe how the teachers at this school launched, organized, and structured their work, as well as what they discussed, thought about, and struggled with as they jointly worked on lesson study. We also describe how they

[1] For a historical account on the growing interest in lesson study in the United States, see Chokshi (2002).

[2] Some of the work written to date in English about lesson study includes: Fernandez, 2002; Fernandez, Cannon, & Chokshi, 2003; Lewis, 2002; Lewis & Tsuchida, 1998; Stigler & Hiebert, 1998; Research for Better Schools, 2002; Yoshida, 1999. Lesson Study Research Group's website at Teachers College, Columbia University (http://www.te.edu/lessonstudy/) is a good place to find many recent publications related to lesson study. The website also has links to many other lesson study websites such as: Global Education Resources (GER) (http://www.globaledresources.com/), Lesson Study Group at Mills College (http://www.lessonresearch.net/), and Research for Better Schools (http://www.rbs.org/).

interfaced with the surrounding educational environment in which they conducted this work, and how they interpreted and thought about their lesson study practice.

Our purpose in writing this book is to offer American educators a rich and grounded understanding of lesson study from which to evaluate what this practice can offer them and from which to shape their own lesson study practice. We hope that this book will also offer insights about the broader issue of what it takes for teachers to learn in and from their practice. Gaining such insights is important given current efforts aimed at encouraging teachers to use their teaching as a site for their own professional learning (Cochran-Smith & Lytle, 1999; Feiman-Nemser, 2001; Lampert & Ball, 1998; Mathematical Science Education Board, 2002; Putnam & Borko, 2000; Schifter, 1998; Seago & Mumme, 2002; Seidel, 1998). It is also our hope that the lesson study work that we describe in this book will vividly illustrate the complexities involved in teaching mathematics—even in the early grades. Indeed, our readers will learn about the numerous and difficult dilemmas faced by a group of teachers as they worked together on a first-grade subtraction lesson. We hope that hearing about the struggles of these teachers can serve as a reminder of the respect and support that we owe all of those who tackle the task of teaching our children. Finally, we would like this book to add to the growing number of examples that illustrate how educators in the United States, can find rich ideas in the educational practices of their counterparts abroad. Improving the quality of our schools is too important a prerogative for us to turn our backs, as we have often tended to do, on what education in other countries can teach us, particularly in this age of globalization (Chokshi, 2002).

BOOK OVERVIEW

The Organization of This Book

This book is organized into 15 chapters. In chapter 2 we provide a general description of lesson study practice in Japan. We discuss the basic steps involved in lesson study. We describe how lesson study tends to be organized, structured, and supported in most schools. We give a brief history of the development of this practice and how it came to be so widespread in Japanese elementary schools. In chapter 3 we give background information about Tsuta Elementary School, the setting for the lesson study activities that we describe in this book. We also provide a history of lesson study in the region in which this school is located and we describe the lesson study work Tsuta teachers had been engaged in for several years prior to the activities described in this book. In the next 10 chapters we describe in detail the conversations and activities that the first- and second-grade teachers at Tsuta carried out as they jointly planned, observed, revised, and retaught a first-grade lesson on subtraction with regrouping. We also describe how other teachers at the school supported and took part in key aspects of this work. We explain how the lesson study activities of these first- and second-grade teachers were related to other lesson study work carried out at the school. In particular, we devote an entire chapter to describing a lesson study open house that involved all the teachers at Tsuta. We recount how the teachers got ready for this event, what happened during this open house, and how this work was related to other lesson study work carried out at the school.

In the two concluding chapters of this book we describe the mechanisms that schools like Tsuta employ to make the most out of their lesson study experiences, and we discuss what teachers actually gain from these experiences and how.

A Note on Data Sources

This book is based on observations that Makoto Yoshida carried out between October 1993 and March 1994 at Tsuta Elementary School, Hiroshima, Japan, as a part of his doctoral dissertation (Yoshida, 1999a; Yoshida, 1999b). Yoshida sat in on all the lesson study meetings and activities that the first- and second-grade teachers at this school took part in. This yielded 94 hours of observations for us to draw on, 32 of which were videotaped and the rest of which were recorded via detailed field notes.

In addition, throughout this book we refer to interviews that Yoshida regularly conducted with Tsuta teachers and administrators. The more formal of these interviews were audio taped, and in the case of more informal exchanges careful notes were taken. These interviews were carried out in order to answer questions and clarify issues that came up during the observations made at this school. For example, questions were asked about past meetings that were not observed and about the organization of lesson study at the school. Inquiries were made about the meaning of certain technical words used in the meetings or classrooms. Finally teachers were asked to discuss their reactions to certain events observed and their feelings about participating in lesson study.

In order to supplement and put in context our description of lesson study at Tsuta, we plan to draw on two other data sources collected as part of this research effort. First, throughout the book, we quote from 10 background interviews conducted with administrators from schools other than Tsuta, education officials, and a number of Japanese researchers. Second, we will also present results from two separate surveys. The first was a school survey designed for either a principal or vice-principal to complete. In this survey administrators were asked to describe what they saw as the purpose and motivation for supporting lesson study in their buildings. They were also queried about the scope and organization of lesson study in their schools as well as the support and financial assistance made available to them for doing lesson study. Administrators were also asked if they would grant permission for their teachers to receive a separate survey. This teacher survey asked teachers about the frequency and intensity with which they typically engaged in lesson study, why they did this, how they felt about doing it, and whether they encountered any difficulties in organizing and conducting lesson study with their colleagues. The school survey was mailed to all 40 public elementary schools in the western region of Hiroshima, where Tsuta is located. A total of 35 of the 40 administrators who received this survey completed it, and 22 of them granted permission for their teachers to be surveyed. Out of the 232 teacher surveys that were mailed, 129 were returned.

The year these data were collected there were 3 elementary schools out of the 40 schools within the western region of Hiroshima that were doing lesson study in the area of mathematics. Fortunately, two of these three schools, Tsuta and Ajinadai Elementary School, agreed to participate in the study. The third school declined due to opposition from the teachers, who did not feel comfortable having an outsider scrutinizing their work. Of the two schools that gave their consent, only Tsuta was planning to hold a

lesson study open house that year, an aspect of lesson study that schools only engage in from time to time. Tsuta was therefore chosen as the main research site in order to be able to study the role that open houses play in the lesson study process. Nevertheless, 17 hours of observations of lesson study work were also carried out at Ajinadai. These observations have also informed the description of lesson study that we provide in this book.

Although, as we discuss later, Tsuta is in most respects a typical Japanese public elementary school, we are well aware that no school can represent a nation accurately. What we describe in this book is therefore not meant to represent modal lesson study practice, assuming there could be such a thing. Rather we offer a description of the lesson study work conducted at Tsuta in order to paint a portrait of what lesson study can be like. It is our hope that this portrait can enrich discussions about how the ideas of lesson study can be profitably used to enhance the education of students in the United States.

2
An Overview of Lesson Study

Lesson study is a direct translation for the Japanese term *jugyokenkyu,* which is composed of two words: *jugyo,* which means lesson, and *kenkyu,* which means study or research. As denoted by this term, lesson study consists of the study or examination of teaching practice. How do Japanese teachers examine their teaching through lesson study? They engage in a well-defined process that involves discussing lessons that they have first planned and observed together. These lessons are called *kenkyujugyo,* which is simply a reversal of the *term jugyokenkyu* and thus literally means study or research lessons, or more specifically lessons that are the object of one's study. Study lessons are "studied" by carrying out the steps described next in an attempt to explore a research goal that the teachers have chosen to work on (e.g., understanding how to encourage students to be autonomous learners).

THE LESSON STUDY PROCESS

Step 1: Collaboratively Planning the Study Lesson

Work on a study lesson begins by teachers coming together to plan the lesson. This planning is of a meticulous and collaborative nature. Teachers share their ideas for how best to design the lesson by drawing on their past experiences, observations of their current students, their teacher's guide, their textbooks, and other resource books. The end product of this first step is a lesson plan that describes in detail the design that the group has settled on for their lesson.

Step 2: Seeing the Study Lesson in Action

The next step is for one of the teachers in the group to teach the lesson to his or her students. This implementation is of a public nature because it involves the other teachers as observers. These observers come to the lesson with the lesson plan in hand, which they use as a tool to guide what they look for in the lesson.[1]

[1] Teachers surveyed reported that during the 1993–1994 school year they observed on average six study lessons at their school and four study lessons at other schools. Teachers also reported being observed by other teachers at their school at least once or twice. Moreover, about half of the teachers reported having had the opportunity to be observed by teachers from outside their school.

Step 3: Discussing the Study Lesson

The group next comes together to reflect on the lesson now that they have seen it unfold in a real classroom. The teachers share what they observed as they watched the lesson and provide their reactions and suggestions.

Step 4: Revising the Lesson (Optional)

Some groups will stop their work on a study lesson after they have discussed their observations of it, but others will choose to go on to revise and reteach the lesson so that they can continue to learn from it. This revision process leads to the creation of an updated version of the lesson plan that reflects all the changes that the teachers have decide to make to the design of their lesson.

Step 5: Teaching the New Version of the Lesson (Optional)

A second member of the group will next publicly teach the new version of the study lesson to his or her students, while colleagues again come to observe. Sometimes if teachers cannot attend both lessons, they will choose to observe the second implementation, which generally represents the culmination of the group's work for a particular study lesson.

It is very rare to see the same teacher teach the lesson twice to the same class, or even to a different class. One reason for this tendency is that varying the teacher and the students provides the group a broader base of experiences to learn from. It also gives as many teachers as possible a chance to teach in front of others.

It is also rare for a group to choose to revise and reteach the lesson a third time because there is only so much a group can learn from examining a particular lesson. It is generally considered more productive to move on to working on an entirely new lesson than to keep revising the same lesson over and over again with diminishing returns. Also it becomes logistically difficult to keep working on the same lesson as time goes by and children are progressing through the curriculum.

Step 6: Sharing Reflections About the New Version of the Lesson

The teachers will next come together to discuss their reactions to what they saw transpire when the second version of the study lesson was taught. This conversation again centers on teachers sharing their observations, comments, and suggestions.

It is common during all the lesson study meetings, and in particular when teachers share reflections about a study lesson they have observed/ for a group member to be assigned to take detailed minutes. This way the group can have available for future reference a good record of all the ideas that were generated during their work together. As we shall discuss later, such a record is very useful when the teachers later turn to writing a report of their work.

VENUES FOR CONDUCTING LESSON STUDY

Teachers conduct lesson study in many different venues. For example, teachers participating in government or local board of education supported designated school research programs often engage in lesson study as part of their research and professional development. Preservice teachers are also very often involved in lesson study during student teaching. They will prepare a study lesson in collaboration with their university-based mentors and the teacher that they have been assigned to work with in their school site. They will then teach the lesson in this school, and all the teachers in the building, the university mentors, and other student teachers will come observe. Similarly, first-year teachers are generally assigned a mentor with whom they often choose to do a lesson study. The teacher and the mentor will collaboratively plan a study lesson, which the first-year teacher will teach and to which all teachers in the building are invited. As we discuss in detail in a later chapter, groups of teachers from across schools also come together to carry out lesson study either in regional study groups that are systematically organized by the teachers of the district or clubs that are organized voluntarily by teachers with a particular interest.

Perhaps the most popular venue for doing lesson study is within a single school as part of an activity called *konaikenshu.* The term *konaikenshu* is also made up of two Japanese words. The first, *konai,* means "in school" and the second, *kenshu,* means "training." Thus, the term *konaikenshu,* which in essence refers to a form of school-based in-service has been translated as "in-service education within the school" (Nakatome, 1984), "in-house workshops" (Shimahara, 1991), and "in-house study workshops" (Sato, 1992). However, we have chosen to use the Japanese word *konaikenshu* in order to emphasize the uniqueness of this type of training. In our minds, what makes *konaikenshu* unique is that it is a form of in-service professional development that brings together the entire teaching staff of a school to work in a sustained and focused manner on a schoolwide goal that all teachers have agreed is of critical importance to them.

Typically, in order to select a *konaikenshu* goal, teachers will gather to think about the mission statement of their school (see Box 2.1) and what it implies about the qualities that they should aim to foster in students. They will then take stock of their actual accomplishments with students and will try to identify gaps they perceive between their aspirations and the outcomes they are seeing in their students. Once they have found a gap that they all agree is troubling and widespread, they move to selecting a *konaikenshu* goal, which will represent an attempt to narrow this gap. For example, teachers might notice that although they want to help foster children who are curious and have a desire to learn, instead, as students progress through the grades, they are actually becoming less inquisitive. In such an instance the teachers might select a *konaikenshu* goal that focuses on fostering curious and inquisitive children.

As is illustrated by the example just provided, *konaikenshu* goals tend not to target the development of specific academic skills in students. Rather these goals aim at developing in children broader dispositions toward learning, school, peers, and themselves (see Box 2.2). An analysis of words used to describe *konaikenshu* goals conducted by Lewis and Tsuchida (1997) illustrates this feature nicely (see also Lewis, 1995). These researchers found that *autonomy* was the most commonly employed word in these goals. Similarly, a

focus on specific academic skills was quite rare when we analyzed the *konaikenshu* goals described by the 35 Hiroshima schools surveyed as part of this investigation.[2]

Although *konaikenshu* goals target broad dispositions, the majority of schools will pursue these goals in the context of studying a particular academic subject area (Kitayama & Yamada, 1992; Nakatome, 1984).[3] For instance, in the example that we provided earlier of setting as a goal to foster curious and inquisitive students, the school in question might choose to focus on developing these dispositions in students as they learn science.

Box 2.1 Japanese Schools' Mission Statements

Every school in Japan has a mission statement, which generally outlines goals for children's academic, moral and physical development. These statements represent the core values that are to guide both the teaching and the management of the school. Here are examples of mission statements for two schools in the western region of Hiroshima, including Tsuta.

Tsuta Elementary School's Mission Statement:

A. Overall Goal:

Fostering students who base their lives on a policy of human respect and who have the following characteristics: a generous spirit, excellent academic ability, healthy mind and body, and an urge to live vigorously.

> An ideal student is one who thinks hard and whose actions are influenced by his or her thinking; who helps and learns from others; and who cares about life and is healthy.
>
> An ideal school is one that is strict, yet thoughtful; beautiful and enriching; fun and full of life.

B. Specific Goals (to achieve the school's overall goal):

(1) To foster students' desire to learn autonomously and to develop strong academic ability in them.
(2) To promote creativity and the ability to implement it.

[2] Only 5.7% of the schools surveyed mentioned that they had goals related to developing students' academic abilities. The rest of the goals mentioned were related to, for example, fostering students' expressive abilities *(hyogenryoku);* cultivating a group that listens, talks, understands, and helps each other (e.g., *shudanzukuri, gakkyuzukuri,* or *nakamazukuri);* fostering students' autonomy *(shutaisei);* discovering and developing students' individuality *(kosei);* kindling children's desire to learn (iyoku); and fostering children's understanding and tolerance for each other's differences *(hitori hitori no chigai).*

[3] The school survey confirmed this tendency to ground lesson study in the examination of a particular academic area of content. Seventy-six percent of schools reported conducting *konaikenshu* with a focus on an academic subject such as Japanese Language, Mathematics, Social Sciences, or Daily Living.

(3) To teach students basic living habits, including greeting others cheerfully. To develop a generous spirit in students that includes showing gratitude and a desire to help others.
(4) To develop students who understand and encourage others and who have the ability to recognize and prevent discrimination and contradictions.
(5) To teach students to take care of their own health and pay attention to safety, as well as to care about their lives and that of others.
(6) To encourage students to improve and maintain their own physical strength autonomously.

Hatsukaichi Elementary School Mission statement:

1. Fostering knowledge—Students who study hard.
   Students who seek wider knowledge, have the desire to learn autonomously, who understand and learn from others, and who are sensitive to others,
2. Fostering healthy hearts and minds—Students who can help others.
   Students who encourage other students, who can think about other people's points of view and feelings, and who can help others in order to grow together.
3. Developing a healthy body—Students who have strong/ healthy bodies.
   Students who have a strong willpower and bodies and who are tenacious in accomplishing their goals.

Box 2.2 Examples of *Konaikenshu* Goals

Here are examples of some of the *konaikenshu* goals that schools in the western region of Hiroshima were working on during the 1993–1994 school year.

Making a circle of friends in order to grow together: focusing on a Japanese language class in order to foster students' expressive ability.

Using a Japanese language class to foster students' ability to wrestle with topics they discover on their own.

Fostering students' lively and autonomous behavior by developing their physical strength and health.

Developing lessons that encourage students to learn from each other.

Developing well-thought-out mathematics lessons that provide students a feeling of satisfaction and enjoyment of mathematical activities, while fostering their ability to have good foresight and logical thinking.

Fostering students who have a generous heart and a strong sense of motivation by providing them with guidance that recognizes their individuality,

In addition, it is typical for a school to maintain the same *konaikenshu* goal for a period of several years (Lewis & Tsuchida, 1997).[4] This prolonged focus is meant to provide enough time for the school to make significant progress in moving closer to attaining its chosen goal (see also Maki, 1982). It is not unusual, however, for a school to focus on different aspects of its goal, or to take different perspectives on this goal, from one year to the next,

Lesson study is by far the most common activity that is carried out as part of *konaikenshu.*[5] In other words, it is often the case that the *konaikenshu* goal chosen by a school is explored through the conduct of lesson study. This provides lesson study with an umbrella goal that is well motivated and carefully selected, and of concern to teachers. Conversely, this combination of *konaikenshu* and lesson study provides a concrete process (i.e., working on study lessons) for thinking about how to bring a school's selected *konaikenshu* goal to life. As one of the teachers interviewed explained:

> We have a school goal. So, I think lesson study gives us opportunities for everybody to think about how the school as a whole should tackle that goal. I think if all the teachers at a school do not think about the school goal and make an effort to reach it, the school will never change.

The Organization of *Konaikenshu-Based* Lesson Study

In order to work effectively, teachers engaged in *konaikenshu-based* lesson study at their school will break into subgroups of four to six members that take responsibility for planning study lessons. In a large enough school these subgroups may bring together teachers who teach the same grade level, In smaller schools, teachers from similar grades might come together to form one of these subgroups (e.g., the first- through third-grade teachers).

In order to maintain a smooth and school-wide conduct of lesson study, many schools in Japan establish a *konaikenshu* promotional committee *(kenshu-sokushin-soshiki* or *kenshu-soshiki).*[6] The role of this committee is to help plan and organize *konaikenshu* and to keep it on track. This committee tends to be composed of a few teachers who are highly committed to doing *konaikenshu* and who play a critical role in helping others maintain interest and enthusiasm for this activity. In most cases these committees do not include administrators in order to keep the work teacher led and teacher run. However, generally both the principal and vice-principal also help support *konaikenshu,* which is recognized as an important part of school management (e.g., Maki, 1982; Nakatome, 1984).

Schools also often solicit the help of an outside advisor to help them with their lesson study. All the schools surveyed reported asking an outside advisor to help them with their lesson study work. The advisor does not attend all meetings but might visit on key days and in particular on days when study lessons are taught. Outside advisors can sometimes

[4] The schools surveyed reported spending an average of 3.96 years on their *konaikenshu* goals.

[5] All schools surveyed reported that they conducted lesson study during *konaikenshu.*

[6] All the schools surveyed reported having such a committee in place.

be experienced teachers who are on leave from teaching for a year and who are hired by the regional education office to provide staff development to schools. The outside advisor can also be a university-based expert. However, this advisor is most often an instructional superintendent. Instructional superintendents are appointed by prefectures or prefectural regional offices and generally are assigned to cover schools in one of the regions within the prefecture.[7] In most cases they specialize in a particular content area (e.g., mathematics or Japanese language) and their job is to regularly visit schools, where they observe lessons, talk to teachers and principals, and deliver lectures. They do this as a way of providing ongoing professional development and advice to schools. Instructional superintendents visit their assigned schools regardless of whether or not these are doing *konaikenshu* in the superintendent's content area of specialty. However, when a school chooses to conduct *konaikenshu-based* lesson study that focuses on the content area that the superintendent specializes in, this provides the instructional superintendent a rich context for working with the school.[8]

It is also not unusual for schools to organize their *konaikenshu* work around planning a lesson study open house *(kokai jugyo* or *kokai kenkyujugyo).*[9] This involves inviting teachers and other educators from neighboring schools to come see and discuss a set of study lessons and to present to them the *konaikenshu* work that the school has been pursuing. Generally, this is done after a school has been working on a *konaikenshu* goal for a while so that the school can have well-developed ideas to share and issues to discuss with its guests. Given the purpose of these open houses, it is not surprising that these events are sometimes referred to as "Learning Research Presentation Meeting" *(gakushu kenkyu happyokai).*

Schools often produce, at the end of each year, a written report about their *konaikenshu* work. These reports, which are called "Summary of the Study" or "Research Bulletins" *(Kenkyukiyo no Matome),*[10] can vary widely in format. However, their focus is always on providing a description of the work carried out at the school and teachers' reflections about the key lessons learned from this work. Research bulletins typically assemble the lesson plans for all the study lessons taught at the school during the course of the year and summarize the ideas and insights that working on these lessons provided the teachers. On years when schools hold an open house, or when they work on a goal for the last time before moving on to a new area of focus, more detailed and extensive summative research bulletins are often produced.

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[7] Japanese elementary and middle schools (i.e., schools that provide compulsory education) are divided among 47 administrative regions called prefectures. Prefectures in turn are divided into regions, each with its own regional education office. All prefectures function under the umbrella of a national Ministry of Education *(Monbusho).*

[8] All the schools surveyed reported inviting at least one outside advisor to help with their *konaikenshu.* Eighty percent of these schools invited an instructional superintendent, 31% invited a university professor, 14% invited an experienced teacher, 11% invited a retired principal, and 3% invited a subject specialist from the ministry of education.

[9] Eighty percent of the schools surveyed reported conducting an open house, although at varying scales. Some schools invited a handful of guests and others hosted a large event to which many teachers and administrators from numerous schools were invited.

[10] Seventy-seven percent of the schools surveyed reported producing a research bulletin at the end of the 1993–1994 academic year.