

Adopting an International Innovation for Teacher Professional Development: State and District Approaches to Lesson Study in Florida

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Abstract

The state of Florida has taken an unprecedented approach to teacher professional development in its Race to the Top (RTTT) Program application by proposing to promote an international innovation that originates in Japan, “lesson study,” as a statewide teacher professional development model. Since winning the US\$700 million RTTT funding in 2010, the Florida Department of Education and districts have been promoting lesson study as one of the statewide vehicles to implement the state standards aligned with the Common Core State Standards. This study analyzed the state and districts’ approaches to promote lesson study using policy documents, statewide district survey data, and interviews. We found that a majority of districts mandated lesson study implementation without securing or spending sufficient funding. In addition, the existing organizational structures and routines for professional development pose a major challenge in capacity building of district leaders and teachers to engage in lesson study.

Keywords

lesson study, state policy, district policy, professional development, document analysis, survey, interviews

Introduction

Professional development is a driving force for improvement of instruction and student achievement and one of the major agendas in federal educational reforms since the No Child Left Behind Act of 2001. Most recently, the federal US\$4.35 billion Race to the Top (RTTT) Program encouraged and rewarded states that developed innovative plans for educational reforms. One of the four core educational reform areas in the RTTT Program specified by the U.S. Department of Education (USDOE; 2009) is “recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most” (p. 2).

The Florida Department of Education (FLDOE) won US\$700 million RTTT funds in 2010 by responding to the federal call for developing innovative plans to improve the teacher workforce. One of these innovative plans is the promotion of lesson study—a model of professional development that originates in Japan—as one of statewide vehicles to implement the state standards aligned with the Common Core State Standards (CCSS). Florida is the first state to promote lesson study in the United States. Lesson study has been practiced by Japanese teachers for over a century (Fernandez & Yoshida, 2004; Makinae, 2010). It has spread internationally since the late 1990s, leading to an establishment of the World Association of Lesson Studies (WALS) in

2006 with 7 founding member countries including the United States and council members representing 11 countries around the world.

Lesson study was introduced to the United States in the late 1990s after an international video study revealed that in comparison with U.S. mathematics lessons that focus on lower level mathematics skills, Japanese mathematics lessons focus on promoting students’ conceptual understanding (Stigler & Hiebert, 1999). This study found lesson study to be the driving force that enabled Japanese teachers to practice student-centered, problem-solving approaches in mathematics lessons for promoting students’ conceptual understanding. Since then, lesson study has been practiced across the country, mainly by voluntary groups of teachers (Lewis, Perry, & Murata, 2006) and teacher educators (Hart, Alston, & Murata, 2011). However, little is known about the system-level characteristics such as policy and organizational conditions that promote or hinder the practice of lesson study in the United States because no state

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has taken a statewide initiative to promote lesson study before. Almost all available studies on lesson study are case studies of lesson study groups, focusing on teacher or student learning at individual or group level (Hart et al., 2011).

This focus on the policy and organizational contexts is especially important considering the major difference in the support structures for professional development between Japan and the United States (Akiba & LeTendre, 2009), and the critical roles policy and organizational contexts play in influencing the practice of lesson study, and its potential impacts on improving teacher knowledge, instruction, and student learning. Examining the characteristics of the state and district approaches to lesson study is the first step toward understanding how states and districts could establish a support system with organizational structures, routines, and resources so that lesson study practice could lead to a large-scale improvement of instruction and student learning across the country.

The present study builds on the previous studies of states' and districts' approaches to professional development and instructional improvement in general (Coburn & Russell, 2008; Firestone, Mangin, Martinez, & Polovsky, 2005; Gamoran et al., 2003; Hightower, Knapp, Marsh, & McLaughlin, 2002; Hubbard, Mehan, & Stein, 2006; Loeb, Miller, & Strunk, 2009; Stein & Coburn, 2008) and explores the state- and district-level policy and organizational conditions that allow a promising international innovation like lesson study to be implemented and scaled up successfully in the U.S. context. Specifically, this mixed-method study takes the first step in understanding state and district approaches to facilitate lesson study by analyzing one state's and 41 districts' policy documents produced on lesson study, a statewide district survey of 41 professional development coordinators regarding district-level lesson study policy and facilitation, and interviews with a state education representative and five lesson study training organizers and providers.

Using Knapp's (2003) policy instruments for professional development as a conceptual and analytical framework, we addressed the following research questions:

Research Question 1: How did the state and district leaders use policy mandates and inducements to promote lesson study?

Research Question 2: How did the state and district leaders approach capacity building for lesson study implementation, and how did their efforts interact with the existing organizational structures and routines of teacher professional development?

Background

Lesson Study in Japan

In a cycle of lesson study, a team of three to six teachers goes through four specific stages—Stage 1: study the content of a chosen unit and student understanding of the unit, and

develop a student learning goal aligned with the content standards and school goals; Stage 2: develop a lesson plan for an experimental lesson called the “research lesson”; Stage 3: one team member teaches the research lesson in an actual classroom with students and other team members observe the lesson to collect student data; and Stage 4: discuss the effectiveness of the lesson based on the collected student data and discuss how to improve the lesson and teaching approaches to achieve the learning goal (Fernandez & Yoshida, 2004; Lewis, 2002; Lewis & Hurd, 2011; Lewis, Perry, & Hurd, 2009; Stepanek, Appel, Leong, Mangan, & Mitchell, 2007). Japanese teachers engage in an average of two cycles of lesson study per year according to a statewide survey of middle school mathematics teachers in an average-size prefecture in Japan (Akiba, in press).

Lesson study embodies content-focused, coherent, continuous, and collaborative teacher learning activities (Perry & Lewis, 2009)—the characteristics of professional development empirically shown to be associated with improved instruction and student learning in the United States (Desimone, 2009; Hawley & Valli, 1999; Loucks-Horsley, Hewson, Love, & Stiles, 1998; Wilson & Berne, 1999). It is also a powerful model for scaling up teaching aligned with the CCSS because lesson study facilitates teacher enactment of ambitious instruction (Hiebert, Gallimore, & Stigler, 2002; Lewis et al., 2006). Teachers participating in lesson study collectively engage in an in-depth study of curriculum and instructional materials and students' thinking, and experiment with problem-solving approaches that promote students' conceptual understanding in a research lesson (Fernandez & Yoshida, 2004).

What is not widely known in the U.S. literature, however, is the fact that lesson study in Japan is an institutionalized process that is embedded into the organizational structures and routines that support (a) teacher leadership and collective ownership of professional learning process, (b) continuous engagement in research-based professional learning, and (c) profession-wide networks for developing and sharing practice-based knowledge that is directly applicable to everyday practice of teaching (Akiba & LeTendre, 2009; Hiebert et al., 2002; Lewis & Hurd, 2011; Lewis & Takahashi, 2013; Stigler & Hiebert, 1999).

First, as an institutionalized process, lesson study is nearly a universal form of teacher learning across the country and organized and owned by the teaching profession with strong teacher leadership (Akiba, in press; Akiba & LeTendre, 2009; Fernandez & Yoshida, 2004; Lewis & Perry, 2014). It is the dominant form of professional development that is supported by but not mandated by administrators and policymakers. Second, continuous engagement in lesson study is supported by lighter instructional load (Akiba & LeTendre, 2009), rich curriculum resources with various examples of problem-solving approaches and anticipated student responses and common misconceptions (Watanabe, 2001, 2007; Watanabe, Takahashi, & Yoshida, 2008), and knowledgeable others who

provide guidance about the subject content and lesson study process (Takahashi, 2014). Finally, lesson study is supported by profession-wide networks that develop and share practice-based knowledge directly applicable to everyday practice by various dissemination processes including district-, state-, and nation-wide public research lessons and publications of the research results including a lesson plan and a summary of discussion (Fernandez & Yoshida, 2004; Lewis & Takahashi, 2013).

These organizational structures and routines that support teacher leadership and ownership of professional learning process, continuous research-based professional learning process, and profession-wide networks and knowledge building enable teachers to collectively engage in lesson study as an institutionalized process in Japan. The importance of organizational resources to support inquiry-based professional learning (Akiba, Wang, & Liang, 2015; Gamoran, 2003; Spillane & Thompson, 1997) and professional networks that are organized for improving educational practices—networked improvement community (Bryk, Gomez, & Grunow, 2011; Bryk, Gomez, Grunow, & LeMahieu, 2015) has been identified in previous research. Yet, most teachers do not work in an environment where such inquiry-based professional learning is fully embedded into the district's or school's organizational structures and routines in the United States (Lewis, 2015; Little, 1999; Yoshida, 2012).

In the context where these organizational structures and routines are not common, it is critical to fill the gap by providing additional resources and supports that allow teachers to engage in lesson study. Without these supports, the practice of lesson study will likely be adapted to fit within the existing organizational structures and routines surrounding teacher professional development (Yoshida, 2012). The local adaptation process of standards-based instruction (Cohen, 1990; Spillane & Zeuli, 1999) and policy implementation (McLaughlin, 1987, 1990; Spillane, 1998) has been well documented and explained as a natural result of sense-making processes educators and district and school administrators go through (Coburn, 2005; Spillane, 2000, 2004; Spillane, Reiser, & Reimer, 2002; Weick, 1995). This adaptation process may be particularly salient for lesson study that came from an international context and that involves processes that are unfamiliar to U.S. educators, administrators, and policymakers. By examining the state and district approaches to lesson study, this study looks into some possible sense-making processes these policymakers and administrators went through to establish policy and organizational conditions for promoting lesson study implementation within the unique policy context of the RTTT program.

Challenges in Practicing Lesson Study in the United States

Scholars have argued that lesson study practiced in the United States can lead to improvement in teacher knowledge

and beliefs, development of professional community, and generation of instructional resources, which in turn leads to improved instruction and student learning (Lewis et al., 2009; Lewis et al., 2006). Despite the potential of lesson study to improve teaching and student learning, there has been limited empirical evidence on the effectiveness of lesson study as practiced in the United States beyond documentation of perceived effectiveness in case studies (Hart et al., 2011). The only large-scale empirical study was conducted by Lewis and Perry (2014) in a randomized field trial of 39 lesson study groups across the United States. They found that the experimental lesson study groups that were supported by rich mathematics resources on fractions improved teacher knowledge significantly more than the control lesson study groups without mathematics resources.

Previous case studies on teachers' practice of lesson study revealed three major challenges for practicing lesson study in the United States. These challenges are as follows: (a) teachers' work schedules that do not allow sufficient time to engage in a continuous learning process of lesson study; (b) a lack of familiarity with a research process of studying the curriculum, collecting and interpreting the data, and drawing conclusions and implications for teaching and student learning; and (c) a lack of resources and opportunities to develop content and pedagogical content knowledge necessary for facilitating the lesson study process by themselves.

First, teachers' typical work schedules pose a challenge for engaging in lesson study. In Japan, a team of teachers spends 2 to 3 months for each cycle of lesson study, and completes two cycles of lesson study per year on average (Akiba, in press). During each cycle of lesson study, a lesson study team typically meets on a weekly or biweekly basis to study the curriculum and student understanding and misconceptions of the content and develops a lesson plan. A block of time to collectively engage in an in-depth study of the curriculum and student understanding and misconceptions is not commonly available in a typical work schedule of a teacher in the United States because of the heavy instructional load of 26.8 hr a week compared with only 17.7 hr a week for Japanese teachers on average (Organisation for Economic Co-Operation and Development [OECD], 2014). Therefore, extra funding to either release them from teaching using substitutes or to pay teachers to meet outside the regular school hours becomes essential to engage in a continuous learning process of lesson study (Murata, 2011; Yoshida, 2012).

Second, most teachers are not accustomed to engage in a research process of studying the curriculum, collecting and interpreting the data, and drawing conclusions and implications for teaching and student learning to inform their teaching. Previous case studies of U.S. teachers' practice of lesson study (Fernandez, Cannon, & Chokski, 2003; Hart, 2009; Yoshida, 2012) have shown the difficulty of adopting and maintaining the researcher lens, such as providing concrete evidence to support the claims about a lesson and articulating and reflecting on their own professional learning. This shift

from a traditional role of teachers who utilize externally generated knowledge to the new role of generating professional knowledge to inform their practice requires capacity building of teachers through ample resources and leadership support.

Finally, most teachers do not have the resources and opportunities to develop content and pedagogical content knowledge necessary for facilitating the lesson study process by themselves (Yoshida, 2012). Previous case studies have pointed out the benefits of involving instructional coaches or teacher leaders with expert knowledge (Chokshi & Fernandez, 2004; Fernandez, 2005; Fernandez & Cannon, 2005; Fernandez et al., 2003; Hart & Carriere, 2011; Perry & Lewis, 2009) and using high-quality resource materials (Lewis & Perry, 2014).

Japanese teachers benefit from the time and structure that support continuous development of their knowledge through observing various lessons within and outside their schools (Lewis & Takahashi, 2013; Yoshida, 2012). In addition to engaging in an average of two cycles of lesson study per year, Japanese teachers observe a research lesson conducted by another lesson study group in the same school twice a year and visit another school to observe a research lesson at least once a year on average (Akiba, in press). Furthermore, Japanese teachers invite a knowledgeable other—instructional directors, teacher educators, and well-recognized teacher leaders—to provide feedback on lesson plans and provide research-based comments on a research lesson during a debriefing session (Fernandez & Yoshida, 2004; Takahashi, 2014).

Such opportunities to improve professional knowledge through observing instruction in various schools and closely working with content and pedagogical experts are not easily available to teachers in the United States (Yoshida, 2012). Yet, they would benefit from these opportunities to develop in-depth content knowledge and pedagogical content knowledge for analyzing student work and orchestrating classroom discussions to deepen students' conceptual understanding (Stein, Engle, Smith, & Hughes, 2008). Indeed, this type of professional learning opportunity is critical for successfully implementing ambitious instruction envisioned in the CCSS (Lampert et al., 2013).

In summary, school districts are likely to face these challenges in promoting and facilitating the process of lesson study on a large scale. Sufficient funding for substitutes and teacher payment is critical to allow teachers to devote time for lesson study. In addition, teachers need to be supported by teacher leaders and instructional coaches who can provide expert knowledge and rich curriculum resources and who effectively facilitate a research process in lesson study. Such expert facilitators can promote development of teachers' content and pedagogical content knowledge that is needed for successfully implementing the CCSS.

Conceptual and Analytical Framework

In analyzing state and district approaches to facilitate lesson study implementation, we use the framework of policy instruments for professional development developed by

Knapp (2003). Knapp identified four major policy instruments state and districts use for guiding, directing, and supporting teacher professional development—namely, (a) mandates, (b) inducements, (c) capacity building, and (d) system change (authority reallocation).¹

First, “mandates” include a requirement of participation in a certain professional development activity and specification of the amount or schedule of the professional development activity. In the case of lesson study, a state or a district may require teachers in only a certain school, a group of schools with certain characteristics, or all the schools in the district to practice lesson study. In addition, a state or a district may specify a frequency of lesson study to be practiced each year. These mandates on lesson study largely influence the scale of lesson study practice across the state or district.

Second, “inducements” include funding and resources to incentivize teachers to participate in professional development. The importance of funding for districts to provide high-quality professional development was identified in previous national and statewide surveys (Akiba et al., 2015; Desimone, Porter, Birman, Garet, & Yoon, 2002). Because lesson study is a continuous learning process that requires an extensive amount of time that is not available in teachers' typical work schedules in the United States, provision of substitutes for meeting during the regular school hours and extra payment for meeting outside the regular school hours would serve as major financial incentives for teachers (Murata, 2011). When such incentives are absent, teachers may be overburdened with the extra hours they need to devote to lesson study on top of a hectic daily schedule and numerous responsibilities. This could severely affect teachers' motivation and commitment to engage in lesson study.

Third, a state or a district can also engage in “capacity building” for teacher professional learning at district, school, and/or teacher level. A state department of education may subcontract training on lesson study to external professional development providers or provide a competitive grant to higher education institutions or private organizations to scale up lesson study implementation as mechanisms to bring in various resources for capacity building—a common state approach documented for implementing the state RTTT programs (Russell, Meredith, Childs, Stein, & Prine, 2015).

Districts may approach capacity building of administrators, instructional coaches, and teachers through (a) creating new organizational structures and routines for professional development, (b) enhancing district capacity by working with external experts and training instructional coaches, and (c) building local capacity by providing training for school administrators and teachers and providing assistance and support based on the local needs for professional development. In the context of implementing lesson study, districts may first appoint a designated facilitator or coordinator whose main responsibility is to facilitate lesson study. Districts may also replace some existing professional development programs with lesson study to shift the focus and resources on facilitating lesson study practice.

In addition, districts may enhance district capacity by working with external lesson study experts to develop their own knowledge of lesson study process and facilitation. They may also send their instructional coaches to lesson study training and workshops provided by lesson study experts. Previous empirical studies have identified a network with national experts who can provide research-based knowledge (Firestone et al., 2005) and networks within districts created by instructional coaches that span across multiple learning communities (Coburn & Russell, 2008; Stein & Coburn, 2008) to be an important part of organizational capacity for providing high-quality professional learning opportunities. The role of instructional coaches for introducing the practice-based research process of lesson study and for providing high-quality curriculum and instructional resources to develop teachers' content and pedagogical content knowledge is especially important (Chokshi & Fernandez, 2004; Fernandez, 2005; Fernandez & Cannon, 2005; Fernandez et al., 2003; Hart & Carriere, 2011; Perry & Lewis, 2009).

After establishing a lesson study facilitation process at district level, the districts may provide lesson study training for administrators and teachers for developing local capacity for practicing lesson study. For those administrators and teachers who were not familiar with lesson study when FLDOE started promoting lesson study, it is important to introduce lesson study and build a shared understanding of what lesson study is and how to practice lesson study. Once teacher groups start a cycle of lesson study, it is important for districts to offer assistance and support as the groups go through the stages of lesson study. The districts can provide ongoing assistance through instructional coaches by providing curriculum resources or guidance to facilitate the research process of lesson study.

"System change" in Knapp's (2003) framework involves reallocation of authority from the district to schools or to teachers for professional development functions regarding the content and implementation. This policy instrument does not apply to the state and district policy contexts on lesson study in Florida for two reasons: (a) the state specified the specific type of professional development to be implemented (i.e., lesson study) and (b) districts are held responsible for implementing lesson study with the RTTT funds. Therefore, we used the first three types of policy instruments as the framework for analyzing the state and district data on lesson study.

Method

The data came from three primary sources: (a) state and district policy documents, (b) a statewide district survey in which professional development coordinators participated, (c) interview data with a state education representative and organizers and providers of lesson study training and projects.

State and District Policy Documents

To understand the characteristics of state policy on lesson study, we analyzed three state policy documents: (a) FLDOE policy documents that describe the state requirement on lesson study, (b) the FLDOE application to the federal RTTT Program that explains the approach and budget allocation to lesson study (FLDOE, 2010b), and (c) a lesson study guide developed by FLDOE and distributed to districts, "A guide to implementing lesson study" (Haithcock, 2010). To examine the characteristics of district policy on lesson study, we reviewed two types of district documents: (a) the district RTTT proposals explaining the initial intention to implement lesson study and the amount of RTTT funding each district requested for lesson study and (b) district process documents on lesson study including training materials, curriculum resources, and memos for schools and teachers. Of the total of 67 regular districts in Florida, 52 districts (78%) submitted a proposal that indicated that lesson study is one of the projects that they would implement during the 4-year RTTT project period.² In this study, we focus on the data from 41 districts that also participated in the district survey for the purpose of comparing the intended policy and implemented policy.

Statewide District Survey

To understand how districts implemented the state policy on lesson study, we conducted a Qualtrics online survey, Lesson Study District Survey between May and August, 2013. The survey was sent to the professional development coordinator who was in charge of facilitating lesson study in each of the 52 districts to ask about the district policies and practices during the 2012-2013 academic year with five survey sections: (a) district requirements on lesson study, (b) funding, (c) district support and training on lesson study, (d) other professional development programs implemented, and (e) open-ended comments on experiences with facilitating lesson study. For the last category, the district professional development coordinators were asked to narratively respond to the questions, "Please share your experience with facilitating lesson study in your district. What rewards and/or challenges did you experience? What questions do you have about lesson study?" Although the RTTT funding period is from 2010 to 2014, the districts did not receive the requested funding until summer 2011 and many districts likely spent the first year learning about lesson study and developing the district policies. Therefore, the timing of the survey is appropriate for understanding fully developed policies and their implementations during the 2012-2013 academic year.

An individualized online link to the Lesson Study District Survey was sent to the email address of each professional development coordinator in May and follow-up emails were sent to nonrespondents multiple times. Starting from June, follow-up phone calls were made multiple times until the

survey closed in August. The survey participants received a link to a US\$25 online gift card of a major retailer upon completion. A total of 41 out of 52 districts completed the survey with a response rate of 79%. We also followed up with the districts that completed the survey to clarify the accuracy of some of their responses.³

These 41 districts' enrollment ranges from 1,029 to 350,239 with a mean of 46,683 students, and the number of school building ranges from 2 to 435 with a mean of 63 buildings. The average percentage of students receiving free or reduced-price lunch is 60% (ranges from 35% to 82%) and the average percentage of ethnic minority students are 42% (ranges from 9% to 92%). These average poverty and diversity levels in 41 districts are similar to the state averages of 58% and 43%, respectively, among all 67 regular districts in Florida (FLDOE, n.d.-a). The appendix shows the distributions of three district background characteristics across 41 districts—district enrollment, the percentage of students receiving free or reduced-price lunch, and the percentage of ethnic minority students.

Interviews

We conducted interviews of a state education representative who was involved in developing the state policy on lesson study and five organizers or providers of state-level training or workshop on lesson study between 2012 and 2014. We asked them about the policy background, the specific nature of the RTTT requirements, the process for ensuring compliance, funding use, the characteristics of training or workshops on lesson study and participants, and their perceived responses of the training or workshop participants. The interviews lasted from 40 min to 1 hr on average. The researchers either audio-recorded and transcribed the interview verbatim or took a detailed note on their responses to the interview questions.

Data Analysis

The data were analyzed with the two major research questions and analytical framework of three policy instruments in mind. We analyzed the content of the policy documents provided by FLDOE and districts and coded the sections relevant to policy mandates, inducements, and capacity building. Survey data were quantitatively analyzed to compute the frequencies and descriptive statistics of various district approaches that can be categorized as policy mandates, inducements, and capacity building and subcategories developed based on the literature. The interview transcripts and notes and the open-ended responses of the district professional development coordinators in the survey were carefully reviewed by the researchers who first coded the content openly using general themes including "training," "compliance," and "time constraint." We met regularly to discuss coding and finally categorized the initial coding categories into the three policy instruments and subcategories identified

in the literature. In this study, we mainly used these qualitative data to help interpret the policy and survey data. In analyzing the content of these policy, survey, and qualitative data, we paid attention to the assumptions and premises underlying these state and district approaches and analyzed how existing organizational structures and routines surrounding professional development influenced their approaches to lesson study implementation. For example, we used the district survey data on the number of professional development programs promoted by districts and analyzed how this organizational structures and routines for providing multiple short-term programs influenced the interpretation and promotion of lesson study by the state, lesson study training providers, and districts.

Results

RTTT Program and Lesson Study

An interview with a state education representative revealed that the state interest in lesson study was initiated by a former Chancellor of Public Schools who visited Japan around 2008 and observed teachers' collaborative professional development. Following the lead of the Chancellor, the leaders from the Division of Public Schools reviewed the available research on lesson study and agreed that the implementation of lesson study would be a powerful way to support professional development across the state. When the RTTT Program was announced by the USDOE in 2009, Florida included lesson study as a key piece of professional development in its RTTT application (FLDOE, 2010b). In August 2010, the USDOE announced Florida as a winner of the federal competition and awarded US\$700 million. Florida became 1 of the 12 states that received the RTTT funding as of that year.⁴

Within a few months after the announcement of the RTTT funding awarded to the state, FLDOE invited all 72 districts (67 regular districts, 4 university lab schools, and 1 virtual school) to submit a proposal using a state-provided template to receive part of the RTTT funding. In the proposal template, FLDOE specified 13 projects aligned with the 4 core education reform areas specified by the USDOE, including two projects relevant to lesson study; Project 1: Expand Lesson Study, and Project 10: Focus Effective Professional Development.⁵ A total of 65 districts (90% of 72 districts) submitted a proposal in November 2010 describing their 4-year plans to implement the 13 projects specified by FLDOE. Based on the submitted plans and budgets, the districts received a total of approximately US\$350 million in 2011 (FLDOE, n.d.-b).

Mandates: Minimal State Requirement and Expanded District Requirements

To meet the accountability that comes with the RTTT funding, FLDOE established a state policy and a compliance

procedure and communicated them in the district proposal template for receiving the RTTT funding. In Project 1: Expand Lesson Study, the policy states “A local education agency (LEA) with a Persistently Lowest Achieving (PLA) school will modify these schools’ schedules to devote a minimum of one lesson study per month for each grade level or subject area,” and specified four deliverables that LEAs with at least one PLA school are required to submit annually (FLDOE, 2010a, p. 6): (a) school schedule in each PLA school that includes regularly scheduled blocks of time dedicated to lesson study for each grade level or subject area, (b) rosters of lesson study participants, (c) lesson plans used for lesson study, and (d) one improved lesson plan as a result of lesson study.

A supplemental document (FLDOE, n.d.-c) further explained that this requirement for a PLA school “would translate to every teacher participating in a lesson study meeting with their peers (subject area or grade level) each month during the regular school year for the life of the grant and hopefully, beyond” (p. 1). FLDOE specified a total of 71 schools in 25 districts as PLA schools in the 2010-2011 academic year and explained that this list will not change during the 4-year grant period for purposes of the RTTT program (FLDOE, n.d.-c), even though the school achievement level changes annually based on the Florida Comprehensive Assessment Test (FCAT) results. Of these 25 districts, 23 districts participated in the RTTT Program, thus the FLDOE requirement applies to 66 schools in these 23 districts.

Although the specificity of this state requirement on lesson study is unique considering the fact that the state involvement in professional development has been traditionally limited to specifying credit hours required for certification renewal or advancement (Loeb et al., 2009), it is important to note that these 66 schools in 23 districts represent only 2% of the total of 3,450 schools in 67 regular districts across the state. Thus, it would be reasonable to conclude that the impact of this state mandate on districts would be minimal.

Table 1 presents a summary of 41 districts’ survey responses to questions related to three policy instruments; mandates, inducements, and capacity building, and Table 2 lists all of these districts’ responses under these three categories. Regarding lesson study mandates, the professional development coordinators were asked in the survey, “Which of the following statements best describes your district’s requirement on lesson study during the 2012-2013 academic year?” with four response choices: (a) no school is required to implement lesson study, (b) only PLA and/or other low-achieving schools are required to implement lesson study, (c) all schools in the district are required to implement lesson study, and (d) other types of schools are required to implement lesson study (please explain). They were also asked to report the number of schools required to implement lesson study.

Table 1 shows that, of 41 districts, a total of 28 districts (68%) established a policy that requires at least one type of

schools to implement lesson study. A total of 11 districts (27%) required PLA or low-achieving schools, 11 districts (27%) required all schools, and 6 districts (15%) required other types of schools (e.g., all elementary schools, pilot schools) to implement lesson study. Table 2 shows under the column of mandates a comparison between the state policy and district policy to examine the influence of the state mandate on district mandates. The districts that are required to implement lesson study by FLDOE are listed first and the number of PLA schools are presented. To conceal the district identity, the number of PLA schools in Table 2 was adjusted plus or minus one school. Among the 41 districts that were analyzed in this study, there are 53 PLA schools in 16 districts that are required to implement lesson study. All of these 16 districts required their schools to implement lesson study, but most of them expanded the state requirement for lesson study implementation as shown in Table 2. In addition, 13 other districts established a district mandate even though they are not required to implement lesson study by the state. As a result, a total of 583 schools were required to implement lesson study by 28 districts during the 2012-2013 academic year, a significant extension of the state requirement on 53 schools. These schools represent 17% of all schools in Florida.

The survey also asked how often these schools were required to implement a cycle of lesson study during the 2012-2013 academic year with four response choices: (a) frequency not specified by the district, (b) at least once, (c) at least once or twice per semester, and (d) monthly. Table 1 shows that a majority of districts (23 districts, or 56%) established a policy that specifies the frequency of lesson study to be implemented by schools. Of these 23 districts, 12 required at least once a year (29%), 10 required once or twice a semester (24%), and 1 district required monthly. This variation in the frequency of lesson study is contrasting to the state requirement that specified the monthly practice of lesson study for PLA schools. This may stem from the ambiguity and various interpretations of “monthly practice” of lesson study ranging from one cycle of lesson study per month to one meeting a month as part of a lesson study cycle.⁶

We are not able to fully explain the reasons for the expanded state requirement at the district level from the policy documents and survey data examined in this study. However, there are several possible reasons: (a) Districts expanded the requirement to show district commitment to lesson study to meet the accountability associated with the RTTT funds, (b) districts did not want to differentiate the lesson study requirement between the PLA schools and other schools, and (c) district leaders saw the benefits of lesson study for all their schools. To examine the possibility of the first reason, we examined the district requirement on lesson study in the initial district proposal documents submitted to FLDOE in 2010. We found that, of 41 districts, 19 districts (46%) proposed to require all schools to implement lesson study, 10 districts (24%) proposed to require PLA or

Table 1. District Approaches to Facilitate Lesson Study Practice in Florida (41 districts).

Policy instruments	Approaches to lesson study	Categories	n of district (%)
1. Mandates	Schools required to implement lesson study	PLA or low-achieving schools	11 districts (27%)
		All schools	11 districts (27%)
		Other types of schools	6 districts (15%)
		<i>Total</i>	<i>28 districts (68%)</i>
	Number of required schools		Range = 1-180 schools Sum = 583 schools
	Required frequency of lesson study	At least once a year	12 districts (29%)
		At least once or twice a semester	10 districts (24%)
		Monthly	1 district (2%)
		<i>Total</i>	<i>23 districts (56%)</i>
	2. Inducements	4-year RTTT funding amount requested by districts	M = US\$168,260
Range = US\$5,060-US\$801,445			
Sum = US\$2,019,121			
Funding used in 2012-2013		M = US\$20,137	19 districts (46%)
		Range = US\$400-US\$150,000	
		Sum = US\$382,600	
Funding use	Substitutes provided for teaching release	23 districts (56%)	
	Extra payment for lesson study participation	7 districts (17%)	
3. Capacity building	Organizational structures and routines	Designated district coordinator	11 districts (27%)
		Number of PD programs	M = 4.8 Range = 1-14
		Enhancing district capacity	11 districts (27%)
	Building local capacity	Working with external lesson study experts	17 districts (41%)
		Instructional coach training	9 districts (22%)
		School administrator training	16 districts (39%)
		Teacher training	16 districts (39%)
		Assistance and support	32 districts (78%)

Note. PLA = Persistently Lowest Achieving schools; RTTT = Race to the Top; PD = professional development.

low-achieving schools to implement lesson study, and the remaining 12 districts (29%) did not specify any requirement. These even more stringent requirements at the initial stage show the likelihood for the districts' intention to communicate their commitment to FLDOE. Yet, the second reason is also possible as there was no clear necessity for each district to expand the requirement to other schools beyond PLA schools to show their commitment.

To examine the possibility of the third reason, we looked into the open-ended comments provided by district professional development coordinators regarding their experience with facilitating lesson study. The open-ended comments in the survey indicate the positive perceptions and buy-in of lesson study among professional development coordinators. Of 41 district coordinators, 25 (61%) provided positive comments regarding the perceived benefits and effectiveness of lesson study. A coordinator of a district where 15 schools are required to implement lesson study explained enthusiastically,

Lesson study in our district was wonderful. Over 80 teachers completed an entire lesson study cycle. Teachers really were able to see how achievement of student goals can be evaluated

using data collected in the classroom and how to place an emphasis on the learner when planning, teaching and reflecting on lessons and overall classroom practices. Every administrator and teacher involved in the process has expressed an interest in continuing to participate in lesson study in the future.

Another coordinator who facilitated lesson study cycles as the county lead for lesson study further elaborated on the benefits of lesson study:

To me, lesson study is one of the most impactful forms of teacher development we have in our district. Often teachers go to PD sessions and really receive the theory or the research behind strategies. Lesson study allows teachers to actually practice. The rewards literally continue to come in from teachers who have participated in lesson study and then took the lessons learned back into the classroom and are seeing the results. It's been amazing.

These positive experiences of district leaders with lesson study may have led to the expanded requirement of lesson study to scale up the professional learning opportunity through lesson study across the district in addition to the first

Table 2. State and District Mandates, Inducements, and Capacity Building for Lesson Study.

1. Mandates										2. Inducements					3. Capacity building				
State policy		District policy			Funding use					Org. structure/routines		District capacity		Local capacity					
District with PLA	Number of PLA schools	Schools required to implement LS	Number of required schools	Required frequency of LS	4-year RTTT funding amount requested by districts	Funding used in 2012-2013	Substitute	Teacher payment	Designated district coordinator	Number of PD programs	Working with LS expert	Instructional coach training	School admin. training	Teacher training	Assistance/ support				
1	✓	3	All	52	1/Year	US\$0	✓	✓	Yes	6			✓	✓	✓				
2	✓	2	PLA/LA	6	1-2/Sem.	US\$41,236.8	✓	✓	Yes	3	✓	✓	✓	✓	✓				
3	✓	2	PLA/LA	1	1-2/Sem.	SIG			No	10		✓			✓				
4	✓	11	Other	25	NS	US\$801,445			Yes	6					✓				
5	✓	2	All	12	1-2/Sem.	US\$29,583	✓		No	1					✓				
6	✓	2	Other	15	1/Year	US\$165,000	✓		No	4					✓				
7	✓	14	PLA/LA	60	NS	SIG			No	2					✓				
8	✓	2	PLA/LA	3	NS	US\$113,400	✓	✓	No	4			✓	✓	✓				
9	✓	3	All	24	1-2/Sem.	US\$143,000	✓		No	2					✓				
10	✓	1	PLA/LA	2	1/Year	SIG			No	3					✓				
11	✓	2	PLA/LA	1	Monthly	Title II	✓	✓	No	2	✓	✓			✓				
12	✓	3	All	42	1/Year	SIG			No	5					✓				
13	✓	2	PLA/LA	1	1-2/Sem.	SIG			No	10					✓				
14	✓	2	All	180	1/Year	Other	✓		No	7	✓	✓	✓	✓	✓				
15	✓	1	PLA/LA	40	1-2/Sem.	SIG & Title II	✓		No	2	✓	✓	✓	✓	✓				
16	✓	1	PLA/LA	18	1/Year	Title II	✓		No	1	✓	✓	✓	✓	✓				
17	✓	0	Other	19	1/Year	US\$0	✓	✓	Yes	14					✓				
18	✓	0	None	0	NS	US\$0			No	1					✓				
19	✓	0	None	0	NS	US\$95,128	✓	✓	No	1					✓				
20	✓	0	None	0	NS	US\$0			Yes	2	✓	✓	✓	✓	✓				
21	✓	0	None	0	NS	US\$1,000			No	12					✓				
22	✓	0	All	4	1/Year	US\$500	✓		No	7					✓				
23	✓	0	None	0	1/Year	US\$0			No	11					✓				
24	✓	0	All	15	NS	US\$0			No	7					✓				
25	✓	0	PLA/LA	2	NS	US\$0	✓		No	2	✓	✓	✓	✓	✓				
26	✓	0	Other	0	1-2/Sem.	Title II	✓		No	5	✓	✓	✓	✓	✓				
27	✓	0	None	0	NS	US\$0			Yes	1	✓	✓	✓	✓	✓				
28	✓	0	Other	10	NS	US\$167,750	✓	✓	No	5					✓				
29	✓	0	All	18	1/Year	US\$0	✓		No	10	✓	✓	✓	✓	✓				
30	✓	0	None	0	NS	US\$0	✓		No	5	✓	✓	✓	✓	✓				
31	✓	0	None	0	NS	US\$150,000	✓	✓	No	5					✓				
32	✓	0	None	0	NS	US\$250,536	✓	✓	Yes	13					✓				
33	✓	0	None	0	NS	US\$0	✓		Yes	1	✓	✓	✓	✓	✓				
34	✓	0	Other	3	1-2/Sem.	US\$0	✓		Yes	2	✓	✓	✓	✓	✓				
35	✓	0	None	0	NS	US\$0	✓		No	5	✓	✓	✓	✓	✓				
36	✓	0	All	9	1/Year	US\$0	✓		No	2	✓	✓	✓	✓	✓				
37	✓	0	None	0	NS	US\$0			No	7					✓				
38	✓	0	PLA/LA	3	1-2/Sem.	US\$5,060	✓		No	3	✓	✓	✓	✓	✓				
39	✓	0	None	0	NS	US\$0	✓		No	2	✓	✓	✓	✓	✓				
40	✓	0	Other	4	1/Year	US\$28,800	✓		Yes	2	✓	✓	✓	✓	✓				
41	✓	0	All	1	NS	US\$0	✓		No	4	✓	✓	✓	✓	✓				
41	✓	0	All	13	1-2/Sem.	US\$195,102	✓		Yes	2	✓	✓	✓	✓	✓				
41	✓	0	All	13	1-2/Sem.	US\$11,880	✓		No	3	✓	✓	✓	✓	✓				
Total		53		583		12	19	23	7	11	11	17	9	16	32				
											M = 4.8								

Note. PLA = Persistently Lowest Achieving schools; LS = lesson study; RTTT = Race to the Top; Org. = organizational; PD = professional development; LA = low-achieving schools; SIG = School Improvement Grant.

two possible reasons. However, the district approach to lesson study through a mandate seems to indicate a lack of understanding of lesson study as a teacher-centered collaborative learning process.

Inducements: Sufficient State Funding and Limited District Funding Request and Use

The state and districts used funding as a policy instrument of “inducement” to facilitate lesson study practice. As explained earlier, within the US\$700 million RTTT budget, approximately US\$350 million was distributed to the districts. Of the remaining US\$350 million that stayed in FLDOE, US\$7.9 million was directly allocated to promoting lesson study statewide and additional US\$33 million was allocated for projects that include lesson study as a part of each project (FLDOE, 2010b). The state RTTT application explains that US\$7.9 million would be used for development of lesson study toolkits and other lesson study-related activities. The state education representative we interviewed explained that the allocated funding was used for statewide trainings and projects including toolkit development on lesson study. The projects that include lesson study with the budget of US\$33 million include funding for (a) reading coordinators and STEM (science, technology, engineering, and mathematics) coordinators who work with low performing schools on a variety of tasks that could include lesson study, (b) instructional technology specialists, and (c) training and development of resources for professional development including lesson study. Although these funding amounts used for lesson study at the state level are small compared with the total operational budget of approximately 135 million FLDOE allocates each year for professional development (FLDOE, 2012), it should be sufficient for delivering statewide training and workshops and developing resources on lesson study.

Lesson study was 1 of the 13 projects and districts could request a part of US\$350 million for lesson study. However, as shown in Table 1, only 12 districts (29%) requested funding for lesson study in their RTTT proposals. If we simply assume that US\$350 million is equally divided among the 13 RTTT projects, a total of 27 million could be allocated for the Project 1: Expand Lesson Study. However, the total amount requested by these 12 districts sums up to only US\$2,019,121. In addition, if we assume that 27 million is distributed across 65 districts that submitted a RTTT proposal, the average amount each of these districts could potentially request for lesson study is US\$414,201. However, the actual amount of lesson study funding requested and granted in 2011 varied from US\$5,060 to US\$801,445, with a mean of US\$168,260, to be spent over the 4 years of the RTTT Program. The second column in Table 2 shows the amount of funding each district requested and received for Project 1: Expand Lesson Study. To avoid identification of specific districts, the dollar amounts were adjusted plus-minus 10% randomly in the table.⁷ A further review of the budget sections in the district

RTTT applications showed that 10 other districts that requested no funding for lesson study explained that they would use other types of funding including School Improvement Grant (SIG)⁸ and Title II funds—discretionary grants for states and districts for educator training and recruitment—for lesson study.⁹

The interview with a lesson study training organizer revealed a possible reason behind the small amount of funding requested by the districts.

Researcher: When we look at the districts’ RTTT applications for Project 1—Expand lesson study, not all the districts requested funding for lesson study and also the amount tended to be quite small. Do you know why they didn’t request funding when they could actually do so?

Lesson study training organizer: I think that in the beginning when they were putting in their application they really didn’t know what it (lesson study) was. In fact, when we started doing the training, people thought that it was lesson planning. So, you don’t need a whole lot of money for that.

This lack of understanding of lesson study may explain the modest amount of funding requested by the districts. In addition, the short time frame given to districts—only 3 months to submit a district application to the state—probably did not allow them to learn about the time-intensive nature of lesson study and request sufficient funding for substitutes and teacher payment in their applications.

The survey of 41 professional development coordinators further revealed that the actual amount of funding used for lesson study during the 2012-2013 academic year was even smaller, ranging from US\$400 to US\$150,000 with an average of only US\$20,137 (Table 1). This amount is significantly smaller than one fourth of the average RTTT funding the district received for 4 years. Table 2 lists the amount reported by each district, and whether the funding was used for providing substitutes for teachers and extra payment for lesson study meetings outside the contract hours. The survey data showed that a total of 23 districts provided substitutes (56%) but only 7 districts (17%) provided extra payment to teachers.

The payment rates reported by the districts show that the cost of hiring a substitute for 1 day ranges from US\$80 to US\$100, while teachers’ hourly rates range from US\$25 to US\$35 per hour (a comparable daily rate of US\$150 to US\$210 for 6 hr). The cost-effectiveness of hiring substitutes for lesson study instead of paying teachers for meeting after school may explain the common use of substitutes for lesson study. Considering the small amount of the RTTT funds requested for lesson study, it is likely that many districts supplemented the funding using the existing general professional development funding allocated for substitutes.

Among the 28 districts that required lesson study, Table 2 shows that 12 districts did not use any funding for substitutes or teacher payment. The state requires districts with a PLA

school to modify the school schedule to provide a regularly scheduled block of time dedicated to lesson study for each grade level or subject area. Thus, many districts may have chosen to create a common planning time during regular school hours that do not require a substitute or teacher payment. The proposal documents from several districts indicate that they have been promoting an establishment of a common planning time for the Professional Learning Community (PLC) even before the RTTT Program, thus it is likely that many schools use common planning time to practice lesson study in the districts that did not provide substitutes or teacher payment.

This approach is cost-effective as it does not require extra funding for substitutes or teacher payment, yet it poses a challenge as it does not provide any incentives for teachers to participate in lesson study especially in the schools that are required to practice lesson study. Considering the heavy instructional workload of teachers, being required to practice lesson study during a common planning time is likely perceived as another project that requires time and effort without any incentive. Furthermore, engaging in an unfamiliar research process in lesson study and in-depth discussions of the curriculum and student learning during a typical common planning time of 40 to 50 min would be difficult even when it is facilitated by a skilled instructional coach or teacher leader. Teaching release time and extra payment for meeting outside the regular school hours would likely serve as necessary incentives for teachers to engage in lesson study in the U.S. context where teachers have heavier instructional load (OECD, 2014) and lower salary (Akiba, Chiu, Shimizu, & Liang, 2012) than other countries.

Open-ended comments provided by 17 districts (41%) showed that, while acknowledging the benefits and effectiveness of lesson study, the limited time and funding is a major challenge for lesson study practice. One district coordinator explained,

The biggest issue was the full cycle. (It's) easy for teachers to plan, conduct and talk about what they did, but harder to get coverage for watching each other teach and debriefing which is critical to the success of lesson study. We need additional support in order for it to be conducted with integrity.

Another coordinator shared her view on a possible consequence of limited funding:

While the model is very valuable and we would like to implement it, we are constrained by a lack of time resources, funding resources for substitutes, and coach positions/resources to support and facilitate lesson study. It is an excellent model for professional development, but until the state's funding formula supports a teacher work schedule that builds in time for teacher collaboration and work such as lesson study, rather than just funding the time teachers spend with students, lesson study will continue to be implemented in a random fashion across the state.

Faced with limited funding, other district coordinators asked, "How can (lesson study) implementation be completed without the extensive amount of time it requires?" and "how can we make lesson study a valuable tool for teachers in less time while still maintaining fidelity to the concept of lesson study?" These comments indicate that not only most districts are aware of the limited time and funding but some districts are starting to seek ways to modify the lesson study process to make it more feasible within the funding and time constraints.

Capacity Building: Modified Lesson Study and Enduring Organizational Structures and Routines for Professional Development

FLDOE approached capacity building of districts by having five regional Differentiated Accountability (DA) offices under FLDOE provide lesson study training and work with lesson study teams in PLA and low-achieving schools, and by providing competitive grants to subcontract the professional development service to various organizations. While these DA offices focused on working with a small number of PLA and other low-achieving schools, FLDOE increasingly relied on the third parties—including higher education institutions and other public and private organizations—to disseminate and scale up lesson study across the state.

First, using the US\$7.9 million budgeted for lesson study from the RTTT Program, FLDOE has funded several projects to develop lesson study toolkits in mathematics and language arts and a teacher standards tool that can be used for lesson study. These online tools guide teachers step-by-step along each stage of lesson study with links to lesson plans aligned with the Florida Standards and the CCSS. Second, FLDOE partnered with one regional center funded by the USDOE and a nonprofit organization that provided training on lesson study using a lesson study facilitator kit. These organizations have been providing professional development on lesson study to district and school administrators and teachers across the state. Third, FLDOE funded three higher education institutions to scale up lesson study implementation across the state. These institutions partnered with districts across the state and facilitated lesson study implementation through various formats including conferences and short-term summer institutes.

These tools and services on lesson study funded by FLDOE likely influence the districts' understanding of lesson study and how to facilitate it. A close examination of policy documents and publicly available training and resource materials revealed that lesson study has been disseminated with modified characteristics. Specifically, two characteristics of the disseminated lesson study model stand out as major modifications: (a) lesson study as an addition to the existing professional development programs and (b) shortened and simplified process of lesson study.

Lesson study as an addition to existing professional development programs. In the policy documents and training materials, there was little indication that lesson study was understood as a long-term process of instructional improvement in which a group of teachers engage in practice-based research to study curriculum and student thinking. In addition, the awareness that this process requires provision of high-quality curriculum and instructional resources and opportunities to develop content and pedagogical content knowledge of teachers was not evident in these documents.

In “A guide to implementing lesson study for district and school leadership teams in differentiated accountability schools (Haithcock, 2010),” FLDOE explained that “Lesson study enhances successful strategies currently included in many initiatives, such as Florida’s Continuous Improvement Model (FCIM), Professional Learning Communities (PLCs), Problem-Solving and Response to Intervention (PS/RtI), Data-Driven Instruction, and Instructional Coaching Cycles” (p. 5). In addition to brief bullet-point descriptions of how lesson study is aligned with these programs, the guide provided expanded explanations of the alignment between lesson study and two models—the instructional review and PS/RtI in Appendix A: “Linking the Instructional Review and Lesson Study” and “Integrating Lesson Study within Florida’s PS/RtI Framework” (Haithcock, 2010, pp. 22-24). Furthermore, lesson study was listed along with formative assessment as a tool for implementing the CCSS in the RTTT application and district proposal template (FLDOE, 2010a, 2010b).

This state approach to introduce lesson study as a professional development tool aligned with existing professional development programs may be a natural strategy to communicate the feasibility of lesson study implementation and thereby earn districts’ buy-in. However, the essence of lesson study—the continuous and collective engagement in a research process of examining curriculum and student thinking and experimenting with problem-solving approaches to promote students’ conceptual understanding—is lost when lesson study is perceived to be one of the many separate professional development tools or programs that currently exist in many districts. Furthermore, this perception of lesson study as aligned with the existing professional development tools or programs and one addition to this list does not communicate to the districts that they may need to reconsider the existing organizational structures and routines to provide resources and opportunities for teachers to learn the process of practice-based research in lesson study and to enhance content and pedagogical content knowledge through lesson study.

District survey data revealed that most districts did not change the existing organizational structures and routines to facilitate the process of lesson study. As summarized in Table 1, only 11 districts (27%) reported that they have a designated coordinator whose main responsibility is to coordinate lesson study across the district. The professional development

coordinators of 19 other districts (46%) reported that there is no designated coordinator but existing district staff is coordinating lesson study, and the remaining 11 districts (27%) reported no one is coordinating lesson study in their districts. The survey also asked the number of separate professional development programs they coordinated including lesson study during the 2012-2013 academic year, and the number ranged from 1 to 14 programs with an average of 4.8 programs per district. This indicates that lesson study is promoted as one of the five professional development programs they are facilitating, which is consistent with the traditional “cafeteria” approach districts use for professional development to meet the various learning needs of teachers without a clear coordination or integration of teacher learning opportunities (Elmore, 2004; Little, 1993, 1999; Spillane, 2002).

Shortened and simplified process of lesson study. Another characteristic that became apparent from the review of training and resource materials was the modification of lesson study schedule and simplified process of lesson study. While lesson study was initially promoted as a job-embedded professional development and the FLDOE guide (Haithcock, 2010) showed several examples of using common planning time to continuously engage in lesson study cycle, five organizations (three higher education institutions, one regional center, and one nonprofit organization) that were funded and tasked to facilitate implementation of lesson study across the state promoted lesson study as a 2- or 4-day process. For example, one of the three projects funded by FLDOE requires teachers to complete one lesson study cycle in 4 days during a fall semester after completing an 8-day summer institute on major science domains and paying US\$1,500 stipend to each teacher. Another funded project pays for teachers’ time for 2 days to implement lesson study after completing a 4-day workshop on how to develop a perfect inquiry lesson and introducing the benefits and process of lesson study. In these projects, lesson study is an add-on to the traditional institutes where teachers learn the content and pedagogical approaches. A coordinator of one of these projects explained to the researcher that “lesson study is just a process, so we need to cover the content through the summer institute first.”

When asked why the lesson study cycle is shortened to 2 days, the trainer from the nonprofit organization explained, “We started out with a 5-day model, but many districts told us that a 2-day model is more feasible considering the limited funding and time.” The lesson study facilitator kit developed by this organization include preexisting lesson plans, which would be used for the first three cycles of lesson study without engaging teachers in the study of curriculum or student thinking so that “teachers can focus on learning the data collection and analysis,” according to the manual included in the facilitator kit. Included in the packet are a series of templates that guide data collection including “behavior scan 1” and “behavior scan 2” in which teachers are expected to make tally marks next to each behavior they observed,¹⁰

“time sweep: who is talking and when?” to record the time when the instructor and students speak during the research lesson, and “word-for-word record” to write down the instructor’s questions and student responses verbatim.

The research process of lesson study—examining the curriculum and instructional materials and their own students’ thinking process and understanding of the chosen content—is stripped away in this shortened and simplified process of lesson study. After they became familiar with the data collection and analysis using these templates in the first three cycles of lesson study, they are encouraged to use a teacher-selected lesson from the fourth cycle within the 2-year schedule to implement six cycles of lesson study. These approaches to lesson study using multiple templates are consistent with the behaviorist perspective on teacher learning (Spillane, 2002)—the knowledge about lesson study process is transmitted and complex research tasks involving examination of curriculum and student thinking and data collection are decomposed into templates and stages that can be mastered in sequence from simple to complex levels.

The FLDOE purchased the facilitator kit developed by this nonprofit organization and distributed to the participants of statewide lesson study facilitator trainings, and these participants including district professional development coordinators, instructional coaches, and teacher leaders were encouraged to use the kit to facilitate the lesson study process at district and school levels. For the schools that decided to use the kit, the FLDOE provided funding to pay for the coaches from this organization to facilitate the lesson study process at the school sites.

It is likely that these state-level training and resources that support the model of shortened and simplified process of lesson study influence the understanding of lesson study of district coordinators, coaches, and teachers. To examine how the districts approached capacity building of district personnel, the survey asked whether they worked with an external lesson study expert and whether their instructional coaches attended lesson study training, and if so, who provided the training. The district survey showed that only 11 districts (27%) reported working with lesson study experts and 17 districts (41%) had their instructional coaches attend lesson study training. It is likely that many districts do not have time to work with external experts or cannot send their instructional coaches to training because of the fact that lesson study is only one of many professional development programs they are facilitating.

The survey did not ask who the external experts are, thus it is not known whether they worked with national experts on lesson study who communicate the core features of lesson study or one of the lesson study training or project organizers and providers funded by FLDOE. However, 11 out of 17 districts that sent their instructional coaches for training named one of the five organizations that were funded by FLDOE as the training provider. Therefore, it is likely that districts’ effort to enhance capacity focused on learning and facilitating

the modified short-term and simplified process of lesson study as an addition to the existing professional development programs.

Districts also play an important role in enhancing local capacity in practicing lesson study and they may approach the local capacity building by offering lesson study training for administrators and teachers and by providing assistance and support along the four stages of lesson study. Because not all administrators and teachers can attend the state-funded training and projects on lesson study due to the limited capacity to accommodate a large number of participants, the districts play a critical role for reaching out to a large number of more than 130,000 regular teachers across the state.

The district survey showed that only 9 (22%) out of 41 districts offered training for school administrators and only 16 (39%) offered training for teachers. However, 32 districts (78%) reported that they provided assistance and support to schools and teachers on how to implement lesson study. According to the training facilitators we interviewed, a common approach taken by these districts is that the district instructional coaches who participated in lesson study facilitator training or who learned about lesson study visit each school that is required to implement lesson study or that showed interest in practicing lesson study and served as lesson study facilitators using the materials from the facilitator kit. This approach is consistent with the traditional role of instructional coaches visiting schools to provide coaching to individual teachers or a group of teachers. The short-term lesson study that can be completed in 2 days and the facilitator kit that provides all the templates for guiding the lesson study process seem to fit well with the traditional role of instructional coaches facilitating multiple short-term professional development programs as well as the districts’ limited funding allocated and used for lesson study.¹¹

Discussion and Conclusion

Based on a mixed-method study analyzing the state and district policy documents, statewide district survey data, and interviews, we examined how the state department of education and districts used three types of policy instruments; mandates, inducements, and capacity building to facilitate lesson study implementation and how their approaches interact with the existing organizational contexts of professional development. Before discussing the findings, it is important to point out the limitations of the current study.

First, this study did not involve interviews of district coordinators and instructional coaches to fully understand their knowledge and interpretations of lesson study and examine the process each district took to facilitate lesson study practice of teachers. While this study focused on reporting the major approaches taken by the districts using the survey data, there are a small number of districts that seem to have taken the approaches conducive to promoting the core features of

lesson study such as assigning a designated lesson study coordinator, using lesson study as the main process of professional development without mandating it, allocating sufficient funding for substitutes and teacher payment, and connecting with lesson study experts. The in-depth case studies of these districts would be beneficial to examine the understanding of lesson study among this small group of district leaders and the processes they have taken to establish a support system for teachers.

Second, we also do not know how the state and district approaches to lesson study influence the nature of lesson study practiced by teachers. Lesson study could be practiced locally by a group of highly committed teachers, thus not all lesson study practices are directly influenced by the state or district policy and organizational resources and supports. A statewide survey of teachers coupled with case studies of lesson study groups would reveal both a statewide variation in the characteristics of lesson study practice as well as the detailed processes involved in lesson study practice.

Despite these limitations that need to be overcome in future studies, this is the first study that examined both the state and district approaches to disseminate and scale up lesson study using mixed-method data and produced findings that have important policy implications. First, we found that the state required only a small number of PLA schools to implement lesson study, but a majority of the districts (68%) mandated a significantly larger number of schools to practice lesson study. A total of 583 schools across 28 districts were required to practice lesson study during the 2012-2013 academic year, which constitutes 17% of all schools in Florida. This level of requirement for schools to practice one type of professional development is not common in the U.S. context where districts have traditionally offered multiple professional development trainings without any requirement or only mandated teacher participation in district-wide or school-level professional development days. There are several possible reasons for this expanded requirement at the district level including the districts' intention to show their commitment to the RTTT program, applying the same requirement across the district, and possible buy-in of the district leaders because of the perceived benefits and effectiveness of lesson study. Future case studies of district leaders need to examine the decision-making process they went through to establish an expanded requirement of lesson study.

Despite the district lesson study mandate that impacts a large number of schools, only 12 districts (29%) requested RTTT funds dedicated for lesson study even though all the districts were allowed to request sufficient funding to cover teacher time to engage in lesson study. A lack of awareness of the time-intensive nature of lesson study and the short time frame to submit the district application to receive RTTT funds seem to have contributed to the limited funding request. Furthermore, the district survey showed that only 19 districts (46%) actually used any funding for lesson study during the

2012-2013 academic year. The amount of funding used was minimal with an average of US\$20,137 per district. As a result of the limited funding allocated and spent, most districts decided to provide substitutes to teachers for 1 or 2 days instead of providing extra payment of teachers because of the cost-effectiveness of using substitutes. This method also aligns well with the common method for using professional development funds. Consequently, a large number of district leaders identified the lack of time and funding as a major challenge for implementing lesson study in their districts—consistent challenge for lesson study practice in the United States identified in previous studies (Murata, 2011; Yoshida, 2012).

The state approached the capacity building by subcontracting lesson study-related services to public and private organizations, which disseminated lesson study as a short-term, simplified process that can be completed in 2 or 4 days. In addition, the state introduced lesson study as an addition to the existing list of professional development tools or programs, emphasizing how lesson study is well-aligned with the existing programs promoted by the state. This modified process of lesson study fits well within the existing organizational structures and routines surrounding professional development that are well documented in previous studies—the professional development office providing multiple short-term professional development programs and instructional coaches delivering these programs without a clear overall framework to provide consistent learning opportunities to teachers (Elmore, 2004; Little, 1993, 1999; Spillane, 2002). The limited funding for lesson study further promoted this short-term, simplified process of lesson study as a feasible model for schools to meet the district requirement.

As a result, only a small number of districts assigned a designated district coordinator of lesson study and most districts continued to offer multiple professional development programs. Only less than 50% of the districts engaged in district-level capacity building by working with external lesson study experts and sending their instructional coaches to lesson study trainings. Most of these trainings were offered by the professional development providers that promoted a short-term and simplified process of lesson study. Furthermore, less than 40% of the districts approached local capacity building by offering lesson study trainings for school administrators and teachers. Most districts (78%) reported that they provided assistance and support to schools and teachers, most likely using the common approach of sending their instructional coaches to school sites who introduce the process of lesson study to teachers and facilitate lesson study in 2 to 4 days.

In summary, the state and districts used mandates as the major policy instrument to promote and scale up lesson study with limited investment in inducements and capacity building. Lesson study was introduced as an addition to the existing professional development programs and its process was shortened and simplified to fit into the existing organizational structures and routines of professional development.

The previous studies documented the adaptation process of policy implementation at district and school levels as a result of sense-making processes they go through. Specifically, these studies have found that how policy is understood and implemented depends on the existing knowledge of the policy implementers about the policy idea as well as the existing organizational contexts surrounding the idea (Coburn, 2005; Spillane, 1998, 2000).

It is likely that the prior knowledge about teacher professional development among the state leaders as well as how professional development is structured at the district level shaped their understanding of lesson study and how it should be promoted. Because teacher professional development has been promoted as multiple short-term activities delivered by instructional coaches, lesson study may have been interpreted as another model that aligns well with the existing professional development.

Probably because of the international origin of lesson study that emerged in different cultural and organizational contexts supporting the teaching profession, it was natural for the state and district leaders to understand it by associating with the existing professional development programs familiar to them such as PLC. In addition, to scale up lesson study implementation across the state, they sought for packaged materials on lesson study that allowed the process to be simplified and understandable to district and school leaders and teachers. This modified process of lesson study is perceived to be feasible to implement considering the existing organizational structures and routines surrounding professional development that deliver multiple short-term professional development programs.

The context of the RTTT program that holds the states and districts accountable for implementing the proposed projects within a short time frame of 4 years further promoted the importance of feasibility as well as the scalability to demonstrate the results. Modifications of lesson study to a short-term, simplified process that can be added to the existing professional development programs may have been necessary, from the state and district leaders' perspective, to make it feasible and scalable in 4 years. The state requirement of lesson study for the PLA schools further promoted the importance of feasibility considering the limited resources and capacity of these schools. Yet, the state and district approaches to scale up lesson study was mainly supported by the idea of increasing the number of lesson study participants without attention to the quality of teacher learning process through lesson study—similar to the traditional approach to scale without considering the critical aspects of scale identified by Coburn (2003)—the nature of change in classroom instruction, sustainability, spread of norms and beliefs, and a shift in reform ownership. It is likely that this unique reform context for scaling up lesson study focusing on the number further encouraged the state and districts to rely on the existing organizational structures and routines and modify the process of lesson study to make it feasible and scalable.

The data collected in this study do not allow us to understand how these states' and districts' approaches to lesson study in Florida influence teachers' experience with lesson study. However, it is likely that most school administrators and teachers were introduced to the short-term, simplified process of lesson study with little emphasis on the research process of examining the curriculum and instructional materials and their own students' thinking process and understanding of the chosen content. Case studies of lesson study practice in Florida need to be conducted to examine the possible impacts of the state- and district-level lesson study policy and organizational contexts on teacher understanding and practice of lesson study.

Policy Implications

The findings from this study offer three policy implications. First, it is important for the state and district policymakers to carefully examine the new model of professional development before developing a policy. This process is especially important for an international innovation like lesson study that emerged and practiced in different social and organizational contexts. There are national experts of lesson study who can provide research-based knowledge and guidance, and working with these experts for developing a policy and overseeing the state-level lesson study training would be beneficial to guide the sense-making process of understanding lesson study and how to facilitate it. If the state policymakers were aware of the time-intensive, research-focused nature of lesson study, they could encourage the districts to request sufficient RTTT funds for lesson study. Furthermore, if the district leaders understood the teacher-driven research process of lesson study, they could invest in capacity building of the district instructional coaches and teacher leaders instead of simply mandating and delivering it as a short-term, simplified process.

Second, it is important for the state and districts to reexamine the existing organizational structures and routines of professional development and work on reforming these organizational contexts to support content-based, collaborative, coherent, and continuous professional learning activities as a process of instructional improvement. Despite the last two decades of research that have shown the importance of supporting professional development with these characteristics (Desimone, 2009; Hawley & Valli, 1999; Loucks-Horsley et al., 1998; Wilson & Berne, 1999), there has been little change in the districts' organizational structures and routines in which instructional coaches deliver multiple short-term professional development programs and activities to teachers (Elmore, 2004; Little, 1993, 1999; Spillane, 2002). These organizational contexts continue to shape the understanding and practice of teacher professional development, and any promising approaches to professional learning could be modified to fit into these contexts. Some modifications would be a necessary part of adopting an international innovation like

lesson study to a U.S. context, yet such modifications need to be carefully considered and examined so that the core benefits of lesson study will not be lost in the adaptation process.

This reality of professional development contexts has important implications for teacher educators as well. Previous literature has documented the teacher educators' practice of lesson study with preservice teachers in various locations across the country (Cohan & Honigsfeld, 2006; Fernandez & Zilliox, 2011; Marble, 2006, 2007; Murata & Pothen, 2011; Parks, 2009; Yu, 2011). Preservice teachers who learned the continuous and research-based process of lesson study in a teacher education program guided by teacher educators may encounter a different reality in practicing lesson study as new teachers. Continuous support and guidance from teacher educators may be critical for maintaining the core process of lesson study to be continuously practiced after these preservice teachers are employed by school districts.

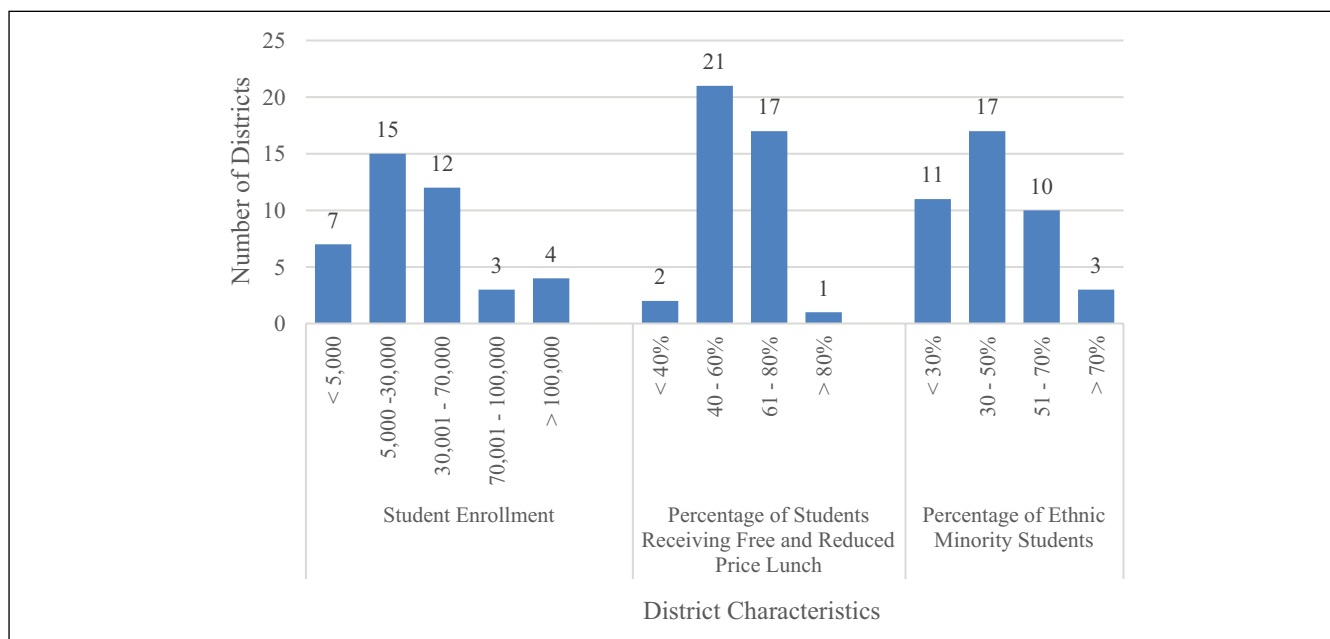
Finally, it is also important to learn from the local practices of lesson study led by teacher leaders. Through our research, we have come across a small number of lesson study groups led by teacher leaders in Florida which have been practicing lesson study even before the state decided to feature it in its RTTT application.¹² These lesson study groups managed to organize and continue lesson study practice under the existing organizational contexts. Emerging

data show that these groups have been supported by strong school leaders or teacher leaders who are networked with national experts and projects that provided resources and expertise to support their lesson study practice. There are important lessons we can learn from these groups as well as other lesson study groups that have been engaging in a teacher-driven research process of lesson study across the country.

Future studies of lesson study processes practiced by teacher groups will show the possible impacts of the state's and districts' approaches to promote lesson study on teachers' learning experiences as well as on the improvement in teacher knowledge, practice, and student learning. It is likely that teachers will continue to face the challenges identified by previous case studies—a lack of time, a lack of familiarity with the research process, and a lack of resources and opportunities to develop content and pedagogical content knowledge necessary for facilitating the lesson study process by themselves (Chokshi & Fernandez, 2004; Fernandez, 2005; Fernandez & Cannon, 2005; Fernandez et al., 2003; Hart, 2009; Hart & Carriere, 2011; Murata, 2011; Perry & Lewis, 2009). However, these challenges will become less daunting if district and school leaders collaborate with teacher leaders and lesson study experts to improve organizational structures and routines for supporting the teacher-centered research process of lesson study.

Appendix

Characteristics of Districts Participated in the Statewide Survey.



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Authors' Note

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Notes

1. This framework was chosen for this study because its policy instruments are aligned with the range of the state and district policy approaches to promoting lesson study we observed in Florida and it allowed us to conceptualize and categorize these approaches. Another possible framework we considered was four aspects of district management and implementation of professional development: (a) alignment of professional development activities with state and district standards and assessments, (b) coordination among multiple professional development programs, (c) continuous improvement efforts (e.g., needs assessments, evaluation), and (d) teacher involvement in planning by Desimone, Porter, Birman, Garet, and Yoon (2002). This framework is more suitable for examining districts' approaches to multiple professional development activities than one comprehensive approach such as lesson study. Thus, we decided to use Knapp's framework for this study.
2. The proposals from 15 districts were excluded because these proposals did not mention lesson study at all or they included only one or two general statements such as "Lesson study will be implemented" and "We will promote lesson study" without explaining how they would implement or promote lesson study.
3. This follow-up was necessary because of the various interpretations of some of the survey questions that may be not clear to the respondents. For example, we found through follow-ups that many districts reported they provided training on lesson study for administrators and teachers when indeed they sent some of them to state-sponsored training or workshop. Their responses were recoded accordingly to accurately measure the districts' own approaches to lesson study.
4. These 12 winner states in 2010 (Phase I and Phase II competitions) are Delaware, Tennessee, Washington, D.C., Florida, Georgia, Hawaii, Maryland, Massachusetts, New York, North Carolina, Ohio, and Rhode Island. Seven other states won the Race to the Top (RTTT) funding in 2011 (Phase III competition): Arizona, Colorado, Illinois, Kentucky, Louisiana, New Jersey, and Pennsylvania. In 2012, the U.S. Department of Education announced the RTTT District Program and 16 districts across the country have been awarded the RTTT funding so far. As of 2014, Florida is the only state that chose lesson study as one of the state projects in the RTTT proposal.
5. These 13 projects are as follows: Project 1: Expand Lesson Study; Project 2: Expand STEM (Science, Technology, Engineering, and Mathematics) Career and Technical Program Offerings; Project 3: Increase Advanced STEM Coursework; Project 4: Bolster Technology for Improved Instruction and Assessment; Project 5: Improve Access to State Data; Project 6: Use Data to Improve Instruction; Project 7: Provide Support for Educator Preparation Programs; Project 8: Improve Teacher and Principal Evaluation Systems; Project 9: Use Data Effectively for Human Capital Decisions; Project 10: Focus Effective Professional Development; Project 11: Drive Improvement in Persistently Lowest Achieving Schools; Project 12: Implement Proven Programs for School Improvement; and Project 13: Include Charter Schools in LEA Planning. These projects were developed to address four core education reform areas specified by the U.S. Department of Education (USDOE): (a) standards and assessments, (b) data systems to support instruction, (c) great teachers and leaders, and (d) turning around the lowest-achieving schools.
6. ANOVA and correlation analyses were conducted to examine whether these three indicators of lesson study mandates were significantly associated with district background characteristics (enrollment, percentage of free and reduced-price students, and percentage of ethnic minority students). We found that larger and ethnically diverse school districts were more likely to require a larger number of schools to implement lesson study than smaller and white-dominant school districts. In addition, ethnically diverse and high poverty school districts were more likely to require only low-achieving schools to implement lesson study than low poverty White-dominant districts. There was no statistically significant relationship between the required frequency of lesson study and district background characteristics.
7. Correlation analysis and *t* tests were conducted to examine the relationships between four indicators of inducements and district background characteristics. We did not find any statistically significant relationship except the relationship between the district size and the RTTT funding amount requested. Understandably, the larger districts were more likely to request a larger amount of RTTT funding than smaller districts.
8. School Improvement Grants (SIG) are grants to State Educational Agencies (SEAs) from the USDOE, authorized under section 1003(g) of the Elementary & Secondary Education Act (ESEA) of 1965 (USDOE, n.d.). The SEAs that receive the funds are then required to distribute at least 95% of the funds to the LEAs in their respective state for the purpose of supporting PLA schools. FLDOE received approximately 26 million in 2009 and 28 million in 2010 and 2011 each year (USDOE, n.d.). The USDOE recommends the use of the SIG funds for job-embedded professional development as part of turnaround model for school improvement among others (USDOE, n.d.), thus districts in Florida that received SIG can choose to use it for job-embedded professional development

including lesson study. We followed up with the districts that did not request any funding for lesson study but indicated that they would use SIG or Title II fund to ask for the reasons for their decision. When we inquired why the districts did not request funding for lesson study, one professional development coordinator responded, “lesson study was only required at PLA schools and we had available funds to support this project through another federally funded program. We chose to prioritize our RTTT funding in other areas.” Another coordinator also explained that the district used SIG funds for lesson study and the additional cost for substitutes was covered by the existing district professional development funds. From these responses, it seems that the districts assumed that the expenses for lesson study could be easily covered by the existing funds from the SIG, Title II, or other district professional development funds, thus wanted to prioritize the RTTT funds for other projects that are not covered by the existing funds.

9. Districts also requested a significantly larger amount of funding for Project 10: Focus Effective Professional Development ranging from US\$28,000 to US\$3.5 million with an average of US\$780,000. Yet, the practice of lesson study was not a requirement for this project, thus the extent to which this funding was used for lesson study is unknown.
10. The listed examples of behaviors provided in the template are “Students sit facing the teacher; eye contact and facial expression show interest,” “Students follow along quietly on their own article while it is read aloud,” and “Students refer accurately to the article to justify their thinking.”
11. We conducted a correlation analysis and *t* tests to examine the relationship between the seven measures of capacity building and district background characteristics. However, none of these relationships were statistically significant.
12. We do not have data on how many such teacher-driven lesson study groups existed in Florida before 2010 beyond two lesson study groups that we came across. A statewide survey of teachers in Florida is necessary in the future to have a better understanding of the history of these local practices in Florida.

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