

Race to the Top and Lesson Study Implementation in Florida: District Policy and Leadership for Teacher Professional Development

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Abstract

Lesson study was introduced to school districts in Florida in the United States as part of the federal government's Race to the Top Program in 2010 to scale improvement in instruction and student learning. However, little is known about what district policy and leadership characteristics are associated with the level of lesson study implementation. Based on a mixed methods study of a statewide survey and interviews of district professional development directors, we found that district requirement of lesson study, funding provision, and future sustainability plan were significantly and positively associated with a broader implementation of lesson study within the district. The interviews revealed that the districts that implemented lesson study districtwide first internalized lesson study through communicating and funding a districtwide expectation of job-embedded, inquiry-based professional development. Following this internalization, the district leaders institutionalized it by supporting school ownership and leadership in organizing and embedding lesson study into the school organizational structures and routines. Implications for educational leaders at local educational agencies are discussed.

Keywords

Scale
System-level instructional improvement
Professional development
Lesson study
Mixed methods study

1. Introduction

With the implementation of the Common Core State Standards (CCSS) in many states since 2014 in the United States, it became urgent that instruction provided across the country reflect the goal of CCSS to ensure students' opportunity to master necessary knowledge and skills to become successful in our society. The CCSS were collectively developed by educators and experts to provide a guideline for what today's students may be expected to know and do from kindergarten to 12th grade. Their increased focus on developing students' analytical, problem-solving, and critical thinking skills along with procedural fluency is seen as a shift from previous standards that may not support conceptual understanding of the content (Common Core State Standards Initiative 2010a, b). Teacher professional development plays a critical role in supporting implementation of the

ambitious instruction envisioned in the CCSS, which is still experientially unfamiliar to many teachers (Marrongelle et al. 2013).

Lesson study is one approach to teacher learning which builds on core principles of teacher ownership, collaboration, and inquiry into teaching and student learning in a chosen subject topic (Hart et al. 2011; Lewis 2002; Lewis and Hurd 2011). Lesson study was imported to the United States in the late 1990s after the publication of *Teaching Gap* (Stigler and Hiebert 1999). This comparative video study of mathematics instruction, as part of the 1995 Trends in International Mathematics and Science Study (TIMSS), identified lesson study as the driving force for Japanese teachers' student-centered problem-solving instruction that promotes conceptual understanding—a type of ambitious instruction promoted by CCSS. Since then, lesson study has been practiced by an increasing number of teacher groups, schools, and districts across the United States (Lewis et al. 2006a, b; Perry and Lewis 2010).

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Florida is the first state that promoted lesson study as a statewide model of professional development, using part of the US\$700 million Race to the Top (RTTT) funding they received in 2010 (FLDOE 2010a). Race to the Top was a competitive, federal grant program in which states were awarded funding by developing innovative plans for improvement, such as adoption of rigorous standards and assessments and turning around low-achieving schools (U.S. Department of Education 2009). The current study focuses on the district implementation of lesson study across the state of Florida. School districts select, mandate, finance, and facilitate teacher professional development, serving as a driver for districtwide improvement of instruction and student learning (Coburn and Russell 2008; Elmore and Burney 1999; Firestone et al. 2005; Floden et al. 1988; Gamoran et al. 2003; Hightower et al. 2002; Knapp 2003; Little 1989, 1993; Spillane 1996; Stein and Coburn 2008; Stein and D'Amico 2002; Sykes et al. 2009). There is a need to better understand what district policy and leadership practices lead to a districtwide implementation of a promising professional development approach such as lesson study and how the districts sustain the implementation after the RTTT program ended.

To examine the characteristics of district policies and leadership practices associated with the level of lesson study implementation, we conducted a mixed methods study of a statewide survey and interviews of district professional development directors in 2014 and 2015. Conducting the survey in these 2 years allowed us to consider the possible impacts of federal funding through the RTTT program that ended in 2014 and identify factors that allowed some districts to sustain lesson study after the RTTT program. Considering the fact that many top-down reform initiatives do not sustain in many schools after the program and funding end (Datnow 2005; Fink 2000; Giles and Hargreaves 2006; McLaughlin and Mitra 2001), understanding what led some districts to sustain lesson study initiated by the Florida RTTT program will provide important leadership and policy implications.

Specifically, this study addressed the following questions:

1. What variation exists in the level of lesson study implementation across 58 Florida school districts, and how did the implementation level change after the RTTT program ended?
2. What district-level policies and leadership practices are associated with the level of lesson study implementation?
3. How did district leaders approach lesson study to achieve a districtwide implementation?

2. Background

2.1. Previous Studies on District Professional Development

Previous research on district leadership for professional development in the United States suggest that three factors could influence the implementation level of lesson study: (1) district policy on lesson study, (2) funding

allocation, and (3) district professional development leadership (Coburn 2003; Firestone et al. 2005; Knapp 2003; McLaughlin and Mitra 2001; Perry and Lewis 2009, 2010).

First, given the discretion and autonomy given to districts whether and how to implement lesson study, district policy that requires lesson study would likely influence the level of lesson study implementation. District “mandate” is an important policy instrument for communicating the district priority in professional development (Knapp 2003). The district leaders may also use a policy to communicate the district vision and establish coherence in professional development (Firestone et al. 2005). Based on a comparison of three urban districts, Firestone et al. (2005) found that the district with a clear vision and emphasis on professional development implemented coherent and content-focused professional development, and the teachers in the district reported a greater influence on teaching practice. We hypothesize that the districts that require all schools to implement lesson study as a district priority would be more likely to report a higher level of lesson study implementation.

Second, districts’ continued provision of funding in the forms of substitutes and stipends for teachers is a critical condition for supporting instructional improvement (Coburn 2003; McLaughlin and Mitra 2001). The importance of funding for districts to provide high-quality professional development was also identified in previous empirical studies (Akiba et al. 2015; Desimone et al. 2002; Gamoran 2003; Spillane and Thompson 1997). Considering the heavy teaching load of US teachers compared to that of teachers in other countries (Liang and Akiba 2018), provision of substitutes for planning meetings and research lessons during the regular school hours and extra payment for meeting outside the regular school hours would serve as major financial incentives for teachers to engage in lesson study (Murata 2011; Yoshida 2012). We hypothesize that the districts that provide substitute funding and teacher payment are more likely to report a higher level of lesson study implementation.

Finally, district leadership in promoting lesson study would play an important role in the implementation of lesson study districtwide (Perry and Lewis 2009, 2010). Having a designated position in charge of lesson study at the district level would ensure that ongoing support be provided to schools and teachers. Stability in professional development leadership position would also be important for providing continued support of lesson study, as previous studies have documented the detrimental effects of leadership turnover on sustaining and scaling reform initiatives (Hargreaves and Fink 2003; McLaughlin and Mitra 2001). In addition, district leaders’ future plan to sustain their support of lesson study would likely send a coherent message to school leaders and teachers that lesson study is a district priority (Firestone et al. 2005) and likely draw their commitment to practice lesson study. Therefore, we hypothesize that the districts with a designated position for lesson study, stable professional development leadership, and a future sustainability plan to continuously support lesson study would be more likely to report a higher level of lesson study implementation.

In addition to the studies on district leadership for professional development, a body of research on scaling up a reform initiative provides important insights into districtwide implementation of a professional development model (Coburn 2003; Dede et al. 2005; McLaughlin and Mitra 2001). A synthesis of findings from cases of districts and schools that successfully scaled up educational innovations conducted by Dede and Honan (2005) identified four key factors to promote and support scaling up improvement at a system level: (1) coping with changes in context, leadership, and funding; (2) promoting ownership by valuing constituent input and support; (3) building human capacity; and (4) engaging in effective decision-making by interpreting data and creating and applying usable knowledge. McLaughlin and Mitra (2001) examined scaled implementations of three reforms based on promising theories of learning and instruction: Fostering Communities of Learners, Schools for Thought, and the Child Development Project. They reported the critical importance of building reform-centered knowledge and leadership capacity within the many levels of the school system so that schools and districts can adhere to core principles even if materials and practices may be adjusted to the local contexts. These studies showed that “adaptation” of an innovation is a natural part of scaling up across diverse contexts with different resources and point to the importance of ownership and capacity building so that schools and districts can effectively adapt the innovation without altering the core principles that lead to improved instruction and student learning.

2.2. Florida Context

Lesson study was first introduced to the Florida Department of Education (FLDOE) by the Chancellor of Public Schools who visited Japan around 2008 (Akiba 2016; Akiba and Wilkinson 2016). When the US Department of Education announced the RTTT program in 2009, FLDOE included lesson study as 1 of the 13 projects in its RTTT application submitted in 2010 (FLDOE 2010a). In the same year, FLDOE was awarded US\$700 million and 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. A total of 65 districts (90% of 72 districts) submitted a proposal in late 2010 describing their 4-year plans to implement the 13 projects and budget request. All the district proposals were approved, and these 65 districts received a total of approximately US\$350 million in 2011 to implement the 13 projects (FLDOE n.d.-a).

The district proposal template for “Project 1: Expand Lesson Study” prepared by FLDOE included a state policy and a compliance procedure (FLDOE 2010b). 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 2010b, 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. The proposal template further specified the importance of sustainability by asking the districts to provide “a short description or list of factors that will contribute to the sustainability of the results of this Project (lesson study) after Race to the Top funding ends” (FLDOE 2010b, p. 7).

FLDOE specified a total of 71 schools in 25 districts as PLA schools in the 2010–2011 academic year and explained that this list would not change during the 4-year grant period for purposes of the RTTT program (FLDOE n.d.-b). Of these 25 districts with at least 1 PLA school, 23 districts participated in the RTTT program; thus the FLDOE requirement applied to 66 schools in these 23 districts. These schools constitute only 2% of the total of 3450 schools in 67 regular districts across Florida; thus the state policy scope was quite limited. Despite the limited scope of the state policy, lesson study has spread across the state, and statewide surveys of district leaders reported that 668 schools across 46 districts practiced lesson study in 2014 (19% of Florida schools) and 749 schools across 39 districts (22% of Florida schools) did so in 2015 (Akiba et al. 2016).

A previous mixed methods study conducted in 2013 revealed major challenges with implementing this international innovation within different districts’ organizational structures and routines of teacher professional development (Akiba and Wilkinson 2016). The authors found that many districts requested limited funding for lesson study due to the lack of awareness of time-intensive nature of lesson study. The district survey data showed that only 12 districts requested RTTT funding for lesson study and only 23 districts and 7 districts provided funding for substitutes and teacher payment, respectively—2 types of funding critical for lesson study implementation (Murata 2011; Yoshida 2012). As a result, many districts promoted short-term and add-on approaches to lesson study. Yet, this study also observed a major variation across districts in using various policy instruments—mandates, inducements (funding), and capacity building to promote lesson study. Such a variation allows an examination of district policy and approaches that could lead to a districtwide practice of lesson study as a driving force for a large-scale instructional improvement.

3. Methods

3.1. Statewide District Survey

A statewide district survey named “Lesson Study District Survey” was conducted via the Qualtrics online survey tool between May and August in 2014 and 2015. These 2 years were selected for two purposes: (1) to examine the difference in the implementation level of lesson study within districts before and after the RTTT program ended and (2) to examine the differences in the district characteristics associated with the implementation level before and after the RTTT program ended. In both years, we followed the three stages of survey implementation:

(1) identification of the district representative who is in charge of lesson study implementation in each district through web searches, emails, and phone calls; (2) administration of the online survey; and (3) follow-ups with nonrespondents through emails and phone calls. Of the total of 72 Florida districts, we decided to focus on 68 districts (67 regular districts and a virtual school district)³

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and reached out to the district professional development directors first by emails and phone calls to identify the individuals who are in charge of lesson study implementation at the district level. Then we sent out a survey invitation email with a link to the online Lesson Study District Survey.

In both years, the survey first defined lesson study as “a continuous professional development process that involves a group of 3–6 teachers collectively engaging in four stages: (1) goal setting, (2) lesson planning, (3) research lesson, and (4) debriefing session.” The survey included questions on seven major topics: (1) district policy on lesson study, the number and types of schools required to practice lesson study; (2) number of schools that practiced lesson study including both required and volunteered schools; (3) funding provision for substitutes and teacher stipends; (4) district-level designated position for promoting lesson study; (5) future plan to continue the district support of lesson study in the following year; (6) other professional development programs implemented; and (7) open-ended comments about their experience with lesson study.

The survey participants received a link to a \$25 online gift card of a major retailer upon completion in 2014 as an incentive. In 2015, participants received a \$20 online gift card. After multiple emails and follow-up phone calls, as of August, 58 districts participated in each of the 2014 and 2015 surveys with a response rate of 85%. Of these 58 districts, 53 districts participated in both 2014 and 2015 survey (5 other districts in each year participated only in 1 year).

3.2. Variables

This study analyzed the implementation level of lesson study as the dependent variable and three domains of district characteristics as independent variables.

Lesson Study Implementation The professional development directors (or other district personnel in charge of lesson study) were asked in the survey, “How many schools in total practiced lesson study in your district during the 2013–2014 (2014–2015) academic year? Please include both the required schools and the schools that voluntarily practiced lesson study.” Based on the number of schools reported in the survey, we computed the percentage of schools that practiced lesson study by dividing the number by the total number of regular schools in the district as the district level of lesson study implementation.

District Policy For the scope of lesson study requirement during the preceding year (2013–2014 and 2014–2015), the district professional development directors were asked to choose from three options: 1 = no school was required, 2 = only some schools (e.g., PLA or low-achieving schools) were required, and 3 = all schools in the district were required.

Funding Allocation The district professional development directors were asked whether they provided funding for (1) substitutes for teachers to participate in lesson study and (2) stipends for teachers who participate in lesson study outside the regular school hours. Their responses were coded as 1 = yes and 0 = no.

District Leadership Three variables were developed to measure the characteristics of district leadership: (1) designated position for lesson study, (2) professional development director stability, and (3) future sustainability plan. The survey respondents were asked, “Did your district have a designated facilitator or coordinator at the district level whose main responsibility was to facilitate lesson study during the 2013–14 (or 2014–2015) academic year?” and their responses were coded as 1 = yes and 0 = no. To measure the professional development director stability, we examined if there was a turnover in the position from 2013 to 2014 and from

2014 to 2015 based on the information from the district websites or email/phone communications. The districts which had the same director were coded as 1, and the districts which had two different directors from 1 year to the next were coded as 0. To measure future sustainability plan, the survey participants were asked, “Does your district have a plan to continue to support lesson study during the 2014–15 (or 2015–2016) academic year?” Their responses were coded as 1 = yes and 0 = no.

3.3. Interviews of Districts with a High Level of Lesson Study Implementation

To address the third research question, “How did district leaders approach lesson study to achieve a districtwide implementation?” we identified four midsized districts where the district leaders reported at least 90% of schools practiced lesson study, and we validated that their lesson study practice followed the core principles. We decided to focus on the districts that implemented lesson study districtwide in order to understand district leaders’ motivation and rationales behind making various district-level decisions and how these decisions contributed to implementing lesson study districtwide and sustained the high level of implementation even after the RTTT program ended.

Of the other four districts, professional development directors in three districts— Albany, Morison, and Lester (pseudonyms)—agreed to participate in the interview in Fall 2015. During the semi-structured interviews, the researchers asked a list of questions grouped into four domains: (1) influence of RTTT and district policy, (2) lesson study approach, (3) funding, and (4) sustainability and changes. The interviews lasted from 40 min to 1 h, which were transcribed verbatim for data analysis.

In 2015, Albany had an enrollment of 29,000 with 47% of students receiving free or reduced-price lunch (FRL) and 56% of students identifying as ethnic minority students. Morison enrolled approximately 8000 students, 47% of whom received FRL and 52% ethnic minorities. Lester is the smallest, enrolling approximately 5,000 students, and 61% FRL students, and 29% ethnic minority students. Albany and Morison received the achievement grade of A, and Lester received B in 2015 based on the district average scores in the state assessment.

3.4. Data Analysis

To address the first question on the implementation level of lesson study, descriptive statistics and frequencies were computed. For the second research question on the relationship between district policy and leadership practice and the level of lesson study implementation, we first presented descriptive statistics on district policy and leadership practice for promoting lesson study, and then we conducted correlation, *t*-test, or ANOVA depending on the numerical nature of the variables (continuous, ordinal, or nominal). Due to the small sample size of 58 or less, we conducted only bivariate analyses.

To address the last question on how district leaders approached implementing lesson study districtwide, we created a district profile for each district summarizing the survey responses from 2014 and 2015 and the content of the RTTT district proposal and coded the interview transcripts. The coding occurred at multiple phases. In the first phase, four researchers marked the interview transcripts for broader terms that reflected our research focus. These include RTTT, policy, lesson study approach, funding, and sustainability plan. After the transcripts were coded for these broad categories, for the second phase of coding, we coded them using more specific subcategories that reflected both emergent themes and expectations based on the literature. These included the codes district expectation, coaches’ roles, lesson study templates, principal roles, teacher buy-in, securing funding from multiple sources, embedding lesson study, and lesson study as self-sustaining process. The coding at the first and second phases were discussed extensively among the four researchers to refine and finalize the subcategories. At this point, the subcategories were referenced back to the survey data for their relevance to the patterns emerging from the analysis to maintain coherence across the data analysis processes. In the final phase of the analysis, these refined codes were synthesized to identify common themes across the three cases, which were internalization, teacher professional development expectation, school ownership of lesson study process, and institutionalization. These common themes provided additional contextual explanations and examples to the

findings from the surveys, to answer our research questions. Throughout each phase of coding, the researchers met and compared codes to ensure consistency of the coding process.

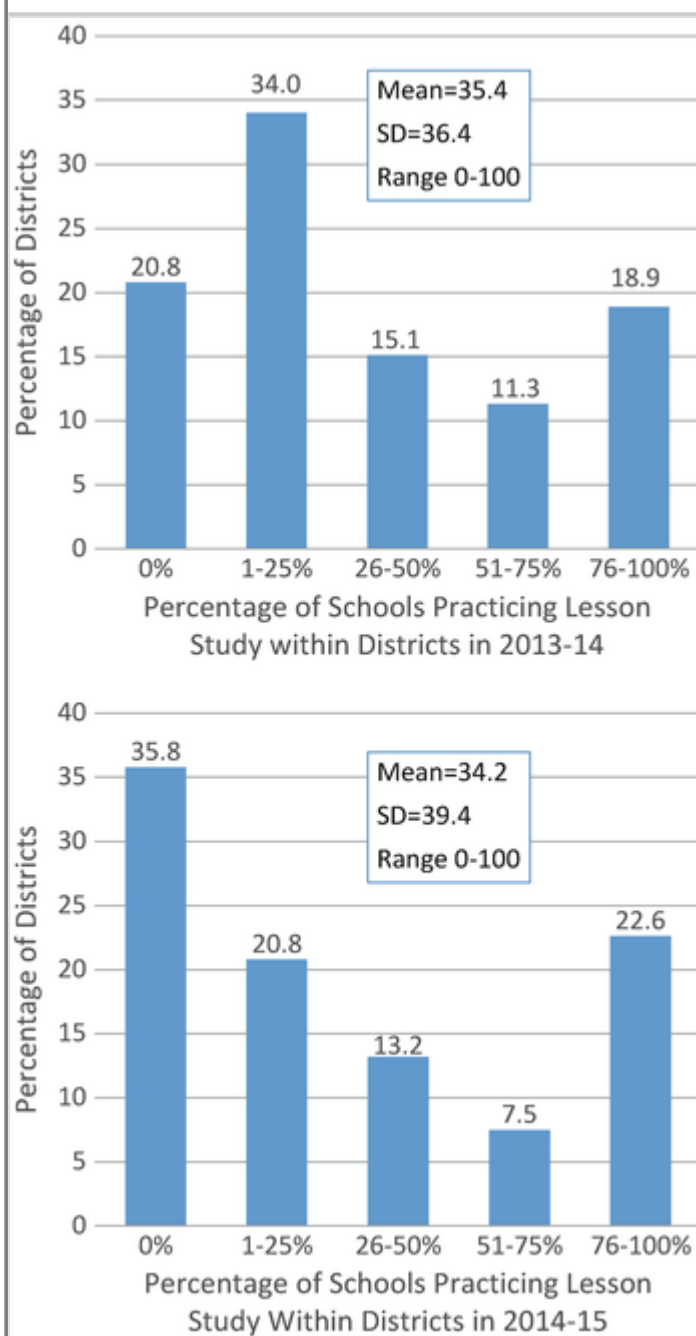
4. Results

4.1. District Level of Lesson Study Implementation

Figure 1 presents the descriptive statistics and frequencies of the level of lesson study implementation among 53 districts that participated both in 2014 and 2015 surveys in order to examine the changes in the implementation level. The original data were continuous ranging from 0 to 100%, and we present the distribution in five categories here to visually present the changes from 2014 to 2015 before and after the RTTT program ended.

Fig. 1

District level of lesson study implementation in 2014 and 2015



We expected that the level of implementation would dramatically decline when the RTTT funding ended. However, the mean implementation level measured by the percentage of schools within districts that practiced lesson study did not change much from 2014 to 2015 (35.4–34.2%). The figure shows, however, that the distribution of the lesson study implementation level across 58 districts slightly changed from 2014 to 2015. As expected, the percentage of districts that stopped practicing or never practiced lesson study has increased from 20.8% to 35.8%. Yet, the percentage of districts with a high implementation level (76–100%) also increased from 18.9 to 22.6%. Thus, we can see a trend of bifurcation in the district level of lesson study implementation after the RTTT program ended.

4.2. District Policy and Practice in Promoting Lesson Study

Before examining the second research question on the district policy and leadership practices associated with the level of lesson study implementation, we examined the variation in the district policy and leadership practices across 58 districts in 2014 and 2015. Given the limited state requirement on lesson study, district leaders exercised their discretion in establishing policy and leadership practices for promoting lesson study in their schools. Table 1 presents the descriptive statistics of district policy and leadership practice in promoting lesson study reported in 2014 and 2015 surveys along with the district background characteristics and the districts' RTTT participation.

Table 1

District policy and practice for promoting lesson study

		2014					2015			
		N	Mean	Min	Max	SD	N	Mean	Min	Max
District background	Size (enrollment)	58	33,125	1035	272,785	49,776	58	45,677	1,244	357,586
	Poverty	58	47.0	18.5	75.4	12.3	58	57.6	23.8	99.8
	Diversity	58	40.5	9.6	96.6	18.9	58	43.6	9.6	92.7
	Achievement	58	56.3	41.3	75.5	7.1	58	52.3	31.0	75.0
RTTT participation	LS ^a proposal	52	0.54	0	1	0.50	52	0.56	0	1
	State requirement (PLA schools)	52	0.37	0	1	0.49	52	0.37	0	1
	LS funding (\$)	52	79,872	0	1,807,159	278,301	52	76,611	0	1,807,159
	Total RTTT funding (\$)	52	4,443,403	5787	37,575,662	7,127,040	52	6,331,057	5787	73,376,735
District policy	LS requirement	58	1.59	1	3	0.77	58	1.41	1	3
District funding allocation	Substitutes	58	0.45	0	1	0.50	58	0.36	0	1
Notes: ^a LS=lesson study										

		2014					2015			
		N	Mean	Min	Max	SD	N	Mean	Min	Max
	Teacher payment	58	0.14	0	1	0.35	58	0.22	0	1
District leadership	Designated position for LS	58	0.53	0	1	0.50	58	0.24	0	1
	PD director stability (13–14 and 14–15)	53	0.64	0	1	0.48	53	0.74	0	1
	Future sustainability plan	58	0.59	0	1	0.50	58	0.62	0	1

Notes: LS=lesson study

The descriptive statistics of the district background characteristics show that there are major variations in the size, poverty level, diversity level, and achievement level across these districts. Of the 58 districts that participated in the survey in 2014 and 2015, the district RTTT proposals were available from 52 districts. Among the 52 districts, about half specifically proposed implementation of lesson study in their 2010 district proposals to obtain RTTT funding, and 37% of these districts had at least 1 PLA school that was required by FLDOE to practice lesson study until 2014. The mean funding amount on lesson study the districts received in 2010 at the beginning of the RTTT program was about \$70–80,000. The mean total amount of RTTT funding they received in 2010 was \$4 million among the 52 districts that participated in our 2014 survey and \$6 million among the 52 districts that participated in our 2015 survey.

The district policy on lesson study plays an important role in a districtwide implementation of lesson study. In 2014, 58.6% of the districts did not require any school, 24.0% required only some schools, and 17.2% required all schools to practice lesson study. In 2015, 74.1% of the districts did not require any school, 10.3% required only some schools, and 15.5% required all schools to practice lesson study (means of these three levels are presented in Table 1). Thus, there was a major overall decline in the district policy to require lesson study after the RTTT program ended in 2014 from 41.2% of districts in 2014 to only 25.8% of districts in 2015.

However, the percentage of districts that required all schools did not decline much (17.2–15.5%). These districts that continued to require all schools to practice lesson study seem to have figured out how to sustain lesson study without RTTT funding.

District funding allocation is a critical part of scaling up lesson study considering the limited time available during the regular school hours for teachers to engage in professional development activities. The survey data showed that in 2014, 45% of the districts provided funding for substitutes to participate in lesson study meetings and 14% of the districts provided funding for teacher payment for meeting outside the regular school hours. In 2015, the percentage of districts providing substitute funding decreased to 36%, yet the percentage providing teacher payment increased to 22%. In both years, less than half of the districts provided funding for lesson study.

District leadership characteristics also play an important role in implementing lesson study especially after the RTTT funding ended. The percentage of districts with a designated position to facilitate lesson study decreased from 53% to 24% from 2014 to 2015. These positions may have been funded by the RTTT program, which were eliminated when the funding ended. Stability of the professional development director is also critical as turnover

in the position who oversees lesson study could affect the continued effort to implement lesson study districtwide. From the 2012–2013 year to the 2013–2014 academic year, the same individuals served as the directors in 64% of the districts. From the 2013–2014 to 2014–2015 academic year, 74% of the districts had the same directors. Finally, the director's plan to sustain support for lesson study in the following year shows the district's long-term commitment to lesson study. In 2014, 59% of the professional development directors reported that they plan to continue their support during the 2014–2015 academic year, and in 2015, 62% of the directors reported their continued support during the 2015–2016 academic year. A slight increase in the future sustainability plan is unexpected considering the decline in the percentage of districts with a lesson study requirement, funding allocation, and a designated position from 2014 to 2015.

4.3. District Policy and Practice Associated with the Level of Lesson Study Implementation

Table 2 presents ANOVA and t-test results on the relationship between three district factors (district policy, funding allocation, and district leadership) and the level of lesson study implementation measured by the percentage of schools that practiced lesson study in each district (a continuous variable ranging from 0% to 100%). The table shows that four types of variables are significantly associated with the level of lesson study implementation. First, the districts that required all schools to practice lesson study are significantly more likely than the districts that did not require any school or required only some schools to report a higher level of lesson study implementation. As expected, district policy has a major influence on the level of lesson study implementation. Second, the districts that provided substitute funding were more likely to report a higher level of lesson study implementation in 2014, and the districts that provided teacher payment are more likely to do the same in 2015. Finally, district professional development directors' future sustainability plan to continue to support lesson study was significantly associated with the level of lesson study implementation in both years. Unexpectedly, having a designated position for lesson study and the stability of professional development directors were not significantly associated with the level of lesson study implementation reported by the district leaders.

Table 2

Relationships between district factors and the district level of lesson study implementation

			2014		2015	
			Implementation level ^a	<i>F/t value</i> ^b	Implementation level ^a	<i>F/t value</i> ^b
		No schools	21.5	<i>F</i> = 16.70**	24.8	<i>F</i> = 15.69**
		Some schools	36.8		38.5	
		All schools	82.4		91.5	
Note: Implementation level was measured by the percentage of schools within districts that practiced lesson study						
		Yes	51.6	<i>F</i> = 9.23**	48.0	<i>F</i> = 1.21
		Substitutes				

Funding allocation		No	22.8		31.8	
				2014		2015
Teacher payment	Yes		39.8	$t = .34$	65.2	$t = 3.16^{**}$
			Implementation	<i>F/t value</i>	Implementation	<i>F/t value</i>
	No		35.1		28.3	
District leadership	Designated position for lesson study	Yes	44.3	$t = 1.98$	47.3	$t = 1.16$
		No	25.8		33.2	
	PD director stability (13–14 and 14–15)	Yes	37.1	$t = .63$	33.2	$t = -.31$
		No	30.2		37.1	
	Future sustainability plan	Yes	47.0	$t = 3.00^{**}$	50.3	$t = 3.71^{**}$
		No	19.7		14.0	

* $p < .05$, ** $p < .01$
AQ3

Note: ^aImplementation level was measured by the percentage of schools within districts that practiced lesson study

^b F value is presented for ANOVA result on the mean difference among three or more groups, and t value is presented for t-test result on the mean difference between two groups

To better understand the approaches the districts have taken to implement lesson study districtwide, the importance of these significant factors, and some possible reasons for the lack of significant relationship between the level of lesson study implementation and some district factors, we conducted interviews with three district professional development directors in the districts that implemented lesson study in over 90% of the schools. In the following sections, we will present the findings from the interview analysis to contextualize the lesson study effort in these districts.

4.4. RTTT Introduction of Lesson Study, Internalization, and Institutionalization

The interviews with three professional development directors—Ms. Clark in Albany, Ms. Anderson in Morison, and Mr. Wallace in Lester (pseudonyms)—revealed the processes these districts went through in implementing lesson study. The data show that after lesson study was introduced by FLDOE, the districts internalized it through a districtwide expectation and funding and promoted institutionalization of lesson study by respecting and supporting school ownership and leadership in organizing lesson study and embedding it as part of the organizational routines.

State Influence via RTTT Participation All three professional development directors shared that the district started lesson study because of the RTTT program. A review of the district RTTT proposals showed that Albany had two PLA schools and Lester had one PLA school, and both districts submitted a lesson study implementation plan to FLDOE in their RTTT district proposals. Albany, however, did not request funding for lesson study and instead reported that they would use funding from the School Improvement Grant (SIG). Morison did not have any PLA school, so no funding was requested for lesson study in their proposal.

Despite the state initiative in introducing lesson study to these districts, these directors were not aware which PLA schools were required by FLDOE to implement lesson study nor could they recall the content of the RTTT district proposals. It could be due to the time lapse and personnel changes—it was 5 years ago when these proposals were submitted. However, none of these directors seem to see the FLDOE's role or RTTT program to be important beyond the initial involvement in introducing lesson study. When asked about the influence of the

RTTT program, Mr. Wallace said, “Oh well, it was more of a formal process, with the documentation of lesson study.” It was clear that in all of these three districts, the directors did not see RTTT to be influential in their decision or approaches to promote and implement lesson study.

Internalizing Lesson Study Through Expectation and Funding Support The survey responses of these directors showed that all schools are required to practice lesson study in their districts. The interviews revealed the decision-making processes the districts took over the years. Ms. Clark in Albany explained:

We have an expectation of job-embedded professional development, and I think we need to keep that expectation in place. You know, this is one of the few things that we do in our districts...as a district, we expect you to, you know, to do something like lesson study. And so, I think that’s a major benefit because every school does it to some extent.

Later Ms. Clark explained that lesson study is the only professional development that the district expects all teachers to be part of, and 20% of the teacher evaluation is devoted to teacher participation in lesson study through self-assessments of lesson plan, research lesson, observation and debriefing, reflection, and perceived improvement.

Ms. Anderson in Morison explained the rationale behind the expectation that all schools do one cycle of lesson study a semester:

That’s considered best practice...the way the process works here is professional learning communities are supposed to look at areas of student achievement that need to be supported. So, usually when they decided on an area that needs support, then they do their research, but usually it comes down to classroom practices need to be changed. So that’s where lesson study comes in, because they located a problem; they researched that problem; they looked through the resources available to them, and then they take it to the classroom level and work on perfecting materials, perfecting the lesson, that would support the area of academic concern.

These responses show these directors’ belief in the importance of job-embedded, inquiry-based professional development for improving instruction and student learning. Instead of seeing lesson study as a RTTT initiative, they believed in the benefits of lesson study and expected all schools to practice lesson study as an example of such professional development.

However, in responding to our questions about district requirement, these leaders expressed a hesitance about describing their lesson study practice as a “policy” or “requirement.” Mr. Wallace in Lester explained:

I don’t know I’ll use the word ‘required’ or ‘mandatory’—those words, we try not to use those words because they create a sense that it’s no longer voluntary, and we feel that it can impair involvement. So, we don’t use the word ‘require.’ It’s ‘expected’ that school would engage in the lesson study process.

He explained later that, as an expectation, there is no consequence for schools for not practicing lesson study. Ms. Anderson in Morison also explained that “it’s more institutionalized now. It’s less of a mandate, and it’s more of an outgrowth of professional learning communities.”

Ms. Clark further explained how schools started to see the benefit of lesson study after the initial expectation, which supported internalizing lesson study:

At the school level they found ways to embed lesson study in their work day, and in what they do, instead of a separate entity; and when it first started it wasn’t like that—they would do their professional development and then said, ‘Ok. Let’s start what we’re doing for lesson study.’ And it was very... it was an orchestrated endeavor. And slowly, as they got used to it, as job-embedded PDs became more popular, um, I think schools realize ‘Oh! This is actually a useful tool to practice the things that we’re learning.’

To support lesson study practice across the district, these leaders ensured that schools are given sufficient funding to meet the district expectation by drawing resources from various types of funding. Mr. Wallace in Lester explained, “We no longer have our lesson study project with Race to the Top...[so we use] Title II, and we have Focus Schools, meaning they are part of the DOE process, where the state identifies them, so there are additional funds there.” Ms. Anderson in Morrison explained, “[We use] just strictly discretionary, you know—our substitute budget, we just use our substitute budget to pay for lesson study subs. Our standard allocation for substitute budget, which comes from general education funds, we used to fund lesson study.”

Promoting Institutionalization of Lesson Study by Respecting School Ownership and Leadership With almost all schools practicing lesson study within the district, all three professional development directors explained how lesson study has spread since they started it in 2010. What was common in the districtwide implementation processes these leaders shared was the move from initial requirement and training to promotion of school ownership and leadership in organizing lesson study and embedding it as part of the schools’ organizational routines.

Interviewer: How often do you offer training for the schools?

Ms. Clark: It hasn’t been often, and I think it’s been 2 years since last time we had it. It’s pretty much being able to sustain themselves... you know, and they kinda embedded with their professional learning communities. So, the requirement that every school does at least one lesson study cycle—most schools do multiple cycles now. It just part of their professional learning.

Ms. Clark also explained how district-level coaches are less involved in lesson study to make the process “more authentic” and school- or teacher-driven. Likewise, she explained the changing role of the initial template that guided lesson study process by saying, “The templates aren’t that useful anymore. I think what happened now is that, schools have moved beyond the templates. And so, we’re really lenient about the templates at the district level; we leave it up to the schools.” Her explanations show the process in which lesson study evolved from something external that needed to be guided by training, coaches, and templates to something internal that is embedded into the school organizational structures and routines through school leadership, promoting institutionalization of lesson study.

When asked about who coordinates lesson study, Mr. Wallace in Lester responded, “There would be, at the school level, you’ll have your grade level teams, your PLCs, and each school has a lead team, so it’s not necessarily one person assigned to oversee this initiative.” Regarding the question about when lesson study groups meet, he said:

It could be during planning time... it could be during specific time that’s set aside for grade level teams with the Title II money where we can get subs, and they look at standards, and looking at lessons, and developing lessons. So, it depends on the schools.

To the same question, Ms. Anderson responded:

Yes, there’s no formal schedule for that. It’s whenever the lesson study group meet, and when substitutes are available, so it’s really covered by the way school functions, and what resources the school can pull together. Because the school principals are behind it. I mean, they work to help the lesson study groups schedule observations.

Their responses show how lesson study is now self-sustaining at school level; thus there is no need for the districts to provide specific direction or guidance to schools.

The professional development directors’ responses to the question about future sustainability plan showed the continuation is assumed now that lesson study is self-sustaining and becoming institutionalized.

Interviewer: So, is your district planning to support lesson study in the future as well?

Ms. Anderson: Well, we have it as a district's best practice. So, I mean, there's an expectation that lesson study would continue. But schools are charged with making that happen.

Ms. Anderson also explained the process of institutionalizing lesson study by sharing findings at faculty meetings as part of the professional growth plan:

We have lesson study groups who are presenting their findings, and the results of their lesson study to the entire faculty, because when somethings come up, they are things that can help not just their particular grade level, or professional learning community, but they have broader applications across the school. So, we know that those groups are sharing at faculty meetings, because we participate—we go to schools, and we've seen this happening a lot.

The findings from the interviews with these directors support the findings from the statewide survey. In the districts where lesson study is implemented districtwide, job-embedded inquiry-based professional development like lesson study is an expectation for all the schools. After several years of lesson study effort, the districts seem to be embracing lesson study as a core part of their professional activities and not as something required by the state. They provide sufficient funding to support schools to meet this expectation using various types of funding sources. Because the districts support and respect school ownership and leadership in organizing lesson study, factors such as designated positions for lesson study at the district level and leadership stability may not matter much for schools' practice of lesson study. Having a future sustainability plan is part of the natural response of the districts where lesson study is internalized and becoming institutionalized within and across schools.

5. Discussion and Conclusions

Lesson study was introduced to district leaders across the state by FLDOE in 2010 through the RTTT program. Five years later in 2015, district leaders across the state reported that lesson study has spread to a total of 749 schools across 39 districts—a significantly larger number of schools than the number of schools (66 schools) required by FLDOE to practice lesson study (Akiba et al. 2016). Based on a mixed methods study of a statewide survey of district professional development directors and interviews of three professional development directors in the districts where lesson study is implemented districtwide, we investigated the district policies and leadership practices associated with the level of lesson study implementation as a promising professional development initiative to promote instructional improvement across the district.

We found that district policy requiring all schools to practice lesson study, funding for substitutes and teacher payment, and districts' future sustainability plan were positively and significantly associated with the level of lesson study implementation reported by district leaders. The interviews with professional development directors of three districts where lesson study is practiced in over 90% of the schools revealed that they believed in the benefits of lesson study and all schools are expected to practice lesson study as an exemplary job-embedded inquiry-based professional development. These district leaders also secured funding from various sources to support schools to meet this expectation even after the RTTT funding ended. These district leaders internalized lesson study through the district policy and funding provision based on their belief in lesson study, instead of as a RTTT mandate. Over time, they have promoted school ownership and leadership, which promoted institutionalization of lesson study within schools. As the school leaders schedule and organize lesson study, it became embedded within their unique organizational structures and routines. Thus, district-level factors such as a district position and leadership stability seem to have become less important over time.

McLaughlin and Mitra (2001) and Firestone et al. (2005) discussed the important role of district leaders in legitimizing the reform initiative and bringing consistency and coherence to schools and teachers. All three district leaders interviewed prioritized lesson study over other initiatives through a districtwide expectation and funding. In this sense, lesson study has spread in these districts by influencing district policies and procedures and creating normative coherence across the system (Coburn 2003). At the same time, the district leaders were

aware that school ownership was critical for internalizing lesson study introduced through the RTTT program and gradually withdrew district involvement through training, templates, and coaching and promoted schools' decision-making in organizing and supporting lesson study. This finding is consistent with the previous scale-up research that showed the importance of ownership and capacity building (Coburn 2003; Dede and Honan 2005; McLaughlin and Mitra 2001).

The interview data also indicate that, given the differences in school contexts regarding leadership, resources, teacher relationships, and student characteristics, perhaps one of the only feasible ways to sustain lesson study across the district is to rely on school leaders to make context-specific decisions regarding lesson study. Dede and Honan (2005) pointed out that coping with changes in context, leadership, and funding is a critical factor for scaling up improvement at a system level. This school-driven process of lesson study would likely endure changes in the district contexts including leadership turnover, changing priorities, and funding availability.

Promoting school ownership of lesson study, however, also implies that lesson study is likely to be adapted into the unique school contexts in order to be embedded in the organizational structures and routines. Such adaptation of an innovation—especially in the case of lesson study as an international innovation that emerged in different cultural and organizational contexts—has been identified as a natural part of scaling up across diverse contexts (Dede and Honan 2005; McLaughlin and Mitra 2001). In the case of lesson study, it is important that such adaptation does not involve the alteration of the core principles that lead to improvement of instruction and student learning.

The findings from this study have important implications for policy and practice of local educational authorities (LEAs) (e.g., school districts, local educational bureaus, local department of education) for implementing reform-based professional development. First, lesson study and any other reform-based professional development may not be implemented across the LEAs and be sustained if the LEA leaders keep the ownership and focus on the “fidelity” of the professional development model. Previous research showed that many districts in Florida used a prepackaged lesson study kit filled with templates, steps, and procedures (Akiba and Wilkinson 2016). Three districts that reported a districtwide implementation of lesson study developed their own initial process to introduce lesson study to schools as a way to internalize lesson study that was introduced by the state department of education and gradually released the district involvement to promote school ownership and leadership in organizing lesson study and to embedding it into the schools' organizational structures and routines.

Second, having a LEA-wide expectation on lesson study as a practice of job-embedded inquiry-based professional development and providing necessary funding while respecting school leadership in organizing and practicing lesson study likely promotes the process of internalizing and institutionalizing lesson study. This would naturally allow lesson study to be sustained over time despite changes in central and local educational contexts over time. LEAs play an important role in legitimizing a certain practice and sending a coherent message on what they value to schools and teachers. Our interviews revealed that the district leaders in Florida effectively communicated the importance of school-driven, job-embedded, and inquiry-based professional development and respected and supported school decisions on how to organize lesson study.

Finally, LEA leaders need to trust the capacity of school leaders to organize lesson study and promote instructional improvement while providing necessary supports. In the current policy climate in many countries when LEAs are held accountable for the student learning outcomes, a natural response of many LEA leaders may be to scrutinize school leadership practice by controlling school management and funding and to hold the school leaders or teachers accountable for teaching or learning outcomes. LEAs may also control professional development activities by sending instructional coaches and ensuring that teachers follow specific approaches to professional learning and instruction. Yet, as the current study indicates, such approaches will not likely draw commitment from school leaders or teachers nor build their capacity to engage in the process of improving instruction and student learning. Lesson study as a teacher-driven, collaborative, and inquiry-based professional learning process provides an opportunity for LEAs to support capacity building of school leaders and teachers by building a professional knowledge and a shared vision of effective instruction. It is up to the LEA leaders

whether they see this as another reform mandate or an opportunity to develop instructional capacity and shared vision to promote systemwide improvement of instruction and student learning.

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