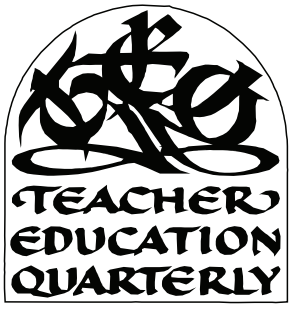

Pedagogical Reasoning and Action:
Affordances of Practice-Based Teacher Professional Development

By Shannon Pella

A common theme has been consistently woven through the literature on teacher professional development: that practice-based designs and collaboration are two components of effective teacher learning models. For example, Marrongelle, Sztajn, and Smith (2013) found that teacher learning contexts are optimal when they are "intensive, ongoing, and connected to practice, focus on student learning, and address the teaching of specific content" (pp. 203-204). Additionally, "by focusing on practices that are directly connected to the work that teachers do in their classrooms, teachers have the opportunity to develop knowledge needed for teaching by investigating aspects of teaching itself" (pp. 206-207). In terms of collaboration, Whitcomb, Borko, and Liston (2009) suggested that "professional development experiences are particularly effective when situated in a collegial learning environment, where teachers work collaboratively to inquire and reflect on their teaching" (p. 208). Furthermore, according to a status report on international teacher professional development, "the content of professional development is most useful when it focuses on concrete tasks of teaching, assessment, observation, and reflection" (Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009, p. 5). Each of these representative excerpts reflects a larger body of research that highlights collaboration and practice-based contexts as critical aspects of promising teacher professional development models (Darling-Hammond, 1989, 2002, 2006;

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Desimone, 2009; DuFour & Eaker, 1998; McLaughlin & Talbert, 2006; Wayne, Yoon, Zhu, Cronen, & Garet, 2008).

In addition to collaboration and practice-based designs, inquiry cycles have been long recognized as catalysts for teacher professional development. Decades of research have described how teacher learning community models, which include some aspect of classroom-based inquiry, have contributed to building teacher capacity (Cochran-Smith & Lytle, 2009 Darling-Hammond, 2002; Grossman, Wineburg, & Woolworth, 2001; Lieberman & Miller, 2008; Lieberman & Wood, 2003; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006).

Practice-based teacher professional development models can take a variety of forms. Some popular models include teacher learning lab teams, inquiry groups, book study and teacher research groups, school-based professional learning communities, peer observation teams, participants in instructional rounds, collaborative action research groups, and lesson study teams. In this study, the term practice-based means that teacher learning takes place in K-12 classroom contexts in real time with the teacher of record and his or her students present and engaged. Practice-based learning opportunities can comprise the entire professional development model or be an extension from a workshop, training, class, or seminar that takes place outside the K-12 classroom. Videotaping teaching and analyzing lessons through technology have gained popularity and can be effective ways to gain insight into teaching and learning (Lewis, Perry, Friedkin, & Roth, 2012). However, for the purposes of the present study, the term *practice-based* means that at least some of the teacher learning work occurs in the context of an active K-12 classroom. The practice-based and collaborative inquiry professional development model designed for this study is an adapted form of lesson study.

Lesson Study

A typical lesson study involves teachers in cycles of collaborative inquiry though topic selection, lesson design, observations of lessons, analysis of data from observed lessons, and application of new knowledge to inform the next cycle. Lesson study is a popular form of teacher professional development in Japan. In both Japan and the United States, lesson study has been shown to contribute to the knowledge base and pedagogical development of teachers (Chokshi & Fernandez, 2004; Hiebert, Gallimore, & Stigler, 2002; Lewis & Hurd, 2011; Lewis et al., 2012; Lewis, Perry, & Hurd, 2004; Lewis, Perry, & Murata, 2006; Pella, 2011, 2012, 2015). To support purposeful learning, Japanese lesson study groups establish a well-developed set of issues about their practice, clear plans and approaches for how to engage in their exploration, and a commitment to assessing their lesson study activities against their goals (Chokshi & Fernandez, 2004). School-based lesson study, in which teachers conduct lesson study around a shared research theme chosen by the staff, is rare in the United States (Lewis & Hurd, 2011). Even more rare is research on

lesson study that is focused on issues in teaching and learning writing. Most lesson study research to date has reported findings from lesson study projects focused on math and science. This study sought to contribute to the literature by following five middle school English language arts teachers through three years and nine lesson study cycles focused on teaching and learning writing.

Purpose and Research Questions

The purpose of this research was to uncover and describe in detail what makes collaborative inquiry and practice-based designs compelling features of effective professional development models. In other words, this study was concerned with locating, if they existed, the specific *processes and practices* of practice-based models that afford teacher learning. To these ends, this study sought to uncover and describe *pedagogical reasoning and action*, which, according to Shulman (1987), are the types of processes and practices that can lead to shifts in understanding and build a knowledge base for teaching. Pedagogical reasoning and action are a set of processes of central importance to the development of pedagogical content knowledge—"that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding" (Shulman, 1987, p. 8). Thus the present study sought to uncover and describe how a practice-based lesson study model afforded teachers the opportunity to engage in pedagogical reasoning and action and make lasting pedagogical shifts. The following research questions were addressed: (a) How, if at all, does a practice-based learning model afford opportunities for pedagogical reasoning and action? (b) What, if any, pedagogical shifts did teachers make and sustain beyond the lesson study?

Conceptual Frameworks

Although the subject matter and foci of any given professional development program will vary, the basic goal for teacher professional development is to provide learning experiences that promote the types of pedagogical shifts that can advance student learning. Thus the constructs under investigation in the present study are *pedagogical reasoning* and *action* (Shulman, 1987). By engaging in pedagogical reasoning and action, teachers can shift from initial understandings of content to developing pedagogical content knowledge. Teacher educators and professional development providers may recognize that practice-based collaborative inquiry models are effective, but perhaps even more important is understanding why these models work, *what happens* that affords teacher learning, and what specific *processes and practices* are afforded by practice-based designs.

Pedagogical Reasoning and Action

Pedagogical shifts are rooted in the processes and practices of developing a knowledge base for teaching. In the present study, pedagogical shifts are defined according to Shulman's (1987) description of pedagogical reasoning and action, in which a teacher shifts from an initial comprehension to a new comprehension. Pedagogical shifts are characterized by a teacher's transformation of content knowledge into forms that are pedagogically powerful and adapted to fit the students. The shifts occur through the process of transformation, which, according to Shulman, requires some combination of the following:

> (1) Preparation of text materials including the process of critical interpretation (2) representation of the ideas in the form of new analogies or metaphors (3) instructional selections from among an array of teaching methods and models (4) adaptation of these representations to the general characteristics of the children to be taught (5) tailoring the adaptations to the specific youngsters in the classroom. (p. 16)

In his model of pedagogical reasoning and action, Shulman suggested that reasoning by teachers about their teaching also includes evaluating student understanding both during and after a teaching and learning event. This process also includes teacher self-evaluation, "on-line checking for understanding and misunderstanding that a teacher must employ while teaching interactively" (p. 18). Furthermore, pedagogical reasoning involves teacher self-evaluation because "evaluation is also directed at one's own teaching and the lessons and materials employed in those activities, [and] leads directly to reflection [which is] the use of particular kinds of analytic knowledge brought to bear on one's work" (p. 19). This process of evaluation and reflection, in pedagogical reasoning, can lead to "new comprehension," which can encourage teachers to develop a new repertoire of activities for teaching.

According to Shulman (1987),

> the key to distinguishing the knowledge base for teaching lies at the intersection of content and pedagogy, in the capacity of the teacher to transform the content knowledge he or she possesses into forms that are pedagogically powerful and yet adaptive to the variations in ability and background presented by the students. (p. 15)

Pedagogical reasoning clearly involves observation, reflection, ongoing formative evaluation, and assessment as a part of a process of understanding, judgment, and actions, which lead to "wise pedagogical decisions" (p. 14). The process of pedagogical reasoning and action, through which teachers shift from initial states of comprehension to new comprehension, provides a compelling and replicable conceptual framework for examining practice-based teacher learning.

Methods

Research Design

This study involved three years and nine cycles of lesson study. Each collaborative cycle included topic selection, lesson design, lesson observation, observation debrief, and the analysis of student learning from the lesson. Each cycle lasted between four and six weeks. Over a three-year period, each teacher was observed teaching a lesson at least twice. During each observation, teachers interacted with students to gather a wide variety of data about student learning. A grant paid for teacher release days to observe each other five days per year. The topics participating teachers selected were based on the interests of participating teachers by considering the assets, interests, and learning needs of their culturally, linguistically, and economically diverse students.

Each of the topics selected was grounded in the research on teaching and learning writing and literacy instruction more broadly. Table 1 lists the main topics under investigation and a focused research question for each topic. It is important to note that there were many other goals, interests, and insights into teaching and learning that are not listed in Table 1. The lesson study afforded opportunities

Table 1
Lesson Study Topics

Lesson study cycle	*Topic of lesson study/focal questions*
2008-2009	
Cycle 1	Response to Literature (R2L) Writing: How can we support students to integrate evidence from text into responses to literature essays?
Cycle 2	How can we support analytic (close) reading of texts (with a focus on identifying and explaining how the themes are developed across the text) to prepare for the R2L essay?
Cycle 3	Persuasive Writing: How can we support students to develop their point of view on a topic for persuasive writing?
2009-2011	
Cycles 4 & 5	How can we support students to see the bigger picture of the elements of an argument? To understand the different choices an author may make to support a claim and present an argument? How will the analysis of texts prepare students to write arguments?
Cycle 6	How can we structure writing group protocols to maximize the potential for peer feedback to support the writing process?
Cycle 7	How can we foster an inquiry or evaluative stance on writing? How can we support students to move beyond spelling errors and provide feedback on ideas, organization, word choices, and other traits?
Cycle 8	What is voice in writing? How can we support students to discover voice in others' writing as well as express voice in their own writing?

for a variety of ancillary interests that were sometimes shared and often varied between teachers. For example, some teachers were interested in issues of pacing, classroom procedure, writer's notebooks and portfolios, selecting texts, setting up learning stations, and planning opportunities for a variety of types of independent and shared reading and writing. These and other foci were addressed often, and participants gained insight into each of their interests, yet the shared learning goals for the team are listed in Table 1.

Materials for lesson planning included district-adopted curricula, books, novels, teacher-created materials, and artifacts. Texts included articles, speeches, editorials, videos, music, art, and literature. The texts used with students ranged in tone, complexity, text type, and genre as well as in the authors' backgrounds, ages, and points of view.

Participants and Settings

Four of the five participating teachers were female and one was male. Each taught middle school English language arts. They were all Caucasian and aged between 25 and 40 years. A call for volunteers was sent via e-mail to a mailing list of local teachers who had attended local affiliate National Writing Project workshops. These five participants each volunteered for the lesson study project. In an effort to cast as wide a net as possible, the selection process was primarily based on interest and administrator support for release time.

Each of the five teacher's classrooms was in a separate district surrounding an urban area in Northern California. Talia and Rachel taught eighth grade in urban districts with culturally and linguistically diverse students from low-income communities. Laura and Elizabeth taught seventh grade in suburban, affluent districts with primarily English-only students. Gary taught sixth grade in a small rural school district. Most of Gary's students were bilingual native Spanish speakers. The five settings, some up to an hour and a half apart, were a unique advantage in this study. The diverse settings provided opportunities for teachers to observe each other teaching in classrooms and communities that varied widely in community and student demographics. All names of schools, communities, places, and people are pseudonyms.

Data Collection

Data for this study were drawn from a three-year lesson study project that spanned from 2008 to 2011. As the participant observer, qualitative researcher, and author of this article, I collected a wide variety of data between 2008 and 2011 as well as data from follow-up interviews in spring 2013.

My primary units of analysis were the processes of pedagogical reasoning and action (Shulman, 1987) that emerged from studying the nature of participants' engagements in the lesson study model. I defined pedagogical reasoning and action

according to Shulman's articulation of the way a teacher shifts from comprehension to new comprehension through transformation of subject matter into instructional sequences and through engaging in ongoing evaluation and reflection. I selected this focus based on the situative analytic methods suggested by Lemke (1997) in his ecosocial systems model, where he suggested that the primary units of analysis are not things or people but processes and practices. Lemke's views on situated cognition theory posited that an ecosocial system includes not only humans in their situated physical environment but also the social practices, meaning relations, and all interactions between humans and their material ecosystems.

My focus on participants' pedagogical reasoning and action also included a widened lens through which I studied how participants' processes and practices connected to the features of the lesson study model. By foregrounding and detailing participants' engagement in a process of pedagogical reasoning and action, I sought to describe how this lesson study model afforded opportunities for teachers to make pedagogical shifts and, as such, develop their knowledge base for teaching writing and literacy more broadly.

To capture and describe these processes, I recorded extensive field notes from my observations of participants' behavior as they interacted with each other, their settings, and the materials of the lesson study project. I also audiotaped and transcribed all participants' discussions throughout the planning stages, observations, debriefing meetings, and lesson revisions. I triangulated these data with e-mail communication, pre- and postlesson study cycle interviews, and written reflections from each participating teacher at the end of each lesson study year. I also collected and analyzed a wide variety of data from all teacher-created materials, the curriculum resources that were used in participants' lesson designs, and the samples of students' work that teachers evaluated after each observed lesson.

Data Analysis: Five Phases

Each of the following five phases of data analysis involved the process of data reduction by transforming raw data into summaries, reflective memos, and data display charts. Data display charts served to "organize key ideas that allowed for conclusion drawing and verification" (Miles & Huberman, 1994, p. 11). By deciding what things meant, noting regularities, patterns, explanations, and connections, I incorporated the following strategies into my data analysis procedures to ensure the quality and internal validity of the data: (a) checking for representativeness, (b) checking for researcher biases, (c) triangulating across data sources and methods to confirm emerging findings, (d) getting feedback from participants via "member checks," and (e) examining the "unpatterns" in the data by following up on surprises that emerged along the way and investigating the meaning of outliers (Miles & Huberman, 1994).

Through the constant comparative method, I systematically inspected the data and constructed and reconstructed my developing theories (Merriam, 2003). I es-

tablished a threshold for trustworthiness through my prolonged engagement with the project, regular member checking, and the ongoing comparison of data (Lincoln & Guba, 1985). Each of the five phases of data analysis is described separately for the purposes of clarity, but they often overlapped.

Phase 1: Unpacking and coding pedagogical reasoning and action. First, I organized all documents and discourse data for each lesson study cycle into nine data sets—one for each lesson study cycle. Next, I unpacked the construct pedagogical reasoning and action according to Shulman's model and collapsed the descriptors into three coding categories: (a) transformation, (b) instruction and evaluation, and (c) reflection. I combed through each of the nine data sets and coded and categorized instances of pedagogical reasoning and action. I created data display charts to organize the data into three categories according to the following descriptors:

1. *Transformation*. This included preparation and/or negotiation of materials, resources, artifacts for teaching, and designing instruction and adapting to specific students. Transformation codes also included selecting strategies, lesson design, and adapting and tailoring to student characteristics.

2. *Instruction and evaluation*. I coded instances when participating teachers tried out new approaches in practice and coded instances of teachers' evaluation of materials, instructional strategies, and student thinking. Furthermore, these codes included instances when teachers checked for students' understanding during the teaching event.

3. *Reflection*. I coded instances of teacher reflection on the lesson, student learning, teacher self-reflection, and the appropriation of practices from the lesson study. Coding instances of reflection included teachers' verbal reflections during the lesson study cycle as well as written reflections.

After Phase 1 coding, there was substantial evidence that pedagogical reasoning and action occurred throughout every feature of the lesson study: collaborative topic selection, lesson planning, observations, and debrief. In fact, there was not a single cycle of lesson study in which no instance of pedagogical reasoning and action occurred.

Phase 2: Identifying teacher pedagogical shifts. After Phase 1, it was clear that each of the nine cycles of lesson study contained features of teacher pedagogical reasoning and action. Therefore, in Phase 2, I coded each of the nine lesson study cycle data sets again for clear instances of shifts in comprehension for each teacher. According to Shulman (1987), the process of pedagogical reasoning and action begins with comprehension of purpose, subject matter structures, and ideas within and outside the discipline. The processes of transformation, instruction, evaluation, and reflection support the shift toward a "new comprehension of purposes, subject matter, students, teaching, and self through the consolidation of new understanding and learning from experience" (p. 15).

Once I was able to locate clear instances of shifts from comprehension to new comprehension, I confirmed the shifts with member checks. From these data analyses, I arrived at a preliminary hypothesis: Pedagogical reasoning and action, which involved shifting toward new comprehensions, was situated in the context of the lesson study features. This hypothesis formed the basis for the next phase of data analysis.

Phase 3: Situating pedagogical shifts within the lesson study. In Phase 3, I traced connections from the processes of pedagogical reasoning and action, which included the shifts in comprehension, to the contexts in which these processes were situated. For example, during lesson planning meetings, there was much attention to analyzing and adapting materials and negotiating and selecting instructional strategies. During the observation debriefing meetings, there was much attention to both evaluating the instructional strategies used in the lesson and evaluating and analyzing student thinking.

I used the analytic induction method, which involved selecting a tentative hypothesis and testing the hypothesis against instances of phenomena. As the phenomena appeared to support the hypothesis, I tested further instances of phenomena against the hypothesis until the hypothesis was adequately supported by data (Merriam, 2003). My hypothesis was that the features of the lesson study afforded opportunities for pedagogical reasoning and action, which include the shifts in comprehension. This phase of data analysis revealed clear connections between lesson planning, observations, and observation debriefing meetings and the process of pedagogical reasoning and action.

Phase 4: Locating themes across teacher shifts. I used the constant comparative method to determine themes across the instances of teacher shifts. I compared the nature of the shifts for each teacher and the context within which each shift evolved. Through this stage of constant comparison, the data across each of the participating teachers revealed that all participating teachers broadened and integrated their writing pedagogy. They each shifted away from a notion of writing as an isolated set of skills and toward a broadened notion of writing as a process of critical thinking, which is further detailed in the findings section.

Phase 5: Follow-up interviews two years later. In the final phase of data analysis, I conducted interviews with each of the five teachers to confirm shifts and assess the degree to which pedagogical shifts were sustained and generative.

Findings

The following research questions guided this study: (a) How, if at all, does a practice-based learning model afford opportunities for pedagogical reasoning and action? (b) What, if any, pedagogical shifts did teachers make and sustain beyond the lesson study? Each of these questions is discussed the following sections.

How Did the Lesson Study Design Afford Pedagogical Reasoning and Action?

Each of the lesson study features has been recognized by the literature on teacher professional development as an effective feature of professional development models, for example, collaborative lesson planning, observation, and analysis of student learning. Each lesson study feature involves analyzing materials, analyzing student thinking, building shared knowledge, and iteratively applying new knowledge to practice. Excerpts from interchanges between teachers as they negotiated teaching and learning writing throughout the lesson study cycles illustrate how the lesson study features afforded opportunities for teachers to engage in pedagogical reasoning and action. Although there was much overlap between the features of the lesson study, the following sections illustrate how the four features of a lesson study design—collaborative lesson planning, observation, data analysis, and reflection—each contributed to new knowledge construction for participating teachers.

Collaborative lesson planning. Each lesson study cycle began with a topic selection and centered on a focal question. As they designed each lesson, participants gathered all of the resources they already had on the subject, including published curricula, teacher-created lessons, and books on the subject. Many of the resources teachers brought to the planning meetings were from previously attended professional development workshops where participants had deemed the information valuable yet had not had the opportunity to apply their learning in practice.

To illustrate how the collaborative lesson planning process supported pedagogical reasoning and action, the following examples were drawn from a cycle of lesson study focused on teaching voice in writing. Participants wanted to support their students to understand how writers use language to communicate their purposes to different audiences across topics and in various contexts. The issue of author's voice became a focal topic, and participants negotiated both the meaning and applications of voice for writing. Voice is recognized as a critical quality in writing (Elbow, 1973; Fletcher, 1993; Graves, 1983). According to Romano (2004), "voice is the writer's presence in a piece of writing" (p. 21). Investigating voice was part of understanding writing as a more global and abstract endeavor—beyond the word and sentence level and into tone, mood, and the impact of writing on the reader. This topic was particularly challenging for participants, and they negotiated the meaning and application of voice in writing. Often when time ran out during a planning session, a conversation continued into e-mail. This exchange began in a lesson study planning meeting and continued through e-mail for several weeks before being brought back into the next planning meeting. This abbreviated interchange illustrated how teachers' engagement in the analysis of materials supported their early comprehension of teaching and learning voice for writing:

> ELIZABETH: So . . . voice is how students are saying what they say, a combination of diction, tone, mood, and authors' unique style, right?

> LAURA: In the book They Say, I Say, it says, "Your voice + their voices = A conversation of ideas that is meaningful." . . . Voice is *what* the students were saying too . . . authors put their voice in their work in the form of their analysis because in their analysis they aren't just restating the evidence, but explaining it through their own lens. At the same time, I feel there is room for voice even when there is no analysis.
>
> RACHEL: I do think voice is both the how authors say *what* they say and what they are saying as well. That is something I've always struggled with—getting my students to express their own ideas and not try to emulate my ideas or to produce what they think I want them to say.
>
> LAURA: I think you could have two papers that score high that demonstrate an equal level of insightful reading and interpretation but one could exhibit voice and one could simply be perfunctory.

This exchange reflected a process of pedagogical reasoning and action that included the critical interpretation of texts, materials, and subject matter (Shulman, 1987). This process is also an integral feature of lesson study. According to Lewis et al. (2012), "the first part of lesson study is *kyouzai kenkyuu* (study of teaching materials), to examine what is currently known about the teaching and learning of a particular topic" (p. 370). The collaborative planning feature of lesson study supported the teachers to make decisions about materials for lesson design. The transformation of materials into lessons further involved selecting instructional strategies tailored to the students in the classroom (Shulman, 1987). The following interchange illustrated this process through an e-mail exchange and into a lesson planning meeting:

> ELIZABETH: I love the idea of students investigating authors' voice by looking at a variety of ways voice is linked to purpose, audience, and context. I found a lesson through NCTE which does this. My students really benefit from using visuals and multimodal activities. . . . We could think of ways to help kids see how voice is connected to different characters, purpose, audience, and context.
>
> TALIA: Why not plan a hybrid of Laura's lesson . . . and maybe use some music, or do a read-aloud or some acting . . . and then the gallery walk activity Rachel did for persuasive writing. . . . It was so active and kids were really enthusiastic . . . we can post pieces of writing on the walls and students can read the piece of writing, discuss the audience, purpose, context for the writing, and then analyze the voice, the word choices . . . [talk about] the impact . . . and write their answers together.

The lesson planning process created opportunities for participating teachers to select topics, negotiate meaning, and prepare materials and artifacts for instruction. During these sessions, participating teachers built shared understandings of constructs such as writing groups, peer feedback, critical thinking, teaching voice, and the many ways to approach teaching through a variety of modalities. As they

engaged in the observation of lessons and the evaluation and analysis of student thinking and learning in action, participating teachers further shifted in their understandings of these and other constructs in teaching and learning the English language arts.

Observation, data analysis, and reflection. Throughout the 3-year lesson study, teachers participated in nine observations and observation debrief meetings. Observation debriefs typically involved analyzing student work and various forms of observation notes and artifacts from the lesson. Frequently in follow-up meetings, participants brought in student work from the same or adapted lessons that they taught individually before or after each observation. In each of the meetings, teachers evaluated and analyzed the strategies, content, and focus of the lesson and attended to student thinking and learning. Lewis et al. (2012) described this as "looking beyond a single correct answer in order to understand misconceptions or extensions in abstract reasoning" (p. 370).

Attention to student thinking is a central feature of professional development further supported by Whitcomb et al. (2009), who suggested that

> the growing consensus that professional development should focus on students' thinking and learning is not surprising. . . . Professional development programs should help teachers learn how to elicit and interpret students' ideas, examine student work, and use what they learn about students' ideas and work to inform their instructional decisions and actions. (p. 209)

In the following interchange, participating teachers were engaged in pedagogical reasoning, which was characterized by their evaluation and analysis of student thinking after observing a lesson on teaching voice in Elizabeth's classroom:

> GARY: The whole class discussion was the best part of the lesson. [Reading from his observation notes] When you asked, "How do you know that the authors were passionate, emotional, etc.?" your kids said stuff like, "Tone, word choice, imagery, vivid details, descriptive language, specific evidence, strong verbs, sentence variation."

> ELIZABETH: I was so impressed that my kids discovered similar qualities for voice as the literature without being told what it was. . . . I wanted [students] to discover voice . . . to find it naturally, organically . . . on their own without being given a handout telling them this is was voice is.

This exchange illustrated teachers' evaluation of and reflection on the lesson. The immediate debrief of each observation afforded opportunities to evaluate student learning and reflect on the connections made between teaching and learning. At the end of the final year of the lesson study, Elizabeth explained her most significant learning experiences from the lesson study:

> ELIZABETH: I felt like I didn't know what it [voice] was. . . . If anything, I was taking students' voices away by squishing it with all of the academic stuff. . . . In

> the end, the students really taught me that I can learn *with* them sometimes and they really helped me see that just because I am not completely sure about a topic doesn't mean I shouldn't teach it—sometimes if I can put it out to them as a question for investigation, *I* can learn something just from trying it out.

The topic voice was of compelling interest to Elizabeth, and she persevered to understand it for longer than a year. As participating teachers investigated topics of interest to them and to the literature on teaching and learning writing, they made significant pedagogical shifts. Participants learned how to challenge and support English learners, how to engage students in collaboration, and how to challenge them to think critically for and about writing; each is detailed in the next section.

Pedagogical Shifts

Pedagogical shifts for each teacher were clearly instantiated. The theme that characterized all five teachers' shifts was away from the view of writing as the isolated teaching and learning of "rules" concerning spelling, punctuation, and the structure of sentences or paragraphs and toward the view of writing as an integrated communicative process that included analyzing visual and multimedia texts, speaking, listening, and unpacking a variety of language types, functions, and uses. Teachers' integrated views also involved their understanding that thinking for and about writing included analyzing texts in connection with genre, audience, purpose, and context—notions that are supported by much of the research on teaching and learning writing (Hillocks, 1999, 2003; Huot, 2002; Johns, 1997; Lattimer, 2003). Participating teachers' shifts resulted from their collaborative investigation into methods that engaged their students in thinking for and about writing through discussion, collaboration, peer feedback, and the analysis of texts. In the following sections, each teacher's pedagogical shifts are described separately to provide detailed, concrete examples and a fuller account of each participating teacher's experiences.

Talia. Talia's most significant pedagogical shift was to engage her students in collaborative writing groups. In a planning meeting early in the first year of the lesson study, Talia shared her concern about engaging her students in peer collaborative writing groups:

> I have had the problem before with my English learners—they don't know how to comment and they want the teacher to give the comments. . . . I am afraid putting them in writing groups would just be too hard for them to know what to say to each other.

This comment represented Talia's reluctance to engage her students in peer feedback during the first months of the lesson study project. Weeks later, after seeing Rachel's students engage in collaborative writing groups where they provided feedback to each others' writing, Talia emerged with a new understanding of peer feedback:

> I didn't want it to happen at first, because I was afraid the blind would lead the

> blind, but . . . watching your kids working in pairs, I think now it might be useful to not give them the restricted scaffold, but to use each other to construct it.

This excerpt illustrates Talia's shifting understanding about engaging her students in collaborative writing. After observing student collaboration in Rachel's classroom, Talia's perspective began to shift. One full year later, Talia appropriated much of what she planned and observed in both Laura and Rachel's classrooms. At the end of the second year of the lesson study, Talia presented a lesson involving her students in writing groups. During the observation debrief, Talia reflected on her students' thinking and learning during the lesson:

> They [students] were commenting in both the margins and giving feedback at the end of each other's pieces. I told them they should do this, but we never discussed why exactly they should. Then we reflected on this process and I asked, "What is the benefit of margin comments?" Kids went back to their writing groups and analyzed the end notes and margin comments that they had given each other in order to evaluate the difference between the two. In the end, they decided that margin comments are brief and either ask a provocative question or give a specific change suggestion. . . . They said that end notes are more of a global look at the whole piece. . . . This was fascinating to me, I never thought of it before.

This series of representative excerpts illustrates how Talia progressively shifted away from her early concerns about her students' ability to perform in writing groups. As Talia engaged in the lesson study, she shifted away from her initial concerns about the "blind leading the blind" toward a new comprehension about *how* to engage students in collaborative writing groups. Collaboratively planning, observing, and learning to structure writing groups by trying them out in practice afforded opportunities to engage in pedagogical reasoning and action, which were essential for Talia's pedagogical shifts.

Gary and Laura. The design and ongoing modification of student collaborative writing groups was also significant for both Gary and Laura. Gary presented a lesson to the group toward the end of the third year of the lesson study where his students collaborated in writing groups to provide feedback about the voice each used in his or her writing. Gary expressed that his experience in the lesson study contributed to his new knowledge designing and enacting writing groups. In the following excerpt from a discussion at the end of the lesson study project, Gary discussed the impact of the lesson study team on his learning:

> I can honestly say my students have improved as writers this year because of all I have learned from you [the lesson study team]. I would not have been doing writing groups, I would not have been teaching voice. I would not see my students in the way I do. . . . I feel like I have this whole group here to help me and I can say it out loud and try things out.

Gary's pedagogical shift included a new way to involve kids in sharing, discussing, and revising their writing. He stretched his thinking about writing in ways

he had not done before his lesson study experience. By investigating student collaboration and the use of voice in writing, Gary emerged with new knowledge for teaching and learning writing. These activities were a significant shift away from his previous use of writing groups for rote, predetermined feedback criteria, which often focused on punctuation, spelling, and mechanics. This type of shift was also instantiated for Laura, who learned to balance teacher-directed writing instruction with activities that encouraged critical thinking for and about writing. The following excerpt from a written reflection at the end of lesson study illustrated Laura's pedagogical shift:

> In the beginning of the year I started with a very formulaic approach to writing . . . then the students took on that role of the evaluator. I think this was hugely, hugely powerful. I think they don't get enough chances to really think about writing . . . and I think that was a very powerful thing. That was a huge lesson for me. . . . I needed to give them that power, that chance to think about writing. . . . Instead of just telling them [students] what to look for, now I am putting up different models of sentences and I am asking students, "What is the author trying to convey?"—I like seeing what students extract first before we go any further. I will always make this type of critical thinking a part of my writing.

Throughout the lesson study cycles, Laura included more open-ended opportunities for students to choose their own formats to organize their writing by analyzing a variety of text structures. This was a clear shift for Laura away from a teacher-directed approach toward a more inquiry-oriented, thinking approach to teaching and learning writing.

Elizabeth. Similar to Gary and Laura, Elizabeth shifted from a tightly structured approach to teaching writing toward a more integrated literacy pedagogy that included reading, speaking, listening, language use, art, music, movement, and technology:

> Before lesson study, I felt most comfortable with response to literature, but the essays I taught were strictly formulated with a rigid outline. Through the lesson study I have been exposed to and encouraged to present academic writing in more accessible, engaging, and meaningful ways. . . . Now my lessons include gallery walks, art, pod casts, picture books, music, and meaningful group work.

The strategies Elizabeth described were part of her recognition that writing was beyond the text and sentence level—that writing is also about thinking—and that many strategies that support thinking are multimodal and interactive. An emphasis on the multiple intelligences and approaches to teaching to and from a variety of ways of knowing is among the topics that are grounded in research on teaching and learning (Gardener, 2006).

Rachel. Rachel also shared the recognition that kids need opportunities to move, listen to music, view art and other media, and interact in a variety of ways. Rachel stated her concern early in the lesson study that she struggled to provide

opportunities that both challenged and supported her English learners. Early in the lesson study, Rachel communicated her concerns about overly scaffolded writing instruction. Rachel expressed, "I think my kids hit a wall because everything is so structured and sometimes their voice and even their ideas get squashed." Furthermore, Rachel expressed, "My kids [all of whom are English learners] all have critical thinking skills, they need to collaborate and problem solve, but when they come to me it is the first time in their lives that they ever got to do that in school." Rachel sought to balance language supports and thinking challenges throughout the three years of the lesson study, and her quest to do so was evident in nearly every lesson study cycle. For example, in an interview at the end of the first year of the lesson study, Rachel described the pedagogical shifts she had made at that point:

> The more I take away scaffolding, the more they struggle, but I'm OK with that . . . it's going to be a lot of practice—me taking away scaffolding, them struggling, me coming back, and seeing what they're struggling with, and saying, let's try it again. Because I feel if I constantly give them that scaffold, they'll never have the experiences they need, on their own . . . putting it all together on their own.

This excerpt illustrates the shift away from overly scaffolded interventions like sentence starters, templates, and outlines. Rachel progressively designed more opportunities for students to interact with each other and engage various learning modalities. For example, toward the end of the second year of the lesson study, Rachel presented a lesson that was observed by the lesson study team. The lesson challenged her English learners to think critically about the ways authors supported their claims with various types of evidence. Students moved around the classroom in writing groups and engaged in various stations. Each station had a type of text: speeches, works of art, political cartoons, images, music lyrics, editorials, blogs, magazines, and media news sources. At each station, students analyzed the authors' claims and choices of evidence to support the claims. Rachel reflected on why that teaching experience was pivotal for her:

> I wanted them to feel comfortable and free and open and I wanted them to really feel like it is all focused on them—their ideas from exploring and investigating. . . . My modeling strategy was to get kids to get other kids to give their opinions . . . so I went around during the activity and modeled ways to ask for others' ideas. . . . I noticed that my group with three girls and one boy—they were [asking each other] "so what do you think?" and then really listening to each other! That was really awesome.

This excerpt illustrates Rachel's understanding that her English learners needed language support as well as challenging thinking, speaking, and listening activities. Rachel's pedagogical shifts involved the gradual release of tightly scaffolded approaches to teaching and learning writing and increasing her repertoire of methods to promote thinking, sharing, speaking, and flexibility for her students.

Conclusion

Follow-up interviews in spring 2013, two years after the lesson study project ended, revealed that all five participating teachers maintained and/or expanded what they learned in the lesson study. Additionally, during the two-year period after the lesson study, each participant presented ideas generated by the lesson study to outside audiences. In the summers of 2012, 2013, and 2014, Rachel and Laura presented weeklong summer workshops that they aligned to the Common Core State Standards (CCSS) for the English language arts. Their workshops included many of the activities they tested in the lesson study, including student collaborative writing groups and methods to engage students in multimodal critical thinking literacy activities. Since the lesson study, Talia has been actively sharing her knowledge for teaching writing in culturally, economically, and linguistically diverse classrooms with other teachers at her school site. Talia is also a highly respected mentor teacher, as she hosts student teachers from the local university teacher education program. This is evidenced by testimonials provided to me by both her student teachers and the university supervisor who places and observes student teachers in her classroom.

At the date of this publication, Elizabeth's school site, with her leadership, has become a host site for regular teacher professional development workshops around integrating the arts and technology into writing and literacy more broadly. Since the lesson study, Gary has become a principal and continues to not only value collaboration but provide regular opportunities for adapted forms of lesson study at his school site.

It is clear from not only these follow-up interviews but also the plethora of ways that the participants have shared their knowledge with other teachers that their pedagogical shifts were sustained and generative. Each teacher expanded his or her integrated approach to teaching writing by shifting beyond the notion of writing as sets of isolated skills. Their lessons continue to include reading, speaking, listening, and language development through text analysis, gallery walks, music, arts and technology integration, and student collaboration. Laura explained, "When we moved to the CCSS, we did not really have to change much. . . . We want students to be able to go beyond the text and to return to the text—whatever the text may be: print, video, podcast, artwork, song—and to cite evidence to support their claims."

Even though voice is not mentioned in the CCSS for English language arts, all five teachers reported their continued attention to teaching students how to analyze voice in others' writing and how to express their own voices in a variety of ways. The following excerpts from interviews with Elizabeth and Gary illustrate the sustainability of the lesson study process and its promise as a model for developing a knowledge base for teaching writing:

> ELIZABETH: I don't think that I can oversell the impact that the lesson study had on me and my teaching. I am still teaching voice. I connect voice to word choice and sentence variety—and style—those things lead to voice. I still use writing groups—in fact my whole English department uses them now.

The following excerpt from an interview with Gary two years after the lesson study further illustrates this point:

> GARY: My main take-away from the lesson study was that our students need opportunities to think and to write and to write deeply about things they care and are passionate about. Standards or no standards—they need to find their voice, not just the style of their words or their word choice but the actual ideas behind them. They need to be exposed to big ideas, huge concepts, and grapple with how to explain their opinions. There isn't a professional development meeting or workshop I go to where I don't make a connection back to our lesson study and the importance of teachers working together, collaborating, and then reevaluating—together! In fact, we've set up our entire professional development calendar to build in as much grade-level collaboration as possible.

These interviews, two years later, uncovered that participating teachers sustained an interest in the topics they investigated in the lesson study, for example, student collaborative writing groups, multimodal activities to encourage thinking for and about writing, and supporting students to understand and find their voice for writing. Furthermore, these findings suggest that practice-based collaborative inquiry models, like lesson study, afford opportunities for teachers to engage in pedagogical reasoning and action. These processes and practices afford opportunities for teachers to make the types of pedagogical shifts necessary to support all students to thrive in school. Top-down information transfer models on their own have limited deliverables. Practice-based models, conversely, have the potential to maximize opportunities for teachers to investigate how to teach and, in the process, make powerful and lasting pedagogical shifts.

Discussion

In the current age of new standards, for example, the CCSS, the Next Generation Science Standards, and revised state standards for English language development, there is a clear need to design effective teacher learning contexts. Moreover, if these new standards are to have a positive impact on students, teachers must learn how to facilitate students' participation in classroom activities and discourses that reflect the practices of each content discipline (Hakuta, Santos, & Fang, 2013; Lee, Quinn, & Valdes, 2013). Teachers will need relevant and authentic opportunities to learn how to foster the use and development of students' linguistic resources for learning and for demonstrating learning (Bunch, 2013). Additionally, adopting the CCSS in diverse school settings includes learning how to challenge and support students with special needs and students who identify across multiple special education and other categories (Constable, Grossi, Moniz, & Ryan, 2013).

With or without new standards, the challenge facing teacher education and professional development is considerable: to design contexts that afford opportunities to engage in pedagogical reasoning and action. Attending a class, a webinar,

training, or even a workshop that includes a high level of active participation is valuable for teachers. In these types of transmission models, high-leverage pedagogical shifts are *advocated*. However, to *make* such pedagogical shifts, practice-based models offer a clear advantage. No matter the foci of any particular teacher education or in-service professional development program, the intended outcomes are the same: to afford opportunities for teachers to make the pedagogical shifts necessary to advance student learning. Findings from this present study suggest that practice-based teacher professional development models hold great promise for making lasting pedagogical shifts and for incorporating pedagogical reasoning and action into the daily practices of teachers.

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