JoLLE@UGA®
JOURNAL OF LANGUAGE & LITERACY EDUCATION

Teaching for Deep Learning in a Second Grade Literacy Classroom

Treavor Bogard, Ph.D., Annamary L. Consalvo, Ph.D.,
& Jo Worthy, Ph.D.

Abstract: From a New Literacies Studies (NLS) perspective, deep learning involves the acquisition of social and cultural competencies valued within a disciplinary community, not merely propositional displays of what one knows. Drawn from a year-long qualitative inquiry, this case study examines how one exemplary second-grade literacy teacher taught toward deep learning, using a pedagogy of multiliteracies (New London Group, 1996). Selected episodes of instruction were analyzed in two phases. Initially, data were examined for evidence of three main competency sets of deep learning--cognitive, inter-personal, and intra-personal (National Research Council, 2012). In the latter phase, analysis focused on the teacher's pedagogical stances of situated practice, overt instruction, critical framing, and transformed practice (NLG, 1996). Findings suggest that teaching for deep learning involved overt instruction of cognitive processes. Additionally, the teacher modeled critical framing processes of disciplinary practices situated within student-centered projects. Implications include how responsive literacy instruction may prime students' readiness to cultivate deep learning competencies. Inside today's classrooms, teaching for deep learning may necessitate addressing domain-based practices together with socially oriented work dispositions, allowing for both a production-oriented, text-centric view of learning (NLG, 1996) and an orientation toward space, spontaneity, and emergence in literacy engagement (Leander & Boldt, 2013).

Keywords: deep learning, early elementary, teacher development, multiliteracies pedagogy, case study

Treavor Bogard is associate professor in the Department of Teacher Education at the University of Dayton, where he teaches courses in literacy. His latest study, "Literacies of Embodiment and Becoming in Youth Drama," appears in *Literacy in Practice: Writing in Private, Public, and Working Lives* (Routledge, 2016). He is co-author of recent studies published in the *Journal of the Scholarship of Teaching and Learning* and *Educational Technology Research and Development.*

Annamary L. Consalvo is assistant professor of literacy at The University of Texas at Tyler and teaches undergraduate and graduate courses. Research interests include the teaching of writing, disciplinary literacy, and multiliteracies. Recent co-authored publications include "Writing on the Walls: Supporting 21st Century Thinking in the Material Classroom," *Teaching and Teacher Education,* and "Prying Open the Oyster: Creating a Digital Learning Space from the Robert Cormier Archive," *The ALAN Review*.

Jo Worthy is professor of literacy at The University of Texas at Austin where she teaches undergraduate and graduate courses in the language and literacy program. Her major research and teaching interests are reading interests and preferences, alternatives to ability grouping, bilingual education, and students who find school challenging. Her recent co-authored publications appear in *Bilingual Research Journal*, *Language Arts*, and *Literacy Research and Instruction*.

Introduction[1]

According to the National Research Council (NRC), *deep learning* is defined as "a process through which an individual becomes capable of taking what was learned in one situation and applying it to new situations" (NRC, 2012, p. 5). When people have learned deeply, they know when, how, and why to apply one's knowledge and skills. Much of what is understood about deep learning is drawn from socio-cognitive perspectives that foreground the role of social interactions and tools in amplifying cognition and guiding the construction of knowledge (Mercer, 1995; Wertsch, 1991). From a New Literacies Studies (NLS) perspective, deep learning of literacy practices is situated within discourse communities and involves the social and cultural skills that individuals use to make "connections among language, embodied experience, and situated action and interaction in the world" (Gee, 2001, p. 41). As explained by Lave and Wenger (1991), this kind of "[situated learning] implies emphasis on comprehensive understanding involving the whole person rather than 'receiving' a body of factual knowledge about the world; on activity in and with the world; and on the view that agent, activity, and the world mutually constitute each other" (p. 33).

Together, these perspectives view deep learning as skills transfer and meaning making through using resources, tools, and discourse practices of a discipline. These entail ways of talking, interacting, and composing within a discipline for the construction, representation, and application of knowledge (Gee, 2001). This is different from content area literacy because:

> Content area literacy focuses on study skills that can be used to help students learn from subject matter specific texts. Disciplinary literacy, in contrast, is an emphasis on the knowledge and abilities possessed by those who create, communicate, and use

[1] We acknowledge that there is a gender spectrum and that myriad pronouns exist that we can use when referring to individuals in our writing. Throughout this article we will use "he" to refer to individuals who identify as male, "she" to refer to individuals who identify as female, and "ze" for individuals who identify as gender-neutral. We have selected these pronouns because we believe they are more familiar for a diverse audience of readers.

> knowledge within the disciplines (Shanahan & Shanahan, 2012, p. 8).

Therefore, to learn deeply not only requires rigorous use of one's cognition, but also taking up the ways of interacting, talking, and relating that are intertwined with identity and situated knowing (National Research Council [NRC], 2012; Gee, 2001). From this perspective, teaching toward deep learning involves guiding students in the use of disciplinary literacies within a content area.

Currently, national education standards call for deep learning of disciplinary practices with the aim of increasing students' college and career readiness. Teachers are expected to engage students in "the social, semiotic, and cognitive practices consistent with those of content experts" (Fang, 2012, p. 19). Most research on deep learning has involved studies of expertise in disciplines and workplaces with the role of pedagogy often obscured (Bransford, Brown, & Cocking, 2000; NRC, 2012). Consequently, more insight is needed concerning how educators teach for deep learning, what deep learning looks like in the content areas, and how deep learning is actualized within a high-stakes testing culture.

In the present study, we asked: How does an elementary school teacher cultivate opportunities and an environment for deep learning within reading-language arts? We describe how a second-grade teacher, Mae Graham (all names are pseudonyms), taught toward deep learning in her second-grade literacy classroom. Mae Graham is recognized as an exemplary teacher by her school and district. She is also a grade-level and school-curriculum leader in literacy and mathematics. Her students consistently achieve above the school and district average in reading and math, the only subjects for which such achievement data are available.

In our year-long qualitative study of Mae's classroom, we witnessed literate, productive, and collegial interactions between students as they worked on literacy projects. Mae kept members actively writing, reading, and working together and gave previously marginalized students constructive spaces through which they made academic progress and became accepted members of the classroom community (Worthy, Consalvo, Bogard, Russell, & Shipman, 2012). In this case study, we conduct an analysis of selected episodes of Mae's instruction collected over the course of an academic school year. We provide an account of how she taught for deep learning within her literacy classroom, where she infused literacy instruction with pedagogies of multiliteracies (NLG, 1996).

Theoretical Perspectives

Cognitive, Intra-personal, and Inter-personal Competencies

In an extensive meta-analysis of research, the NRC (2012) concluded that deep learning of disciplinary knowledge involves cognitive, intra-personal, and inter-personal competencies. *Cognitive* competencies include reasoning, memory, analysis, and decision-making, and are associated with skill in critical thinking, interpretation, and non-routine problem solving. *Intra-personal* competencies include self-regulation of activities and emotions during learning tasks. Other attributes include intellectual openness, adaptability, metacognition, and appreciating multiple perspectives. *Inter-personal* competencies entail social dimensions of learning such as teamwork, communication, collaboration, responsibility, and conflict resolution.

A competencies perspective of deep learning foregrounds pertinent skills that students can develop through targeted instruction. With knowledge of these competencies, educators can better scaffold the cognitive, social, and volitional

demands of learning deeply. The NRC's instructional implications for developing these competencies differ by content area, but derive from an understanding that students, if they are to learn deeply, require designed learning invitations replete with critical thinking, dialogic action, collaboration, feedback, and reflection on problem solving processes.

Cultivating Deep Learning through a Multiliteracies Pedagogy

In the current study, we are concerned with the ways educators might establish classroom conditions and ways of teaching that aid students in developing cognitive, intra-personal, and inter-personal competencies. The New London Group (NLG) (1996) provides a multiliteracies pedagogical framework that may aid deep learning in classrooms if implemented properly by educators (Boche, 2014). The framework posits learners as designers to operationalize how people use "existing conventions of meaning-making and create new meanings from those patterns" (Jacobs, 2014, p. 270). From a deep learning perspective, design can be thought of as a means through which learners acquire the conventional ways of making meaning in a discipline (the designed) and use those means to create new texts that express new meanings (the re-designed). Thus, the NLG's emphasis on the design-redesign as a facet of learning deeply involves the transfer and application of knowledge to create new meanings. Leander and Boldt (2013) have critiqued the multiliteracies pedagogy as being text-centric and positing a representational view of design that disregards affective, sensational aspects of literacy engagement. Yet we also recognize that the NLS design framework may offer a useful heuristic for examining the teaching moves an educator might take up when teaching toward deeper learning in classroom settings.

The multiliteracies pedagogical framework includes *situated practice*, in which learners engage in a practice with experts while undertaking authentic tasks (NLG, 1996, p. 85); *overt instruction*, through which teachers share the meta-language or specific language of a given practice about which learners can think and talk (p. 86); *critical framing*, through which learners are invited to practice interpretation (p. 86); and *transformed practice*, by which teachers and learners together reflectively re-create a practice that takes into account their own interests and goals (p. 87).

"Critical framing and transformed practice are components of the pedagogical framework that entail high-level cognitive and social functioning."

Critical framing and transformed practice are components of the pedagogical framework that entail high-level cognitive and social functioning. *Critical framing*, for example, can involve analyzing purposes of texts, their structures, and making connections. It can also involve interrogating the practices, procedures, intentions, reasoning processes, and power relations in the production of texts. *Transformed practice* entails appropriately applying knowledge and skills to real-world situations and testing their validity. It is evident when a learner applies knowledge and skills in new contexts to "make an intervention in the world" or to "do something that expresses or affects the world in a new way" (Cope & Kalantzis, 2009, p. 186).

As mentioned, Leander and Boldt (2013) have criticized this framework for being text-centric. As a result, educators may focus on the representational features and effects of the texts students produce as evidence of learning deeply without considering the interactional, affective states by which a text comes into being. To this point, Leander and Boldt critique

the NLG's view of design for its "rational control of meaning and forms (p. 22)" and its positing a linear, cognitive, and representational view of text formation. What students design is often predetermined and scaled for assessing the meanings it renders as evidence of learning. Instead, Leander and Boldt call attention to the non-representational means that materialize texts: the emotions and affects, the movement of bodies, the sensations and impulses that create momentum and emergent potential for where a text might go. Their critique opens up considerations into the ways students make "relations and connections across signs, objects, and bodies in often unexpected ways" (Leander & Boldt, 2013, p. 22). Relative to teaching for deep learning, their critique implies that it is not just the end product that matters. The non-representational means by which texts are constructed raise consideration of how bodies, affects, and impulses may be implicated in what it means to learn deeply.

To highlight the ways Mae taught for deep learning, we examine the pedagogy of multiliteracies alongside deep learning competencies while recognizing the limitations that Leander and Boldt (2013) have put forward. We acknowledge the possibility that teaching for deep learning may entail using the pedagogical framework in ways that allow for "a mix of the intended and the serendipitous" (Jacobs, 2014, p. 272). As such, our focus on teaching for deep learning is not based on the texts that students produce as evidence, but rather, on the physical-social conditions that support literacy engagement and how Mae leveraged these dynamics to situate instruction within the real-time needs and quandaries of students.

Review of Literature

We begin by reviewing research related to cognitive, intra-personal, and inter-personal competencies. We describe the skills each entails, while recognizing that they operate as interconnected and dynamic elements of deep learning.

The Cognitive Competencies of Deep Learning

From a cognitive perspective, many studies of expertise highlight learners' development of schema and mental models during problem solving that enhance pattern recognition and working memory (Bransford, Brown, & Cocking, 2000). In regard to the development of these competences, Wertsch (1991) and others theorized a social-cognitive view of learning whereby "mental functioning in the individual derives from participation in social life" (p. 27). Consequently, research began to explain the role of social interactions in learning. In language arts classrooms, some pedagogical implications include before, during, and after reading activities that aim to build students' comprehension through activating social and cognitive processes around texts.

Salomon and Perkins (1998), in their review of research, foregrounded the teacher and the learning environment in amplifying the mental processes and actions required for constructing knowledge. They argued that what happens in the mind is rarely individual, that "learning almost always entails some social mediation, even if not immediately apparent" (p. 2). There must be a "*facilitating social context*: informative feedback, challenge, guidance, and encouragement" (p. 8). These conditions elevate thought and language in the application of knowledge to practice, contributing to the learner's development of cognitive competencies. Relatedly, Shute (2008) studied formative feedback "intended to modify thinking or behavior to improve learning" (p. 153). Effective formative feedback is non-evaluative, supportive, and timely. If strategically imparted within the learning context, feedback will "reduce the cognitive load of a learner, especially novice or struggling students" (p. 157). Formative feedback can also support development of mental

models "to the extent that the learners are receptive and the feedback is on target (valid), objective, focused, and clear" (p. 182).

Providing timely formative feedback depends upon utilizing moments in which a learner is most receptive in order for deeper learning of cognitive competencies to occur. For example, Glasswell and Parr (2009) showed that interactive, formative assessment is highly social and situated in students' application of knowledge and skills. In the context of a writing workshop, they examined situated feedback as it emerged as teachable moments that shared certain elements. First, teachable moments occurred by and through a meeting of minds. Second, they required a view of the present circumstances that extended to possible futures. Lastly, teachable moments required scaffolding using "an interactive, responsive teaching approach that makes the most of each moment" (p. 356). In a teachable moment, the teacher and student engage in learning on social, cognitive, and metacognitive levels as they work through a problem and interpret texts. A skill becomes easier to learn when it is modeled within a teachable moment, and deliberately practiced. From that point, supporting a learner using a gradual release of responsibility (Pearson & Gallagher, 1982) whereby she has access to enough support so she can become independent, in that skill, is ideal.

The Intra-Personal Competencies of Deep Learning

Intra-personal competencies associated with deep learning involve self-regulation of one's thinking and affective states when problem solving. Drawing on a series of studies with college learners, Pintrich (2004) offered a conceptual framework for assessing the intra-personal competencies of self-monitoring, metacognition, and adaptive learning. He found that these aspects of self-regulation "can mediate relations between the person, the context, and eventual achievement" (p. 388). Chi, Lewis, Reimann, and Glaser (1989) examined the think-aloud protocols of high- and low-achieving college students as they studied examples of mechanics problems and then worked on problems on their own. The higher achievers generated more self-explanations and were better able to monitor their understandings and misunderstandings. The authors concluded that self-explanations facilitate learning.

Drawing from their body of work from the Communities of Learners project (Brown & Campione 1990; 1994), Brown (1994) explained their project goals as their "attempting to orchestrate environments to foster meaningful and lasting learning in collaboration with inner-city grade school students and teachers" (p.6). Relating this work to intra-personal competencies of self-directed learning and metacognitive awareness, Brown wrote that "*...academic learning... is active, strategic, self-conscious, self-motivated, and purposeful*" (p. 9, emphasis in original). In an earlier study of self-directed learning in middle school science classrooms, Brown (1992) foregrounded the importance of teachers who act as models and facilitators of intra-personal competencies. Students, with coaching from teachers, "are encouraged to engage in self-reflective learning and critical inquiry....[and] to act as researchers responsible to some extent for defining their own inquiry" (p. 149-150). As a result, students became self-directed, reflective, and dialogic learners.

In an example of research done in an elementary school literacy program, Parsons (2009) examined how her fourth-grade students reflected on, analyzed, and interpreted their individual reading processes as they engaged in group discussion, writing, and visual synthesis activities in book clubs that Parsons facilitated. Students' metacognitive awareness of themselves as readers developed as they were prompted to discuss their reading

processes. They took control of turn-taking, topic selection, shifts, and focus. As a result of these intra-personal competencies, they became conscious of their reading processes and learned productive ways of talking about literature; these skills, in turn, contributed to their creating a "close-knit community of inquiry" (p. 257).

The Inter-personal Competencies of Deep Learning

Recalling that inter-personal competencies include collaboration, social responsibility, and conflict resolution, it is surprising how little research has been conducted on them in K-12 contexts. In a study of critical literacy in a first-grade classroom, Crafton, Brennan, and Silvers (2007) found that students' inter-personal skills were enhanced through using literacy to address a problem in their local community concerning the eviction of an elderly person from her home. Working collaboratively, the students used technology to read, speak, and write in advocating for the woman's housing rights. In another example, a case study of a second-grader who started the school year as one of the "less proficient readers in his class" (Goodman, 2005, p. 432), the researcher showed how the student developed as a reader through inter-personal processes involved in constructing meaning and discussing stories with peers and the teacher. The case documented reading experiences "embedded in linguistic and social contexts involving inquiry and choice, whole stories and texts, and conversations about texts" (p. 432). These studies illuminate how inter-personal interactions around texts are a means through which knowledge is constructed and applied in hastening literacy development.

In the present study, we take up the question of how a literacy teacher might prepare students to learn deeply, and what teaching toward the cognitive, intra-personal, and inter-personal competencies looks like with primary school children. We focus on Mae Graham's instruction and its potential for socializing students into the competencies that are believed to facilitate deep learning.

Method

Background of the Study

This case study is taken from a larger qualitative inquiry conducted across the 2007-2008 school year in Mae Graham's second-grade classroom (Worthy, Consalvo, Russell, & Bogard, 2011; Worthy et al., 2012). Data collection centered on two periods of instruction during which students had opportunities for autonomy, collaboration, choice of materials, topics, and work environment. The first was a two-hour literacy block, consisting of read-alouds and discussion, independent reading, and writing instruction. The second was a twenty-minute period called "morning menu," when students could work on self-chosen, cross-curricular projects independently or with other students.

Data collection included classroom observations, student artifacts, and interviews with Mae. Across the year, we observed a total of 38 days, taking ethnographic field notes that included both social interactions and physical activity. Immediately following each observation, the observer expanded field notes, including additional information and noticings from the day's session, as well as reflective comments and connections to theory and research (Emerson, Fretz, & Shaw, 1995). We video recorded 18 of the observations and used a modified form of multimodal transcription, noting teacher and student gestures, facial expressions, sounds, actions, and movement when visible or audible on the tape (Nelson, Hull, & Roche-Smith, 2008). Several times per month analytic memos were written (Erlandson, Harris, Skipper, & Allen, 1993); researchers met once per month to share ideas and hunches and then met again with Mae to member check (Lincoln & Guba, 1985) emergent understandings.

Setting and Participants

Serving a middle-income neighborhood in a fast-growing city in the south-central United States, Miller Elementary School served approximately 350 students, with a demographic breakdown of 69% European American, 24% Latina/o, 4% African American, and 3% Asian American, with 11% identified as low-income. The classroom teacher, Mae Graham, has a reputation as an outstanding teacher in the large urban school district with which she is affiliated. We chose to study her because of her standing and because she was one of a handful of teachers in the district who used non-ability-grouped instruction as well as reading and writing workshops, practices we were interested in researching.

A European American woman in her early fifties, Mae had over 19 years of experience that included teaching first and second grade at Miller and several years teaching fifth grade at an urban campus. The backgrounds of the 19 second-grade students in her combined general and special education inclusion classroom included Latina/o (four), African American (one), Asian American (one), and European American (13).

The Current Project

We selected as our unit of analysis teaching episodes that correspond to those activities that support deeper learning (c.f. Noguera, Darling-Hammond, & Friedlander, 2015) within the built environment of Mae's classroom. Lofland and Lofland (1995) identify "built environments" (p. 102) as a cultural context where researchers may examine relationships with, and those resulting from, a constructed physical environment. Recognizing Mae's classroom as a built learning environment, we used operational construct sampling (Patton, 1990) to select from the larger data set 16 descriptions of authentic literacy activities defined as those that "replicate or reflect reading and writing activities that occur in the lives of people" outside of school (Duke, Purcell-Gates, Hall, & Tower, 2006, p. 345). Specifically, we sought instances in the data that illustrated teaching examples of Mae's age-appropriate strategy use in which students' inquiries and their intentions were evident in the solving of authentic literacy challenges.

Analysis for the current study. In order to address our emergent concept of teacher-cultivated opportunities for deep learning, our first phase of analysis examined the 16 teaching episodes through a lens that included the competencies established by the NRC (2012) report. In accord with Lofland and Lofland's (1995) method for examining dynamics within a built environment, we studied the teaching episodes from Mae's classroom for "recurrent categories of talk or action….which…hav[e] analytic significance" (p. 103). Therefore, within each episode, we selected for our broad categories of analytic focus the three competencies of deep learning: cognitive, intra-personal, and interpersonal. We arrayed the episodes in a grid and discerned that each data episode showed evidence of multiple competencies. Therefore, under each competency heading, we included a Likert scale system of 1 as the least representative and 5 as the most representative of a particular competency, to which we added analytic memos (see Figure 1).

Thus, our initial analysis of these data episodes pushed us away from a strictly emic perspective toward more of "an etic perspective" (Merriam, 2009, p. 201) and use of *a priori* categories derived from both NLG (1996) and the NRC (2012) report. In conducting our second phase of analysis, we created matrices from the original data descriptions for visual display (Miles & Huberman, 1994). The episodes were arrayed along the left vertical axis, and elements for which we were analyzing, along the top horizontal plane (see Table 1). Following an iterative process, we reviewed our data several

times, analyzing each episode according to the competencies emphasized. After we determined which classroom episodes best represented the competencies, we created a new matrix to analyze what teaching moves Mae employed for situated learning, overt instruction, critical framing, and transformed practice (NLG, 1996).

To assign a data episode to any of the NLG (1996) categories, we read, re-read, then re-wrote each episode in an abbreviated form. Next to each we included descriptions of situated learning, overt instruction, critical framing, and transformed practice to keep definitional language in front of us while considering each episode's assignment. Sometimes, two or more teaching moves were evident in a single episode in which Mae deployed a pedagogy of multiliteracies. Therefore, we used process for every episode; then, we went back and, through checkmarks to show which were most salient. Next to each checkmark we wrote memos explaining why a checkmark was warranted. We repeated this discussion, reviewed and revised each assignment to determine which teaching moves were the most justifiable and, thus, best represented Mae's enactment of the competencies. We illustrate the associated data excerpts with competencies that were most evident. We argue that these pedagogical stances, shown in Table 1 and discussed in the findings section, illuminate how cognitive, intra-personal, and inter-personal competencies overlap, and how they can be leveraged within literacy practices in teaching for deep learning.

Findings

We present our findings with episodes of instruction that demonstrate Mae teaching toward each of the three broad competencies that are thought to underlie deep learning. Then, in the discussion

Data excerpt	Cognitive Competency (degree 1-5)	Inter-personal Competency (degree 1-5)	Intra-personal Competency (degree 1-5)	Comments
#1 Description of morning menu with specific examples (from paper). Morning menu as emergent design	3	3	4-5	Has to do with the atmosphere/culture that Mae creates – thus the close numbers – like immersion. *Field notes* show that many children were observed to be deeply engaged, and working independently on their own projects.

Figure 1. Example of early analysis scale system. This figure illustrates the grid we constructed for this study inspired by Lofland and Lofland (1995).

section, we contend that situated practice, overt instruction, critical framing, and transformed practice were the pedagogical stances that Mae displayed while working to develop students' competencies for deep learning.

Teaching toward Cognitive Competencies

Mae used situated and overt instruction in which she introduced and gradually released to students' cognitive strategies for disciplinary reading and writing. Specifically, we describe how Mae used overt instruction to help students develop cognitive competencies required for 1) checking their understanding during reading, 2) testing their assumptions about metamorphosis in a science experiment, and 3) developing ideas about why mobiles work in a math lesson on balance and proportion. As detailed in the episodes below, Mae's overt instruction of cognitive competencies occurred within an integrated literacy curriculum focused on historical and scientific inquiry.

Self-monitoring thinking during independent reading. The following example from a unit on mythology shows Mae using overt and situated instruction to help students apply the cognitive strategy of self-monitoring one's thinking during reading complex texts. The students had selected mostly informational texts on Greek gods that they used as research material for writing books on specific gods. As students read, Mae took up the role of expert and used overt instruction to teach

Table 1

Analysis of Data Episodes

Data Episode	Situated	Overt	Critical	Transformed	Competencies of Learning
Projects in progress during MM (sample list)	X				Inter-personal
Physical environment facilitated constructive talk	X				
Selecting books that fit instructional level (ZPD)	X	X			Cognitive
Monitoring thinking during reading	X	X			
Establishing classroom norms, structures, and routines for reading/writing	X	X			
Modeling overcoming challenges	X	X			
Developing a culture of census	X	X	X		Cognitive & intra-personal
Making book recommendations for peers	X	X	X		
Explain why your mobile works	X	X	X		
Developing ideas and style when writing	X	X	X		
Engaging reading as inquiry	X	X	X		
Learning to engage in classroom community	X			X	Deep Learning (cognitive, inter-personal, & intra-personal)
Flow during morning menu	X			X	
Students work on literacy projects	X			X	
Students respond/react as authors and researchers	X		X	X	
Students' projects become models for one another	X		X	X	

students about self-monitoring, sharing the metalanguage (NLG, 1996) of the process:

> I just want you to know that as you get older, especially as you're reading chapter books without pictures, you'll be reading along and you'll go, *'I don't even know what I read!'* And so we teach kids different strategies or tricks for monitoring yourself. It's called *self-monitoring*. And basically all it is keeping up with understanding what you read. (Field Notes, November 3, 2007)

She proceeded with overt instruction of a self-monitoring strategy within the situated practice of students reading their self-selected texts about mythology. Since she had not yet given students explicit instruction in using reference texts, she provided them with support in self-monitoring their reading to determine the importance of specific information about the gods and goddesses they were researching. Our analysis suggests that Mae intended to impart the cognitive competencies of developing thinking *during* reading and using academic language to talk about self-monitoring. To accomplish this, she introduced material icons as memory props to help students with noticing, pausing, and reflecting on their cognitive processes during reading. Mae recognized that using icons as a tool for regulating task awareness during reading would likely be unfamiliar to her students. Therefore, she related the use of icons to a familiar situated practice—their use of a computer interface—and pointed out icons on the computer screen used for navigating to their favorite software applications "like the 'K' for Kidpix, or the big 'W' for Microsoft Word." One of the students then added his voice: "Or the 'E' for Internet Explorer!" (Field Notes, November 3, 2007). In emphasizing that icons are visual cues for thinking, Mae moved from overt to situated practice by relating the concept to students' prior experiences with using software icons to help them recognize how icons are tools for triggering memory and task awareness.

Mae then related the use of material icons for self-monitoring one's thinking during reading. She invited each student to make two icons: a picture of a book for reading, and a picture of a thought bubble for thinking. Modeling the use of her own icons and holding up the book icon first as she read, then the thought bubble icon as she thought out loud, and said: "So you see, when I'm reading, I'm aware that now is reading time. So when I turn it to the thought bubble, it makes me aware that now I'm thinking about it" (Field Notes, November 3, 2007). After modeling this deliberate use of icons twice, Mae revealed the thinking behind the icons as tools for self-monitoring in language that was both authentic and at a level that students could grasp:

> You won't do this with every book you read. But for a few days, you might want to use this icon to remind you to be aware of when you're actually reading and when you're actually thinking about what you read. Really, the reading and thinking can take place really close together—even at the same time—but sometimes we realize we're reading along and not thinking. (Field Notes, November 3, 2007)

Students made their own icons and practiced using them. In this example of overt instruction, Mae introduced self-monitoring as a cognitive strategy for reasoning during reading. She also imparted a new classroom practice: using icons to monitor reading and thinking. In doing so, Mae guided students into an experience that could build their schemas for using a cognitive strategy through deliberate practice.

Reading with an inquiring mind. Beginning a science investigation on metamorphosis in which students would care for caterpillars and watch them

turn into butterflies, Mae embedded in this lesson the use of a graphic organizer commonly known as a K-W-L chart (based on Ogle, 1986). The K-W-L design invites students to ask three questions across an inquiry: What do I already Know about this topic? What do I Want to know about this topic? Then, after the conclusion of the project, What have I Learned? Emphasizing that knowledge is always under construction, she pointed out that scientists frequently encounter challenges and uncertainty in their work, but underscored that not knowing or being wrong about something is an integral part of learning:

> Mae: Sometimes what you know about a subject might not be true…If you find out that something you thought was true is not actually true, would that be a good thing?
>
> (Some students say yes. Some say no. Some are silent.)
>
> Mae: I want you to learn in second grade that if something you thought was true turns out not to be [true], that's a *good* thing. That happens to scientists all the time, and they love it. (Field Notes, September 6, 2007)

In this instance, Mae moved beyond overt strategy instruction to critically frame scientific inquiry as disproving commonly held assumptions about what is believed to be true. She introduced the practice of close reading (Kerkhoff & Spires, 2015) as an act of inquiry that may either confirm or disconfirm one's prior knowledge. To model this, she asked students to write facts they knew and questions they had on sticky notes and to place them on a K-W-L chart to model questioning prior knowledge and identifying unknowns. Mae later explained that students would have the opportunity to test their assumptions and answer their questions by watching their own caterpillars grow into butterflies. Their reading of informational texts occurred within the situated practice of scientific inquiry in which one reads and observes natural phenomena to test previously held knowledge and beliefs. The application of the K-W-L strategy became a tool for elevating cognition and purpose for reading while imbuing students with the meta-language of scientific inquiry.

Mae's mini lessons pushed the children to look under the surface of class projects to get at the underlying disciplinary principles of why–and not just how—things work. In the following example, students had each made mobiles in order to generate a hypothesis of what makes items balance. Rather than focus on the steps they took to make the mobiles, Mae prompted students to reflect on and write about why they worked, which exercised their use of scientific thinking, and asked them to provide a verbal explanation. When first met with Mae's query, the students answered her as if she had asked *how* they had made them. Mae reframed her questions and persisted in pushing the students to conceptualize the *why*:

> Remember [what] we talked about? You're not going to write about *how* you made your mobile. We're going to write about *why* your mobile works. Who has a great answer for that? Ariana, will you share yours? Check your ideas about your mobile and why it works with others in the class. You're going to use your vocabulary to help you figure out what you can say about how and why your mobile balances. (Field Notes, March 7, 2008)

While Mae required that students incorporate scientific vocabulary into their compositions about why their mobiles achieved balance, the incident also shows that she supported her students in engaging abstract disciplinary knowledge through use of manipulatives, writing-to-think, and other supports for developing cognitive competencies. Across the year, this and other discussions of

disciplinary knowledge began to accustom students to deep thinking about the concepts and principles underlying their units of study.

In the examples above, Mae offered her students grade- and age-appropriate opportunities to begin developing various sophisticated cognitive competencies. The written K-W-L chart served as a reasoning, decision-making, and memory aid; the icon lesson concretized mental processes and supported the children's ability to practice non-routine problem solving and become aware of their own interpretive abilities; and the mobile-making and subsequent hypothesis-generation engaged their critical thinking and reasoning capacities. Mae helped her students to deliberately practice dispositional ways of thinking, talking, and acting around projects they cared about, an important means of developing students' capacities as thinkers, problem solvers, and authors.

Teaching toward Intra-personal Competencies

Opportunities for developing intra-personal competencies burgeoned in the everyday, situated activities of the literacy block, where issues in self-selection, interest, and skill were routinely modeled and negotiated as students interacted around texts. In this section, we describe how classroom routines such as selecting a "just right" book, engaging independent reading, and participating in interactive read-alouds offered Mae opportunities for developing students' intra-personal capacities of intellectual openness, conscientiousness, and self-evaluation.

Cultivating intellectual openness and self-evaluation in the self-selection of texts. During a whole-class check-in at the beginning of the literacy block, Evan, an advanced reader, shared that he was having trouble finding a "good fit" book that he would enjoy reading. Another student, Jack, recommended to Evan a book he was reading but was finding challenging. Jack explained, "I stopped reading it because I was having trouble reading it" (November 3, 2007). Mae took the opportunity to reinforce the habits of self-appraisal and awareness of others' reading interests as part of the situated practice of selecting just-right books:

> Okay, that makes perfect sense to me, Jack. And Evan, I think that it is probably gonna be a pretty good fit for you. And when you finish it—it's probably going to take you awhile—Jack might want to try it again, because it's not going to be long before it's a perfect fit. And it's a good fit interest-wise, isn't it? (Field Notes, November 3, 2007)

Jack explained that he had chosen a different book: "I'm starting this one now to see if I like it and it's a good fit." Mae helped Jack appraise the appropriateness of the text relative to its degree of challenge and his level of skill and interest necessary for optimal engagement. Beyond that, her feedback leveraged Jack's conscientiousness as a reader, an intra-personal competency, to reinforce an ongoing lesson in the intricacies of self-selection and, importantly, to forge cooperative relationships around texts. Mae positioned the two boys, each at very different reading levels, as readers who related to one another around a reading interest. Mae opened positive peer relations around texts, and offered Jack a vision of himself as an advanced reader, reminding him that, "It's not going to be long before it's a perfect fit!" By highlighting Jack's intra-personal competencies, his development as a reader was being forged by his relationship to the text and his friend, Evan, rather than by a leveled text or ability group. These kinds of interactions between Mae and her students prompted meta-awareness of the self as a reader (Parsons, 2009) and positive reading identity (Johnston, 2004).

In this way, Mae guided students' self-regulation of text selection relative to their interest, ability, and

growth with others in the community. The critical framing of text appropriateness on these intra-personal and cognitive levels became situated habits of mind from which cooperation, intellectual openness, and conscientiousness grew. Students responded as readers within a community of readers, attuned to their own and others' developing abilities and interests. Through this guidance, Mae strove to develop their capacity to move from dependence on her instruction to independence as readers and writers who planned, to varying degrees, their own interest-based inquiries. The result was a classroom environment in which students demonstrated a readiness for sharing information, asking questions, and remaining receptive to others' suggestions. Mae's mindfulness in teaching toward these intra-personal competencies established an ethos of relating to one another as capable problem solvers. As the following examples show, this openness fostered a safe environment for self-evaluation and an awareness of one's challenges.

Students embrace challenge as opportunity. Mae realized that students found purposes for acquiring, applying, and developing their reading, writing, and other literacy skills in the projects they pursued and curiosities they followed. She explained: "I try to get to know the kids' [work], so that I know what their very next step needs to be." Mae began each daily literacy block by guiding students with self-regulating their reading and writing projects, not just in terms of having them identify the status of their work, but by helping students to recognize the challenges they encountered and then explain steps for solving them. In doing so, Mae critically framed challenge as an opportunity for demonstrating self-regulation in selecting and applying reading strategies just right for the problem at hand. During mini-lessons, Mae began with overt instruction by explaining her own challenges as a reader. She modeled her processes of reasoning, then analyzed the cause/effect pattern of the action she took to solve the problem using the reading strategy she had taught. This became a norm within the literacy block and a means through which Mae normalized the fact that good readers encounter difficulties as a natural part of learning (Johnston, 2004). During a whole-class discussion, she continued her focus on noticing and naming challenges and asked a small group of students to bring the books they were currently reading to the circle. She asked them: "When you are reading, how do you know that you are understanding your reading? How do you self-monitor or check yourself? We are going to talk about what the challenges are and how you solved them" (Field Notes, October 9, 2007). Through this prompting, her overt instruction shifted to critical framing of challenge as an opportunity for learning to apply new strategies.

Students worked together and alongside Mae to critically frame the challenges they encountered by thinking about, naming, and exploring ways of resolving the problematic issues they identified in their reading. Several times a week, Mae met with heterogeneous groups of three to four students, each reading material at their proficiency level, to share their challenges and brainstorm solutions. In one meeting, Robert talked about his difficulty with a book from the *Bone* series (Smith, 2005-2007)

> Robert: My challenge is just understanding the dreaming, like in this, like what keeps the realm alive, like what is really important?
>
> Mae: Do you think rereading it would help?
>
> Robert: I have read all the books except *Old Man's Cave* (Smith, 2007).
>
> Mae: I wonder if the information would be in another book in the series.
>
> Robert: I don't read them in order.

> Mae: It might be easier to read in order; they might give background information.
>
> Roger: I had that problem…
>
> Roger then told the group about a book that confused him until he read an earlier book in the series. (Field Notes, April 20, 2008)

By engaging the critical framing of their challenges, students began to acquire the academic language of reporting on their work using key terms and ideas from the genres they studied, as indicated when Robert stated, "My challenge is understanding …*what keeps the realm* alive." Mae's prompting students to share how they overcame the challenges they encountered evoked reflection on the actions they had taken, and created a space for critically framing their difficulties. Rather than becoming dismayed by challenge, students took ownership of where they struggled and shared how they might overcome those difficulties.

Teaching toward Inter-personal Competencies

Classroom structures and routines in the literacy block supported students' acquisition of inter-personal competencies such as teamwork, communication, collaboration, and responsibility (NRC, 2012). Students' desks were grouped into circles of four to five to promote collaboration. During class meetings and discussion, the students and Mae sat in a circle facing each other, a custom inspired by a lesson about the United Nations. Students informed us that in the U.N. arrangement, there is no single head of the circle and, thus, no one person is in charge of the discussion. The following examples illustrate how these arrangements emerged from Mae's critical framing of inter-personal competencies as students engaged the situated routines of the literacy block.

The classroom culture was one of consensus and shared responsibility. Using overt instruction, Mae taught mini-lessons that illustrated how productive, collaborative work looks and sounds to explain behaviors and conditions that are optimal for learning. For example, during the first week of school, Mae explained the research-based reasons for spending time reading in school. She told them, "Scientists have discovered that kids don't read much in school. So we're going to make time to read every day." Mae continued with other findings from research about reading: "It helps to talk about what you're reading with friends" and "You should get to choose what you read." Finally, she explained the importance of the environment: "But we have to be *able* to read, where no one's bothering us, and we can read with other people if we choose. We should be comfortable, and read where we want to" (Field Notes, August 29, 2008).

Later during that same week (Field Notes, September 6, 2007), Mae led the students in constructing a list of "Rights and Responsibilities," which included "really reading and writing, working with partners, lots of choices, working anywhere appropriate, quiet or quiet talking." The list identified the situated practices for which Mae would provide overt instruction of literacy skills and strategies. Then, after several weeks of school, Mae engaged students in a discussion of what they liked about the literacy block and how the time might be more conducive to working productively. Students said they appreciated being able to choose books and topics, to work with partners, and to work where they were comfortable. One student commented that when she did her homework, worked on the computer, or read at home, she often ate a snack. After some discussion of the responsibilities that might accompany the right to eat snacks while working, the class decided to add this to the list (Field Notes, October 2, 2007). In this instance, the students and Mae engaged in critical framing of the practices comprising the literacy block, and the appropriateness of these functions for

facilitating their work as readers and writers. In this example of critical framing, students considered with Mae how the norms of the literacy block enforced conditions for supporting constructive work. By discussing issues impacting their work environment, students recognized that their ideas mattered and influenced, through consensus, the outcome of the collective. The result was an ethos of collegiality, developed socially, through which the children used academic skills while confronting problems that stemmed from their own lives and experiences (Worthy et al., 2012). Mae led conversations around such issues in ways that supported students' development of inter-personal competencies, as such deliberations gave students a say in their own learning, a sense of citizenship, and shared responsibility to self and others within the classroom community.

Inter-personal competencies emerged through meaningful projects. Mae told us she wanted to move students toward applying the learning strategies she had taught them and using those skills in their collaboration with others on self-selected projects (Interview, April 15, 2008). The fruits of Mae's practices were evident in our observations of students' thinking and working together, moving in and out of individual and group work as necessary to accomplish learning goals. Evidence of this was most apparent during "morning menu." The morning menu was a hub for working on projects and collaborating with peers. We observed interactions resembling a well-functioning workplace, as students worked individually, in pairs, and in self-chosen teams while Mae moved around the room to offer help and suggestions.

Table 2 shows projects undertaken during morning menu, some of which were initiated in another part of the school day. The table illustrates the range of projects and the types of inter-personal interactions that occurred within the choice-based morning menu time. When we asked her to describe the significance of morning menu time, Mae explained:

> We all just know each other and we come in, we do our thing, and it might be different kids doing different things at different times just to meet their needs and where they are with their product. When we're in our groove things are very fluid. We just have this flow. It's just a very, it's just an awesome, symbiotic thing going on. They all kind of seem to be in tune with each other. I feel like it's more of a community thing. (Interview, April 15, 2008)

Student projects conveying inter-personal competencies. During morning menu, we observed Shelly and Ellie making a poster called *Birds of Texas*. They had placed photos from the Internet and their own drawings on an outline of a tree, which also included a cross-section illustration of the parts of a bird (Field Notes, November 9, 2007). Inspired by a science unit on classifications of groups of animals, this was the second in a series of planned projects between the two girls, who had developed an avid interest in birds motivated by birding trips with Shelly's father. The girls demonstrated inter-personal competencies of co-authorship as they worked together to design the poster, applying non-fiction text features such as captions, diagrams, and illustrations to create an informational poster that had an attractive design and accurate facts. Mae told us that students were free to choose their own project focuses and working partners or groups. "As long as they're productive and learning what they need to learn," Mae explained, "I don't really have restrictions" (Interview, October 2, 2007).

In another visit (Field Notes, March 7, 2007), two boys were working together to write a comic book about *The Spiderwick Chronicles* (Black & DiTerlizzi, 2003). After finishing the comic, they conducted

online research into video game design and constructed plans for a video game based on the same book. Like the *Birds of Texas* collaborators, these boys found compatibility of interests to the point where they, too, had plans for future projects as a continuation of their shared interests and positive working relationship. We noted that such partnerships were not unusual and were supported in different ways and to varying degrees by Mae: "It is a buzz of activity with students at their desks, computers, and around the room working on different activities. Mae is meeting with different students" (Field Notes, October 19, 2007).

In addition to Mae regularly consulting with students about their projects, her arrangement of the classroom space positioned students as purposeful meaning-makers, and served to support students' inter-personal competencies of collaboration and teamwork. As time went on, it appeared that the U.N.-inspired seating arrangement, the many well-selected books available to students, and routines, such as daily read-aloud and morning-menu, served to normalize productive and collegial work time for these second graders: "There is a relaxed but productive atmosphere, with kids conferring and chatting with each other as they go about their work" (Field Notes, March 7, 2008). Collegiality grew out of Mae's arrangement of the physical environment, the honoring of student choice and interest, the time and continuity allowed for the projects pursued, and the ongoing provision of formative feedback. As students authored texts for purposes and audiences that mattered to them (see Table 2), they made use of the social-physical affordances of the classroom resources, consulted with peers, and conferred with Mae. In doing so, students exercised inter-personal competencies in learning as they worked on literacy projects that had import to their worlds both in and out of school. The work students produced provided us with evidence of transformed practice as students applied knowledge and skills to "creatively do something that expresses or affects the world in a new way, or that transfers their previous knowledge into a new setting" (Cope & Kalantzis, 2009, p. 186). Within these moments of transformed practice, students' production of new texts expanded their situated practices for co-constructing knowledge.

Discussion

Up to this point we have discussed the competencies and pedagogical stances separately through vignettes to make clearer their qualities and distinctions, but in practice, these forms of teaching are integrated and overlap to yield transformed practice, where "students can demonstrate how they can design and carry out, in a reflective manner, new practices embedded in their own goals and values" (NLG, 1996, p. 25). In this section, we discuss how we saw the stances Mae took, through a multiliteracies pedagogy lens (NLG), as she taught for deep learning through situated instruction, overt instruction, and critical framing within the literacy block (see Table 1).

Situated Practices of the Literacy Block

The situated practices in Mae's literacy block provided a "facilitating social context" (Salomon & Perkins, 1998, p. 8) for teaching toward deep learning. Within classroom structures and routines, students' self-selected reading, writing, and other projects provided them a meaningful context to deliberately practice skills application. With Mae's guidance and ongoing feedback, student-centered projects became the familiar territories into which she inducted students into situated practices of a discipline. These included the ways of thinking, interacting, talking, writing, and using strategies for developing knowledge and applying skill. Mae introduced a new practice in response to the emergent cognitive demands students encountered as they completed literacy projects, allowing her to

impart skills instruction around conditions of applicability. One of Mae's hallmarks of teaching toward deep learning, then, involved helping students to adopt an existing practice for their own texts and purposes. When students do so, their processes may be leveraged as resources for other students and can even transform practices as students put strategies to their own creative uses, which we observed in the morning menu. In these ways, cognitive, intra-personal, and inter-personal competencies could develop within the situated practices that culminated in the creation of new texts.

Overt Instruction as Cognitive Apprenticeship

Mae's overt instruction functioned as a kind of cognitive apprenticeship in both representing knowledge and meaning-making within a disciplinary practice. She did this by: 1) Framing instruction around an emergent need or purpose within practices in which students routinely engaged; 2) Modeling literacy strategies such that students saw the procedures enacted in a familiar context; 3) Thinking aloud so as to call attention to how, when, and why readers and writers might apply the strategies she imparted; 4) Helpin`g students perceive both the relevance and potential power of said strategies; 5) Prompting and questioning students in ways that guided their application of the strategies to their own projects; and 6) Instilling the meta-language of the practices in which she and her students collectively engaged. These features of Mae's overt instruction helped students acclimate to literacy practices engaged in by authors, researchers, and scientists: how they represent what they know, how they seek knowledge, and how they talk with others about their work. In these ways, Mae's overt instruction made transparent the nexus of thought, language, and action in the intra-personal dynamics of her classroom. Mae's complex combination of instructional intentions primed students' capacities to act on the knowledge she imparted on behalf of their interests as readers and writers.

Critical Framing as Teachable Moments

In many of our examples, Mae's uses of critical framing occurred as teachable moments. As students worked on their projects, she prompted students to consider the purpose for using a strategy and, to a greater extent, to weigh the appropriateness of a strategy for coping with challenges that emerged in their work. As a result, students displayed a readiness to share and discuss strategies for solving the issues at hand. With Mae's prompting, they became mindful of how they put literacy to use and why they were following a particular course of action in light of a learning goal. Procedural knowledge of strategies could co-evolve with conceptual understandings of the subject matter.

In other teachable moments, Mae prompted students to critically frame the choices made by authors, both professional and peer, in consideration of the author's purpose. Consequently, students began to perceive the causes and effects of the choices they made in the production of their own texts. Critical framing of both process and product engendered intra-personal capacities associated with authorial dispositions: intellectual openness, conscientiousness, and self-evaluation.

Transformed Practices in the Morning Menu

In classroom interactions, transformed practice was evident where students were in the driver's seat as they exercised cognitive, intra-personal, and inter-personal competencies. The accumulation of student knowledge-in-action led to transformed practice. Anchored by the authentic, project-based context that was Mae's classroom, students applied reading-writing strategies and negotiated their understandings of academic content. Students'

ability to apply their knowledge-in-action across new situations and texts manifested in several ways, especially during morning menu. These included students 1) taking up the academic language of disciplinary practices, 2) participating in cumulative talk around their texts, 3) responding as authors and researchers with intent to produce texts that would be of use to their learning community, and 4) conveying the purposes, conceptual understandings, and procedural processes behind the texts they produced. The physical-social affordances of the morning menu allowed for spontaneity and emergence in which students explored new ways of representing content and putting it to use playfully, in order to creatively apply their knowledge to produce new texts. It was in this area of transformed practice that Mae recognized and allowed for the affective and spontaneous aspects of her students' literacy engagement that inspired new texts, and which would later serve as anchor points for situating her instruction during the official literacy block. The confluence of the different forms of student knowledge-in-action, were visible to us as intellectual rigor and professionalism within the classroom as students worked together as creative thinkers, problem solvers, and authors.

Limitations

We offer three points as limitations to the study. First, Mae Graham was highly respected as a teacher by her district and by faculty at the university before the beginning of the study and, although we tried to remain attentive to biases, it is possible that we could or should have been more critical of her practices. Second, the teacher-participant and the field researchers in the original study, as well as the current authors, reflected current U.S. trends in teacher Whiteness. In the school year 2011-2012, 82% of K12 teachers in the U.S. were White (U.S. Department of Education, 2016, p.6). Despite each of us dedicating our careers to creating more equitable educational environments, such as Treavor's work with LGBTQ+ youth, Anna's research with urban youth, and Jo's dedication to English learners, it is possible, because of our White privilege (McIntosh, 1988), that we were unable to see inequitable classroom practices. Third, this research is a qualitative study of one classroom and one teacher.

In light of these limitations, we invite people to consider these vignettes as portraits of what they are--one teacher's practices across a school year. We offer this research report and the implications that follow in hopes that our attention to systematic practices of qualitative research may have mitigated our known and unknown shortcomings. We hope that, because of the finely grained nature of the classroom descriptions, this paper can serve as a case that educators can draw upon for considering what works best in their own contexts.

Implications

Transformed practice, as an outcome of deep learning, can be possible when educators allow for a rational, text-centric view as evidence of learning (NLG, 1996) and the space for spontaneity and emergence (Leander & Boldt, 2013). Teaching for deep learning will require both a rational and an affective approach whereby educators balance mental representational means of learning with spontaneous and unpredictable impulses that inspire the creation of texts. We offer three recommendations for grasping this delicate balance: provide time and space and structures for deep learning; scaffold social practices that enable deep learning; and be mindful of teacher stances.

Provide Time and Spance and Structures for Deep Learning

If it is true that these three competencies—cognitive, intra-personal, and inter-personal—underlie deep learning, then it is imperative that schools and curricula accommodate classroom structures and student-centered teaching

approaches that socialize students into these competencies as they engage with literacy. Mae's morning menu block offered students a structure within which to explore, move, and engage, while at the same time, provided Mae with a loosely structured time to confer, guide, and teach within individual students' interests and current activities. It is vital for teachers to create learning environments where students' activities and movements are seen as leverageable possibilities. This will require/ask of teachers to attend to "the random, spontaneous, and the improvisational" (Leander & Boldt, 2013, p. 29) aspects of students' literacy engagements as opportunities for teachable moments that address the pragmatic demands of an official curriculum.

Scaffold Social Practices That Enable Deep Learning

Teaching for deep learning is not just a matter of adopting a rigorous set of content standards and assessments. Rather, deep learning is actualized in social practices made up of language and relationships formed through meaningful work. All three domains, not only the cognitive, are essential. As seen in Mae's classroom, it is the micro-level interactions that can serve as indicators of how students may become socialized into thinking, acting, and talking in order to actualize deep learning in a domain. It is important, then, that teaching for deep learning not focus just on the text produced, but also on the social practices and dispositions forged through meaningful, productive work. These are the means through which knowledge gets produced and applied to transform practice. That said, pragmatics in these times demand that teaching for deep learning focus both on the text produced and on the dispositions and social practices developed through accomplishment of developmentally authentic tasks.

Be Mindful of Teacher Stances

Teaching toward deeper learning involves moving in and out of the pedagogical stances of situated practice, overt instruction, and critical framing in ways that are appropriate to the situation at hand as activity unfolds. In this regard, our findings highlight the teacher as a facilitating social agent in the emergent physical-social dynamics of text creation that optimize opportunities for deep learning. As recognized by Leander and Boldt (2013), the shifting dynamics of literacy engagement emerge out of unpredictable and spontaneous impulses, both for students and for teachers. Critical framing, as an instructional stance, can help balance emergence and possibility with the NLG's (1996) use of design as a representational means of learning. In Mae's classroom, students' emergent activities provided opportunities for teaching moments in which Mae critically framed a new design practice. Mae was able to lift shared moments and offer students opportunities for criticality. Such critical framing offers a balance point for honoring the dynamics of spontaneity, physicality, and engagement with the practical need to find worthy teachable moments. As such, critical framing is a pedagogical stance that may help educators to balance emergence with a design framework, allowing for both dynamics in teaching for deep learning. Since the multiliteracies framework does not account for the role of bodies, desire, interest, and purposes that compel deep learning, future research might more fully consider the role of the moving, sensing body in regard to learning deeply, and what this means for the stances that teachers take up as they endeavor to teach toward deep learning.

Conclusion

In conclusion, the multiliteracies pedagogical framework (NLG, 1996) provided us with a heuristic

for perceiving alternating stances a teacher might take when teaching for deep learning, and is a helpful tool for leveraging deep learning in classrooms by attuning to competencies beyond the text. As long as schools privilege a purely cognitive model of instruction, which is often the case in many reading programs and assessments, is it likely that students will learn deeply? How will we know for sure?

References

Black, H., & DiTerlizzi, T. (2003). *The Spiderwick Chronicles, Book 1*. New York, NY: Simon & Schuster.

Boche, B. (2014). Multiliteracies in the classroom: Emerging conceptions of first-year teachers. *Journal of Language and Literacy Education*, *10*(1), 114-135.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). *How people learn: Brain, mind, experience, and school.* Washington, D.C.: National Academy Press.

Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *The Journal of the Learning Sciences, 2*(2), 141-178.

Brown, A. L. (1994). The advancement of learning. *Educational Researcher, 23*(8), 4-12.

Brown, A. L., & Campione, J. C. (1990). Communities of learning and thinking, or A context by any other name. In D. Kuhn (Ed.), *Contributions to human development 21: Developmental perspectives on teaching and learning thinking skills* (108-125). New York, NY: Karger.

Brown, A. L., & Campione, J. C. (1994). Guided discovery in a community of learners. In K. McGilly (Ed.), *Classroom lessons: Integrating cognitive theory and classroom practice* (pp. 229-270). Cambridge, MA: MIT Press/Bradford Books.

Chi, M., Lewis, M., Reimann, P., & Glaser, R. (1989). Self-explanations: How students study and use examples in learning to solve problems. *Cognitive Science, 13*(2), 145-182.

Cope, B., & Kalantzis, M. (2009). 'Multiliteracies': New literacies, new learning. *Pedagogies: An International Journal, 4*(3), 164-195.

Crafton, L. K., Brennan, M., & Silvers, P. (2007). Critical literacy and multiliteracies in a first grade classroom. *Language Arts, 84*(6), 510-518.

Donham, J. (2013). *Enhancing teaching and learning* (3rd ed.). Washington, D.C.: American Library Association.

Duke, N. K., Purcell-Gates, V., Hall, L. A., & Tower, C. (2006). Authentic literacy activities for developing comprehension and writing. *The Reading Teacher, 60*, 344–355.

Emerson, R., Fretz, R. I., & Shaw, L. L. (1995). *Writing ethnographic fieldnotes*. Chicago, IL: University of Chicago Press.

Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry*. Newbury Park, CA: Sage.

Fang, Z. (2012). Language correlates of disciplinary literacy. *Topics in Language Disorders*, *32*(1), 19–34.

Gee, J. P. (2001). Reading as situated language: A sociocultural perspective. *Journal of Adolescent and Adult Literacy, 44*(8), 714-725.

Glasswell, K., & Parr, J. M. (2009). Teachable moments: Linking assessment and teaching in talk around writings. *Language Arts, 86*(5), 352-361.

Goodman, D. (2005). Why Marco can read: Becoming literate in a classroom community. *Language Arts, 82*(6), 431-440.

Jacobs, G. E. (2014). Reimaging Multiliteracies: A Response to Leander and Boldt. *Journal of Adolescent & Adult Literacy*, *57*(4), 270-273. DOI: 10.1002/JAAL.249

Johnston, P. H. (2004). *Choice words: How our language affects children's learning*. Portland, ME: Stenhouse.

Kerkhoff, S. N., & Spires, H. A. (2015). Getting close to close reading: Teachers making instructional shifts in early literacy. *Journal of Language and Literacy Education*, *11*(2), 44-59.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* New York, NY: Cambridge University Press.

Leander, K., & Boldt, G. (2013). Rereading "a pedagogy of multiliteracies": Bodies, texts, and emergence. *Journal of Literacy Research*, *45*(1), 22-46. DOI:10.1177/1086296X12468587

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry.* Newbury Park, CA: Sage.

Lofland, J., & Lofland, L. H. (1995). *Analyzing social settings: A guide to qualitative observation and analysis*, (3rd ed.). Belmont, CA: Wadsworth.

McIntosh, P. (1988). White P=privilege and male privilege: A personal account of coming to see correspondences through work in Women's Studies (Working Paper #189). Wellesley, MA: Wellesley College Center for Research on Women. Retrieved from https://www.deanza.edu/faculty/lewisjulie/White%20Priviledge%20Unpacking%20the%20Invisible%20Knapsack.pdf

Mercer, N. (1995). *The guided construction of knowledge: Talk amongst teachers and learners.* Clevedon, UK: Multilingual Matters.

Merriam, S. (2009). *Qualitative research: A guide to design and implementation.* San Francisco, CA: Jossey-Bass.

Miles, M. B., & Huberman, A. M. (1994). *Data analysis* (2nd ed.). Thousand Oaks, CA: Sage.

Nelson, M.E., Hull, G.A., & Roche-Smith, J. (2008). Challenges of multimedia self-presentation. *Written Communication* 25(4), 415-440. DOI:10.1177/0741088308322552

Noguera, P., Darling-Hammond, L., & Friedlaender, D. (2015). Equal opportunity for deeper learning. Retrieved from *Jobs for the Future* website: http://www.jff.org/sites/default/files/publications/materials/Equal-Opportunity-for-Deeper-Learning-100115a.pdf

National Research Council. (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century.* Washington, DC: The National Academies Press.

New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1), 60-92.

Ogle, D. M. (1986). K-W-L: A teaching model that develops active reading of expository text. *Reading Teacher, 39,* 564-570.

Parsons, L. T. (2009). Readers researching their reading: Creating a community of inquiry. *Language Arts, 86*(4), 257-267.

Patton, M. (1990). *Qualitative evaluation and research methods.* Beverly Hills, CA: Sage.

Pearson, P. D., & Gallagher, M. C. (1983). The instruction of reading comprehension. *Contemporary Educational Psychology, 8,* 317-344.

Pintrich, P. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review, 16,* 386-407.

Salomon, G., & Perkins, D. N. (1998). Chapter 1: Individual and social aspects of learning. *Review of Research in Education, (23)*1, 1-24.

Shanahan, T., & Shanahan, C. (2012). What is disciplinary literacy and why does it matter? *Topics in Language Disorders, 32*(1), 7-18.

Shute, V. J. (2008). Focus on formative feedback. *Review of Educational Research, 78*, 153-189.

Smith, J. (2005-2007). *Bone*, book series. New York, NY: Scholastic.

Smith, J. (2007). *Old man's cave*. [6th in the *Bone* series]. New York, NY: Scholastic.

U. S. Department of Education. (2016, July). The State of Racial Diversity in the Educator Workforce. Washington, D.C.: Policy and Program Studies Service, Office of Planning, Evaluation and Policy Development. Retrieved from https://www2.ed.gov/rschstat/eval/highered/racial-diversity/state-racial-diversity-workforce.pdf

Wertsch, J. V. (1991). *Voices of the mind.* Cambridge, MA: Harvard University Press.

Worthy, J., Consalvo, A., Russell, K., & Bogard, T. (2011). Spaces for academic and interpersonal growth in a primary literacy workshop classroom. In P.J. Dunston, L.B. Gambrell, K. Headley, S.K. Fullerton, P.M. Stecker, V. R. Gillis, C. G. Bates (Eds.), *60th Yearbook of the Literacy Research Association* (pp. 309-321). Oak Creek, WI: Literacy Research Association.

Worthy, J., Consalvo, A., Bogard, T., Russell, K., & Shipman, S. (2012). Fostering academic and personal growth in a primary literacy workshop classroom: Restorying students with negative reputations. *Elementary School Journal, 112*(4), 568-589.

Table 2

A Sampling of Student Projects, Skills Application, and Interactions during Morning Menu

Date	Field Note	Project	Initiated from	Skill	Interaction
9-25-07	Two girls are making books about the caterpillar lifecycle, which the class has been studying in science.	Nonfiction: Expository text	Science lessons Informational texts Mae made available during the workshop time Investigation of the types of local butterflies	Illustrating and narrating scientific concepts Applying academic language Captioning	Co-authoring
10-6-07	Three girls and two boys have discovered a fan site for *High School Musical* and have been writing letters to members of the cast.	Nonfiction: Letter writing	Self-selected reading Writing workshop	Reading for a purpose Information seeking, gathering, and fact-checking	Fandom
11-21-07	Shelly takes her writing to Reilly for a peer conference since Mae is doing writing conferences	Fiction: Short story	Cumulative mini-lessons and workshops in which Mae modeled genres of writing	Self-regulation Help seeking Conventions	Peer editing

	with other students.				
2-2-08	Austin is writing a biography of Robert. He is interviewing him about his life. They sit with their heads together on the couch.	Nonfiction: Biography	Mentor texts Mae made available during workshop time during a unit on biography	Research Listening Speaking Writing	Interview
2-21-08	Sergio is making a sign for the class called "Test to Tattle." He got the idea from the guidance counselor, who visited last week and told them there are only a few reasons for tattling. Sergio is writing those: destroying property, stealing, danger, hurt, bullied.	Nonfiction: Informational poster	Guest speaker	Curating information Dictating Design/ layout of poster	Civic engagement