FACTORS THAT INFLUENCE AN INTERN'S LEARNING ABOUT AND ENACTMENT OF DISCUSSION-BASED TEACHING

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Curriculum, Instruction, and Teacher Education- Doctor of Philosophy

2017

ABSTRACT

THE FACTORS THAT INFLUENCE AN INTERN'S LEARNING ABOUT AND ENACTMENT OF DISCUSSION-BASED TEACHING

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This multi-case qualitative study examined the factors that influenced an intern's learning about and implementation of a core practice, discussion-based teaching (DBT) during her two semesters of student teaching. Influenced by theories of how teachers learn about and enact core practices, comparative case studies were conducted involving two cases: (1) an intern and her first mentor teacher and (2) the same intern and her second mentor teacher. Specifically, the purpose of studying each case was to understand (a) how the mentor and intern worked together to promote the intern's vision of DBT, (b) the ways in which opportunities for practice influenced the intern's enactment of DBT and (c) how the contextual and biographical factors influenced the intern's implementation and learning about DBT. Data sources included direct observations, semi-structured interviews, and audio-recorded conversations.

Cross-case analysis suggested contextual factors were most influential in the intern's enactment of DBT, namely the opportunities for practice and learning community provided by her second mentor teacher. Evidence from the study shows interns can learn core practices such as DBT, but autonomy and exposure are not enough to build complex learning. Interns need to be placed with mentors who provide modeling, targeted feedback and collaboration, and regular opportunities for guided reflection around the core practice. Findings from the study have implications for teacher education programs as they prepare new teachers to enact core practices.

ACKNOWLEDGEMENTS

I wish to thank the College of Education at Michigan State University for awarding me with a Summer Research Fellowship. The financial support allowed me time to build on my research interests that ultimately led to this dissertation.

I am grateful for my advisor and Dissertation Director, Randi Stanulis, who has been my cheerleader from the start. Thank you, Randi, for helping me grow as an educator in more ways than you will ever know. Your sound advice, thoughtful feedback, and encouragement ("You've got this!") will always be remembered. I also wish to thank my committee members for providing me with feedback throughout the process, and who supported me well before they generously agreed to serve on my committee. Sandra Crespo, your enthusiasm for education is contagious. I knew I could finish what I had started so long as I kept myself surrounded by educators like you. Steve Weiland, you introduced me to a range of literature that helped me see that writing is something I can do, and even enjoy. Amy Parks, you helped me with the enormous task of designing this study and provided me with the knowledge and skills to follow through with it. I wish to thank Cheryl Rosaen, who also took me under her wing on day one. Thank you for your continuous guidance, support, and confidence in me. I want to acknowledge Arthur Hochman, who has been a friend and colleague since I was an undergraduate student at Butler University. Thank you for planting the "Ph.D. seed" in my head and helping me see it through. Your love for life, teaching, and everyone around you has always been an inspiration.

I also wish to express my gratitude to my family. To my dad, for always inquiring about my endeavors. To my mom, for graciously watching Jackson whenever I needed a

few days away to refresh the brain. To my sister, Jen, for always being available to chat anytime of the day, especially when I wanted to procrastinate. To Jonathon, my brother, for giving me the “pep talk” during my first year, and whose success in his own graduate program served as inspiration. To my son, Jackson, for your laughs and smiles. And most of all, I am indebted to my husband, Johnny, for moving across the country with no hesitations, for standing next to me through all the ups and downs of this process, and for always lending me a listening ear and words of encouragement. You are my true partner in life and I could not have done this without your love and support.

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CHAPTER ONE

Introduction

Historically, research in teacher education has focused more on what teachers need to know rather than how teachers enact that knowledge (Darling-Hammond, Hammerness, Grossman, Rust, Shulman, 2005; McDonald, Kazemi, & Kavanagh, 2013). Yet, there has been a shift over the past decade to a focus on how to prepare teachers to enact core practices that are associated with highly effective teaching and encompass both knowledge and enactment. Discussion-based teaching (DBT) (Stanulis, 2014) is one such practice.

Influenced by the social learning theory, DBT is a practice that provides students with opportunities to construct meaning through teacher and peer collaboration (Reznitskaya, 2012; Weinstein, Roman, & Mignano, 2011). When teachers enact DBT they provide opportunities for students to engage in challenging, critical, and interactive talk to enhance their learning (e.g. Lampert, Boerst & Graziani 2011; Meloch and Bomer, 2012)**.** The students' learning has potential to improve in all content areas due to an increase in critical thinking, high-level language development and metacognition. Moreover, participating in carefully structured interactive discussions improves reasoning in new contexts and results in deeper conceptual understanding (Reznitskaya, 2012). When students are involved in interactive discussions, they learn how to collaborate with peers and respond to multiple perspectives about complex issues (Almasi, 1996). Thus, when students engage in questioning and discussions, they gain knowledge to succeed in school and in life.

Nonetheless, DBT is complex and difficult for teachers to understand and implement (e.g. Almasi, 1996; Grossman, Hammerness & McDonald, 2009). Even experienced teachers grapple with conducting discussions, much less novice teachers. Researchers have concluded many challenges teachers face that prohibit DBT from becoming an instructional norm. Anagnostopoulos, Smith, & Nystrand (2008) argue teachers face the challenge of keeping discussions on path to meet the planned objectives. Teachers need to be willing to try an instructional practice that is often new, challenging, and risky (Christoph & Nystrand, 2001). Maloch and Bomer (2012) suggest rich discussions are less likely to occur because it is hard to measure students' individual progress. The students' prior experiences with DBT and their roles can also bring about many challenges when teachers try to implement DBT, as it is likely most students are not used to co-constructing learning with their peers and teacher (Howard & Weimer, 2015).

Moreover, the gap between teacher education and practice makes it difficult for new teachers to learn how to implement core practices like DBT (Flores & Day, 2006; McDonald, Kazemi, & Kavanagh, 2013). Novice teachers need ample opportunities to transfer theories of teaching to enactment, but those opportunities are rare for most new teachers (Grossman, et al., 2009; McDonald, et al., 2013). Research suggests mentor teachers could play a role in supporting new teachers learn about DBT, as studies show they play the most influential role during the student teaching experience (e.g. Clark, Triggs, & Nelson, 2014; Hobson, Ashby, Malderez, & Tomlinson, 2009). Yet, research also shows that not all mentoring makes a difference in learning (Stanulis, Little, & Wibbons, 2012). There are several other contextual and biographical factors that

influence teachers' learning of core practices, including their knowledge and skills, professional identity, conceptual and practical tools, learning community and opportunities for practice. This study examined these biographical and contextual factors in order to better understand how they influence a pre-service teachers' enactment of DBT. As such, it contributes to the ways in which teacher preparation programs can better prepare novice teachers to enact core practices, such as DBT.

Purpose of Study

This study focused on the factors that influenced an intern's learning about and implementation of discussion-based teaching (DBT). Specifically, the study examined the following research questions:

1) In what ways do the mentor and intern work together to promote the intern's vision of DBT?
2) In what ways do opportunities for practice influence an intern's enactment of DBT?
3) How do contextual and biographical factors influence an intern's implementation and learning about DBT?

To investigate the research questions, comparative case studies were conducted involving two cases: (1) a student teacher, or intern, and her first mentor teacher and (2) the same intern and her second mentor teacher. The first case took place in a kindergarten classroom in a large, urban public school district. The second case took place in a third/fourth grade classroom at a Montessori public school in a suburban school district. Data sources included direct observations, semi-structured interviews, audio-recorded conversations, and documents. Theories of how teachers learn about enacting core

practices framed the study, as within these theories are contextual and biographical factors that influence the ways in which teachers implement high-leverage practices like DBT. These theories, as well as the relevant literature on discussion-based teaching, will be discussed in the following chapter.

CHAPTER TWO

Literature Review and Theoretical Framework

Discussion-based teaching (DBT) is a core practice that has been proven to provide students with academic and social benefits. Yet, it is also a complex practice that is difficult for novice teachers to implement. In what follows, a description of core practices will be provided to show how DBT is situated in the current picture of teacher education. Next, a rationale for why DBT is important will be provided, followed by a description of DBT, it's challenges for implementation, and the role mentors can play to help pre-service teachers overcome the challenges. The chapter concludes with the study's theoretical framework, which describes factors that influence how teachers learn about and enact core practices.

Core Practices

Historically, research in teacher education has focused more on what teachers need to know rather than how teachers enact that knowledge (Darling-Hammond, Hammerness, Grossman, Rust, Shulman, 2005; McDonald, Kazemi, & Kavanagh, 2013). Yet, there has been a shift over the past decade to a focus on how to prepare teachers to enact core practices that are associated with highly effective teaching and encompass both knowledge and enactment. As a result, there is a greater push for integrating university methods courses and K-12 classrooms to provide pre-service teachers opportunities to learn about core practices and enact them in actual classroom settings. Discussion-based teaching is one such practice. Like all core practices, DBT is a complex, research-based instructional method frequently enacted across the curricula to improve the learning of both students and novice teachers. In Grossman, Hammerness, &

McDonald's (2009) review of the literature, they found definitions of core practices have the following characteristics:

- Practices that occur with high frequency in teaching;
- Practices that novices can enact in classrooms across different curricula or instructional approaches;
- Practices that novices can actually begin to master;
- Practices that allow novices to learn more about students and about teaching;
- Practices that preserve the integrity and complexity of teaching; and
- Practices that are research-based and have the potential to improve student achievement. (p. 277)

Researchers argue when teachers enact these practices, they are enacting principles of ambitious teaching. Ambitious teaching requires students to use critical thinking skills to develop deep understanding of content so they can apply their learning in the real world. When teachers enact both ambitious teaching and core practices, they are also using their knowledge about teaching *in action* at a level that requires deeper reflection and the ability to transfer ideas about teaching and learning to real contexts. (Ball, Shaugnessy, & Mann, 2015; McDonald, Kazemi, Kavanagh, 2013; Sleep, Boerst, & Ball, 2007; Windschitl, Thompson, Braaten, & Stroupe, 2012). For example, Grossman, et al. (2009) explain when teachers lead classroom discussions, they are using their knowledge of teaching and reflecting in the moment as they react to students' ideas; they must respond to students' thinking and monitor their participation throughout the discussion in ways that will support students in meeting the learning objective. Similarly, when teachers enact the core practice "teaching students routines for working together", they need to

respond thoughtfully in the moment to the different needs of students and the different group dynamics.

This study examines one of these core practices in particular, discussion-based teaching. DBT has each of the characteristics that represent core practices. For example, DBT can be enacted frequently and across the curricula. When teachers enact DBT, they gain knowledge of their students' understanding and perspectives. DBT also involves several instructional routines novice teachers can learn one at a time, such as eliciting student thinking, asking high-level questions and revoicing student ideas. In this sense, it is feasible for novice teachers to begin to master DBT, and they can learn routines that can be applied to all aspects of their teaching. Finally, research shows DBT increases student achievement. As discussed in the following section, participating in carefully structured interactive discussions improves reasoning in new contexts and results in deeper conceptual understanding across the curricula (Howard & Weimer, 2015; Reznitskaya, 2012). Important to note is that DBT looks differently within each content area. For example, in math, the discussion is often about the students' process, while in literacy, students might discuss their interpretations of a text. As such, a lesson's objective within any content area may or may not lend itself to implementing DBT, and therefore a teacher might not implement DBT on a daily basis. Even so, there are many benefits to enacting discussion-based teaching in all content areas.

The Benefits of Discussion-Based Teaching

Literacy. Research shows the benefits of social interaction on student learning starts at a young age. For example, Tolentino (2013) conducted a yearlong study of a prekindergarten classroom to examine the nature of talk among children during literacy

learning activities, and the ways in which the talk influenced the students' work. Tolentino reported when emergent literacy learners participate in daily collaboration and co-construction of learning, with scaffolded support from the teacher, they become literate. In this sense, talk is a "literacy tool" (p.17).

In Nystrand's (2006) extensive review of the effects of discourse on reading comprehension, he concludes "a number of studies show that reading comprehension is enhanced by the classroom interaction of students with teachers and peers, including both small-group and whole-group discussions" (p. 398). More specifically, the studies showed discussions helped students recall what they had read, elaborate their ideas, and problem-solve and reason with their peers. Many studies also showed discussions improved the reading comprehension of academically low students and English language learners. Similarly, Meloch and Bomer (2012) reviewed several studies and research about the benefits of discussions and they concluded students become more critical readers when they have repeated opportunities to actively participate in high-level discussions.

Applebee, et al. (2003) examined the effects of discussion-based approaches on students' literacy performance in one of the largest studies of the kind to date. They studied 64 diverse middle and high school English classrooms in which they collected evidence of dialogic instruction, such as open discussions, authentic teacher questions, and questions with uptake (ones that build upon a previous response). They also examined the emphasis teachers placed on envisionment building-activities, or ones that support students' understanding of a concept over time through discussion-based approaches; and extended curricular conversations in which the teacher integrated the

reading, writing and discussions around specific topics for an extended period of time. The researchers also paid close attention to the academic demands of students. For example, were the students discussing and writing about texts that require critical thinking to understand? They collected field notes, audiotapes, teacher and student questionnaires (related to their backgrounds and present teaching/learning experiences), and student writing samples during fall and spring semesters. The researchers found "dialogic instruction, envisionment building, and emphasis on extended curricular conversations are in fact related aspects of a common emphasis on discussion-based instructional activities that support the development of understanding" (p. 714). This proved to be true in both suburban and urban school settings, and students of all academic abilities benefited from the combination of discussion-based approaches and challenging academic content.

Mathematics. There has been a call for discussion-based teaching in mathematics for decades (National Council of Teachers of Mathematics, 2000). In mathematical discourse communities (Sherin, 2002), students share and support their ideas, and they respond to the ideas of their peers by asking questions and building on to them. The teacher's role is to ensure students understand the mathematical content throughout the discussions by eliciting and monitoring student ideas. Number talks, which highlight features of a mathematical discourse community, have become increasingly popular in mathematics classrooms. Number talks improve students' number sense as they mentally compute problems and participate in five-fifteen minute conversations with their peers about their problem-solving strategies (Parrish, 2011).

Moreover, Blazar (2015) conducted a study to identify instructional practices that support students' achievement in math. The author contends the study provides "some of the strongest evidence to date on the relationship between specific instructional dimensions and students' mathematical achievement" (p. 27). Instructional dimensions that were studied included ambitious mathematics instruction (or inquiry-oriented instruction), mathematical errors and imprecisions, classroom emotional support, and classroom organization. Blazar identified elements of ambitious mathematics instruction from the National Council of Teachers of Mathematics and the Common Core State Standards for Mathematics. Some of these elements were student explanations, linking and connections, student mathematical questioning and reasoning, explanations, and math language. Over a two-year period, he collected student demographic and test score data, teacher surveys, and video-recorded lessons that were scored using two instruments: the Mathematical Quality of Instruction and Classroom Assessment Scoring System. Participants included 3,203 fourth and fifth grade students and 111 teachers. He concluded inquiry-oriented instruction, which typically consists of peer collaboration and discussions (Laursen, Hassi, & Hough, 2016; Pedaste, Maeots, Siiman, de Jong, et al., 2015; von Renesse & Ecke, 2014), is positively related to students' mathematical achievement.

Science. In science education, Yilmaz, Tekkaya, and Sungur (2011) conducted a comparative study of three types of instruction to determine which was the most effective in deepening students' understanding and retention of genetics concepts. Each of three eighth-grade science classes received traditional lecture-based instruction, conceptual change text (CCT) instruction (in which students read a text and discussed their own

conceptions and common misconceptions to reconstruct new concepts), or discussion-based learning cycle instruction. Discussion-based learning cycle instruction involved several phases. First, students made predictions and formed hypothesis based on a given problem. Students then discussed their hypothesis and reasoning in a whole group, after which they tested their predictions through inquiry. Finally, students discussed their results and new terminology, and worked in groups to solve new problems by applying what they learned from the inquiry. The authors determined students in the discussion-based and CCT groups understood and retained their knowledge of genetics concepts "significantly better" than students who received traditional instruction. They contend the findings support previous research that shows the benefits of discussion-based instruction on students' science learning.

History. In the history field, Del Favero, Boscolo, Vidotto, & Vicentini (2007) conducted a study of 100 eighth graders to compare the effects of problem solving through discussion versus problem solving independently on students' understanding of historical topics, as well as their interest in the topics. The participants were students in four different classrooms, which the researchers chose based on preliminary data by which they found the classes were similar in achievement levels. Two classes participated in problem solving through discussions and two classes participated in problem solving independently. The researchers collected data from interviews, questionnaires, learning activities, discussions, pre-tests, and post-tests. They found students who participated in the discussions seemed to have a deeper understanding of general procedural knowledge of history than those who worked independently. The same group of students also had a higher interest in the historical topics.

Technology. During a time when technology is more widely accessible and encouraged to be used throughout K-12 education, and hybrid learning is increasing, it is also important to discuss the influences of DBT in online learning. After a decade of research, Johnson, Adams, Estrada, & Freeman (2014) identified collaborative online learning environments as a "fast trend" and an "innovative pedagogical practice" that will likely have a large affect on online education in the coming years. Discussion-based teaching promotes authentic learning which is viewed as "an umbrella for several important pedagogical strategies with great potential to increase the engagement of students" by connecting real-world experiences to academic concepts in virtual communities of practice (Johnson, et al., 2014, p. 20). Tallent-Runnels et al. (2006) reviewed multiple studies about student-student interaction in online courses and they concluded the interactions improved learning when students discussed high-level questions and comments connected to the content of the course. In a meta-analysis of 50 study effects, Means, Toyama, Murphy, & Bakia, et al. (2010) found that effect sizes were larger for studies in which the online instructor provided students with collaborative learning opportunities than in those studies where students worked independently.

Still, it is important to address that technology has drastically changed the way we communicate with others. Sherry Turkle has dedicated three decades of research on the impact of digital technology, including the ways in which it has limited face-to-face conversations. Indeed, a recent Pew Research Center study showed out of 73% of teens that owned a smart phone, 58% said texting is their number one form of communicating with their closest friends (Anderson, 2015). Turkle (2015) argues that when children rely on smartphones and social media to communicate, they lose the opportunity to build

empathy and intimacy. Face-to-face conversations, on the other hand, allow children to hear different perspectives, ask questions, and build deeper meanings. They also help children see the emotions of the participants. Therefore, while it is likely students will continue to communicate more and more via technology outside of the classroom- for social and academic purposes- it is important for teachers to provide them with collaborative opportunities inside the classroom.

Equity. Research also suggests DBT can promote equity in the classroom (Aquino-Sterling, Rodriquez-Valls & Zahner, 2016; Tanner, 2013) when teachers "attempt to position all students in meaningfully intellectual roles in classroom discourse", and build from their diverse perspectives (Wagner, Herbel-Eisemann & Choppin, 2012, p. 6). For example, Wagner, et al. (2012) suggest when teachers implement culturally relevant curriculum, discussions can provide students the opportunity to share perspectives rooted in their own background experiences and cultures. Teachers can then build on the students' perspectives to support their learning. Moreover, when teachers revoice students' ideas during discussions to connect them with the academic content, they show students their ideas are important and relevant. The authors also suggest nuances in academic language can be addressed through explicit discussions, such as the differences in meanings of words inside and outside the classroom (i.e. the meaning of "sine" in mathematics versus the meaning of "sign").

Furthermore, Michaels, O'Conner, and Resnick (2008) conducted 15 years of research on what they call "Accountable Talk", which emphasizes aspects of classroom discourse that help all students participate to improve their learning. The authors argue the need for accountability to the learning community, to standards of reasoning, and to

knowledge. The first facet, accountability to the community, refers to how students listen to their peers' ideas, build on them, and ask questions. The second facet, reasoning, refers to talk that draws logical conclusions and arguments. The final facet, knowledge, represents talk that uses facts- as opposed to personal opinions or experiences- as evidence to build explanations. The authors found in classrooms that effectively use these facets of Accountable Talk "robust academic learning for students of all backgrounds has been documented…across a range of grade levels and subject areas" (p. 295).

Standards. As a result of the aforementioned research, the criteria in several popular teacher evaluation frameworks promote the implementation of DBT practices (Danielson, 2013; Marzano, 2012; Silver et al., 2004). For example, DBT is at the forefront of perhaps the most widely used teacher evaluation framework, Charlotte Danielson's Framework for Teaching. In fact, Danielson (2013) states, "questioning and discussion are the only instructional strategies specifically referred to in the Framework for Teaching, a decision that reflects their central importance to teachers' practice" (p. 63). Similarly, Lampert, Boerst & Graziani (2011) identify the ability to teach high-level concepts and enact DBT as criteria for ambitious teaching. Moreover, the TeachingWorks Project (2013) identifies leading a whole-class discussion as a "high-leverage practice" that will "increase the likelihood that teaching will be effective for students' learning...as warranted by research evidence, wisdom of practice, and logic" (Introduction section). Finally, DBT is an integral component of the Common Core State Standards, the Next Generation Science Standards, and the College, Career, and Civic Life Framework (Common Core State Standards Initiative, 2014; National Council for Social Studies, 2013; NGSS Lead States, 2013).

Still, some may argue DBT is not a necessary practice to support student learning. Indeed, there are some skills and content that can perhaps be learned best independently or through memorization. As such, it is not expected DBT is the only practice implemented by teachers throughout a day, rather they might move along a continuum of traditional and dialogic approaches (Kathard, Pillay & Pillay, 2015). Yet, one should not ignore the decades of research proving the importance of DBT. As Howard (2015) stated, "At a time when…many Americans seem to have lost the ability to engage in reasoned, respectful debate and dialogue, encouraging the development of skills and dispositions necessary for civil discourse is particularly important" (p. 30). Discussion-based teaching is important for students' success inside and outside the classroom.

Definition of Discussion-Based Teaching

In the traditional recitation participatory structure, teachers use the Initiate-Response-Evaluate (IRE) approach where they pose a question, call on a student to answer it, and determine if the answer is correct. In this structure, teachers provide students with few opportunities to interact with one another and construct their own ideas (Nystrand, Wu, Gamoran, Zeiser, & Long, 2003). On the other hand, DBT is a practice that provides students with opportunities to construct meaning through teacher and peer collaboration (Reznitskaya, 2012; Weinstein, Roman, & Mignano, 2011).

Nystrand (2006) reviewed 150 years of research on classroom discourse and found discourse can be defined as:

- An event- a dynamic, temporal process of negotiation between conversants in particular, situated sociocultural contexts;

- Co-constructed “on the fly” by the conversants and appropriately understood by the conversants only in the context of its emergence;
- Structured by the terms of reciprocity between conversants, as each reciprocally factors the intentions of the other conversant into subsequent interactions. As such, utterances are “sequentially contingent” upon each other. (p. 397)

Compared to the traditional recitation approach, DBT involves more conversational turns and few questions from the teacher.

Discussion-based teaching is influenced by the social learning theory- it highlights social interaction and ‘dialogical meaning-making’ as the ways in which students learn (Vygotsky, 1978). According to Vygotsky (1978), students need to play an active role in constructing knowledge through dialogic exchanges that include speaking and writing. Thus, knowledge is co-constructed rather than gained individually (Lyle, 2008). Students make interpretations, share ideas, and support their assertions with logical arguments to understand an issue or concept (Almasi, 1996). The teacher provides scaffolding as needed, but the students play an active role in their own learning; they ask questions, encourage participation, choose their own strategies for assisting their interpretations, respond to one another, and challenge each other’s answers (Almasi, 1996; Reznitskaya, 2012). For teachers to enact this form of high quality discussion based-teaching, several components must be in place.

Features of High Quality Discussion-Based Teaching

Prior to enacting high quality discussion-based teaching, teachers need to plan for several components. First, teachers need to establish a *community of learners* so students feel safe and supported when participating in critical discussions (Benard, Rojo de

Rubalcava, & St-Pierre, 2000; Tallent-Runnels et al, 2006). Students need to feel comfortable sharing their perspectives and challenging their peers' ideas (Bali, 2014; McCory, Putman, & Jansen, 2008). Thus, teachers need to establish specific norms and procedures for student participation. Second, to promote meaningful discussions and collaborative learning, *tasks* should be authentic to students and promote high-levels of thinking (Benard, Rojo de Rubalcava & St-Pierre, 2000; da Ponte & Quaresma, 2016; Garrison, Wilson, Gibbons & Shahan, 2013; Hung, Chen & Tan, 2005). In other words, tasks should be connected to the real world and be problem-based. Students should be able to apply their own experiences to the tasks and they should solicit multiple views. Several studies have also concluded students need to see *representations* of the expected outcomes to effectively participate in co-constructing knowledge (Moallem, 2007; Lipponen, Rahikainen, Lallimo and Hakkarainen, 2003). For example, teachers need to model the task or provide students with worked-out representations to serve as examples. Similar to the need for high level learning tasks, high quality discussion-based teaching also requires *high levels of questions* that solicit multiple perspectives, critical thinking, and meaningful discussions (Nystrand, 1997; Roth, 1996; Tallent-Runnels, et al. 2006; Wang & Woo, 2007; Zingaro, 2012)**.**

Finally, the teacher's role during the discussion is vital to ensure all students move towards improved learning. Teachers need to elicit student ideas, encourage elaboration and multiple perspectives, and help students articulate their thoughts for their peers to understand (Applebee, et al., 2003; Ghousseini, 2015; Nystrand, 1997). To do so, Stein, Engle, Smith, & Hughes (2008) suggest teachers need to implement five practices: 1) anticipate student responses, 2) monitor the responses, 3) select particular students to

share their responses 4) purposefully sequence the responses, and 5) help students make connections between the responses and key ideas.

Challenges

Due to the national push to include more DBT in the classroom, some interventions have specifically targeted helping beginning teachers learn to lead classroom discussions (Stanulis, et al., 2012). Although DBT has social and academic benefits for students, studies show veteran teachers and novice teachers alike rarely enact DBT in the classroom (Kathard, et al. 2015; Mehan, 1998; Nystrand et al, 2003). Researchers have determined many challenges teachers face that prohibit DBT from becoming an instructional norm. Anagnostopoulos, Smith, & Nystrand (2008) argue teachers face the challenge of keeping discussions on path to meet the planned objectives. Teachers need to respond quickly to student ideas and help all students understand their peers' thinking, all while ensuring the focus remains on the content (Stein, et al., 2008). This challenge, which Sherin (2002) describes as the tension between the process of discourse and the content of discourse, can be a constant struggle for both veteran and novice teachers.

Furthermore, teachers need to be willing to try an instructional practice that is often new, challenging, and risky; this often deters teachers from implementing DBT (Christoph & Nystrand, 2001). Instead, they rely on teaching practices with which they are already familiar (Cooper et al., 2015; Williamson, 2013). Stein, et al. (2008) discuss the challenge teachers face when facilitating academic whole-group discussions, specifically in mathematics. The authors argue the typical "show and tell" discussions, in which students share their mathematical processes, are not enough to help the whole class

meet the learning objective. Teachers need to facilitate the discussions in ways that will scaffold all students' learning toward the objective.

Maloch and Bomer (2012) suggest rich discussions are less likely to occur because it is hard to measure students' individual progress. Teachers can be so focused on who is participating, and the process of the discussion, that they lose focus on what the students are saying and the extent to which they understand the content (Howard & Weimer, 2015). Howard & Weimer (2015) also point out it is difficult to assess shy and introverted students who do not often participate verbally.

Maloch and Bomer (2012) argue the use of mandated scripted curriculum focuses more on preparing students for tests than on implementing rich discussions. Kathard, et al. (2015) also found this to be true when they studied 15 classrooms across four different elementary schools. The researchers did not observe any dialogic interactions, which they concluded was in large part because teachers felt pressured to follow the strict curriculum guidelines and pacing schedule. Santori (2011) conducted a yearlong study in a third-grade classroom where the teacher was mandated to follow a scripted curriculum and strict pacing guidelines. Santori found, "such constraints can be daunting; however, it is possible to work within district guidelines while paying attention to students' interpretive needs and interests across various participation structures." (p. 205). The author used guided reading as an opportunity to adapt the scripted curriculum and implemented "dialogically organized literacy discussions" (p. 200) with a group of students. Compared to when the regular classroom teacher followed the mandated curriculum (such as during shared reading), students in the guided reading group were more likely to monitor their

comprehension and formulate persuasive arguments. Nonetheless, teachers need the resources and support to make such adaptations to the curriculum.

The students' prior experiences with DBT and their roles also bring about many challenges when teachers try to implement DBT (Howard & Weimer, 2015). While some students may have experienced DBT on a regular basis in previous classrooms, it is likely most students experienced the traditional approach. Therefore, their responsibilities as a student will have to change, as they will be held accountable for co-constructing learning, supporting their ideas with evidence, and responding to multiple perspectives. Likewise, learning objectives for DBT require higher order thinking, something that is difficult and often under-developed by students. This can also result in a lack of confidence. The teacher needs to address these issues for successful DBT implementation.

Moreover, Howard and Weimer (2015) describe "civil attention" where students appear to be paying attention, such as by nodding their head or by putting a thumb up when they see other students doing so, which allows them to avoid participating in the discussion. On the other hand, teachers have to recognize some students really are engaged, even if they are silent. These students often perceive active listening and paying attention to the same as "participating", even though they are not verbal actions. The authors argue it is important for teachers to know the students' pre-conceived expectations, on which the teacher can build upon. Similarly, in many classrooms, the same few students will dominate the conversation. Teachers need to ensure the quieter students see value in contributing their ideas, and they need to allow students a safe space to do so. Teachers also need to consider that some students are introverts who are creative and insightful, but who would rather listen than speak (Cain, 2012). Cain (2012) argues it

is important for teachers to understand the barriers that keep students from participating and create opportunities for students so participate comfortably.

With so many challenges, how do student teachers learn to enact core practices such as DBT? Studies suggest the mentor teacher plays a significant role in helping student teachers learn. Specifically, Stanulis, Little & Wibbens (2012) studied the impact mentor teachers had on 42 beginning teachers' enactment of leading discussions. The authors found mentors who participated in a focused mentoring program were able to help their mentee's make "significant growth in their facilitation of discussions" (p. 38). Therefore, it is important to examine the role of mentoring to better understand how mentors can support pre-service teachers learn about and enact DBT.

The Role of Mentoring

Research suggests mentors play the most influential role during the student teaching experience, as they determine the quality of the experience as well as what preservice teachers learn (Clark, Triggs, & Nielson, 2014; Hobson, Ashby, Malderez, & Tomlinson, 2009). Several factors influence the quality of the experience, including the ways in which mentors participate and view their roles, the professional development and support they receive, and the environment in which they teach (Clark, et al., 2014; Feiman-Nemser, 2001; Hobson, et al., 2009).

In their extensive review of cooperative teacher literature, Clark et al. (2014) concluded three common conceptions that describe the extent to which mentors participate in teacher education. The first, which the authors refer to as "classroom placeholder", represents the mentor who immediately hands over the classroom to the student teacher and is completely absent from the classroom setting. The second

conception, "supervisor of practica", assumes the mentor supervises the mentee by observing and evaluating her practice. The third conception, known as "teacher educator", involves the highest level of participation by the mentor. Here, the mentor's role is to coach the mentee by providing immediate feedback and guidance to elicit deep reflection. The mentor is viewed and acts as a teacher educator on the same level as the university educators.

This conception is similar to what Feiman-Nemser (2001) refers to as educative mentoring, which she describes as providing support for beginning teachers "by cultivating a disposition of inquiry, focusing attention on student thinking and understanding, and fostering disciplined talk about problems of practice" (p. 28). This view of mentoring mandates a collective responsibility for the mentor and mentee to improve their instructional practices and students' learning (Drago-Severson, 2007; Kardos, Johnson, Peske, Kauffman, Liu, 2001; Feiman-Nemser, 2001; Kanevsky, 1993; Little, 2006; Payne, Pimm, Britton, Raizen, Wilson, 2003; Wood, 2007). It also requires participants to reflect upon their practice and engage in ongoing, focused inquiry (Drago-Severson, 2007; Kardos, et al., 2001; Little, 2006; Payne, et al., 2003; Wood, 2007). Furthermore, mentors conduct frequent observations of the mentee and provide opportunities for co-teaching and modeling, followed by one to one reflective debriefs focused on specific teaching practices and student learning (Feiman-Nemser, 2001; Kardos, et al., 2001; Little, 2006; Payne, et al., 2003).

Bell, Stanulis and Maculoso's (2015) study of two mentor teachers' practices found educative mentoring is "fundamental to support novice teachers' continued learning" (p. 5). Specifically, they found an educative mentor supports the mentee's

professional growth by encompassing the following characteristics: a disposition of sustained inquiry, a long-term orientation toward teaching, a view of teaching as a complex practice, and an understanding that she can learn from her mentee. The authors also found assisted performance is an essential component of educative mentoring as it helps develop a mentee's complex understanding of teaching by establishing short-term goals, guiding targeted analyses of data, and scaffolding the mentee's learning.

Nonetheless, research shows this form of mentoring is rarely enacted (Clark, et al., 2014). Mentors most often provide feedback that is positive with surface-level, closed-ended questions. Similarly, debrief topics rarely go beyond classroom management and routines to ones that are focused around core instructional practices and student learning. Mentors often expect mentees to mimic their teaching practices without encouraging the student teacher to explore and reflect upon alternative practices. Likewise, mentors more often transfer knowledge to the student teachers, as opposed to facilitating collaborative, reflective conversations that will increase the knowledge of both professionals.

To further the complexity of mentoring, research shows universities typically predetermine the roles of mentors without inviting them to be part of the decision-making process. Also common is when the mentors act autonomously from the university in response to their individual professional identities. As a result, researchers have determined the need for a collaborative relationship between the university and the mentors (Clark, et al., 2014; Schuster, 2014; Stanulis & Brondyk, 2013). In this relationship, both parties should have a voice in negotiating the mentors' roles as the university provides support and focused professional development for the mentors. For

example, Stanulis and Brondyk (2013) studied two mentors who participated in a two-year professional development program through the university. The program taught mentors educative mentoring practices, which focused on helping novice teachers learn how to lead classroom discussions. The authors found the university-based program gave the mentors confidence and a sense of authority to support their beginning teachers, and both mentors helped improve their mentees' implementation of discussion-based teaching.

Mentors play an important role in supporting novice teachers' learning. Yet, research shows that not all mentoring makes a difference in learning. There are several other factors that influence teachers' learning of core practices. In the following section, factors that might influence a pre-service teacher's learning of DBT will be examined.

Theoretical Framework

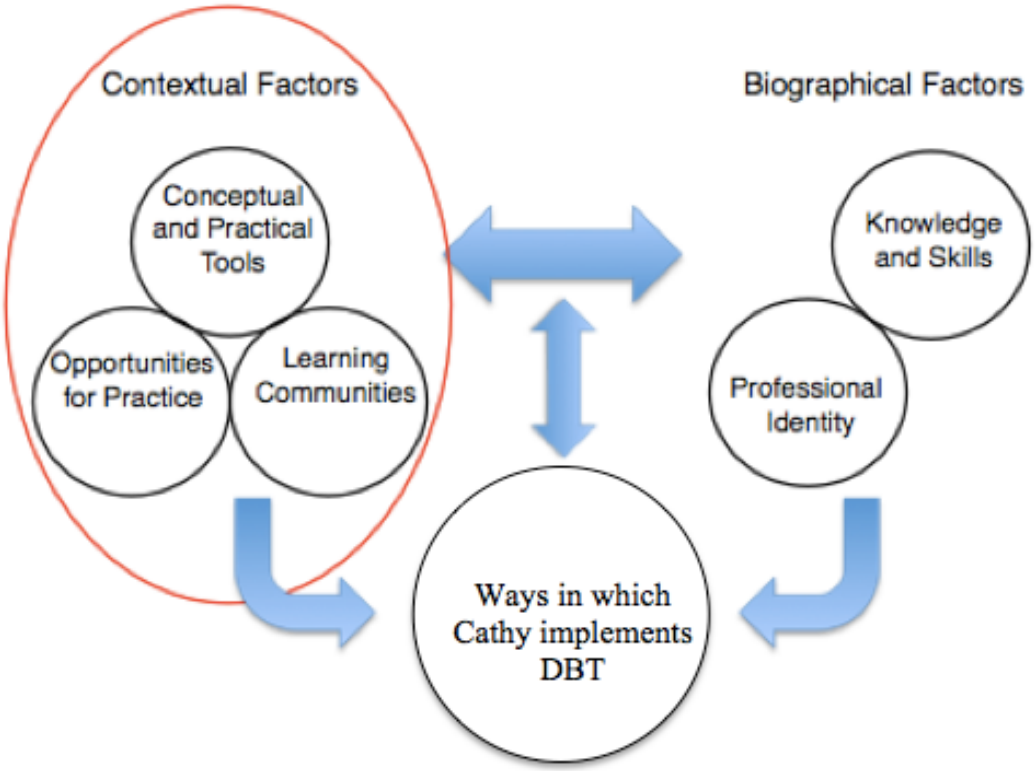
Theories of how teachers learn about enacting core practices frame my study. Within these theories are contextual and biographical factors that influence the ways in which teachers implement a core practice, such as DBT (Figure 1). These factors are interrelated and have different levels of influence as teachers develop (author, 2015). For example, the support preservice teachers receive in a learning community influences their skills and knowledge (Hammerness, Darling-Hammond, Bransford, et al., 2005). Similarly, the student teachers' opportunities for practice influence how they learn to enact a core practice in their professional environments (Grossman, et al., 2009).

This study will focus on the contextual factors in particular. These factors have been shown to influence how teachers learn for decades, and more recently, researchers have shown how they influence teachers' learning about core practices. Although we

cannot ignore the biographical factors, by focusing on the contextual factors on which teacher educators can have an impact, we might be able to interrupt the biographical factors. Moreover, a complete theoretical approach would mean examining all aspects of biography, including, for example, one's history. When considering one's biography, there are seemingly no limits. Therefore, for the purpose of this study, only biographical factors that have already been established in research on core practices will be discussed.

Figure 1

Factors that influence a student teacher's implementation of DBT



Biographical Factors

Knowledge and Skills. Cochran-Smith and Lytle (1999) describe three conceptions of teacher learning: knowledge *for* practice, knowledge *in* practice, and knowledge *of* practice. Within these conceptions are assumptions and ideas about

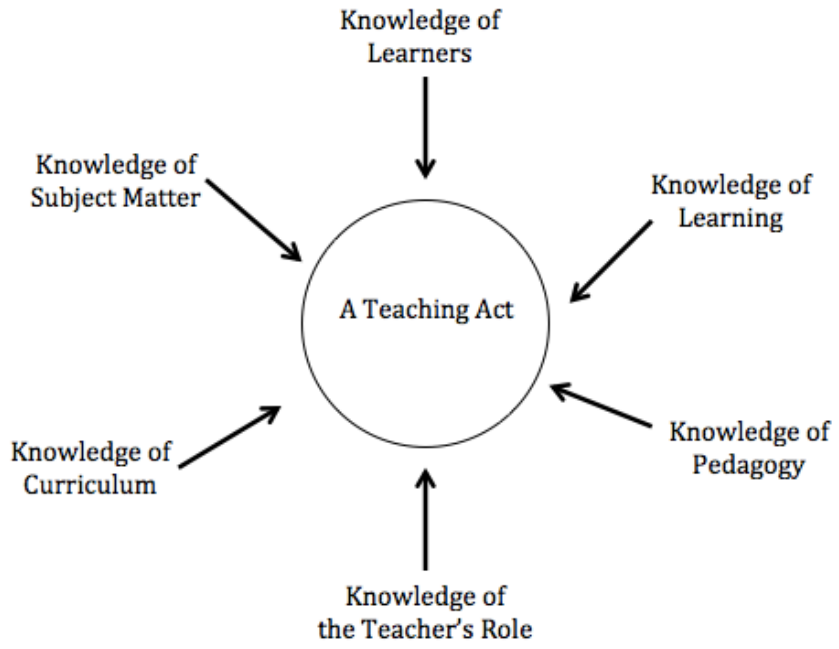
knowledge and practice. Knowledge for practice includes knowledge from university courses, such as theories about learning and subject matter knowledge. Teachers within this conception are often novice teachers. They are typically individualistic, as they try to use their knowledge for practice to solve problems on their own rather than asking questions or engaging in inquiry with colleagues. Knowledge in practice refers to the knowledge teachers have that is embedded in the practice. Teachers within this conception solve problems and construct new ones by connecting to previous situations. They reflect upon and research their own practice and experiences. The third conception of teacher learning, knowledge of practice, refers to teachers who gain knowledge from conducting inquiries within and throughout learning communities. The knowledge they seek is connected to larger political and social agendas within and beyond the classroom. Teachers in this conception learn collaboratively and act as fellow researchers and learners as they share their expertise.

Pre-service teachers need to have knowledge of practice to successfully implement core practices. They need to have a deep understanding of the core practice, including its purpose and strategies for implementing it (Hammerness, et al., 2005). For example, teachers need to learn how to establish norms and procedures for student participation, generate high-level questions and tasks, and use talk moves that help students think critically, extend their ideas, and understand the ideas of their peers (Ghousseini, 2015; Grossman et al., 2009; Stanulis, 2014). They also need to understand how to connect the process of DBT to the content (Sherin, 2002; Stein, et al., 2008), and they need to use their knowledge and skills to purposefully implement DBT across curricula in ways that support their students' developmental levels, experiences, and

learning styles; and to promote equitable learning opportunities. Due to the complexity of core practices, pre-service teachers also need to learn about and reflect upon their implementation of the practices both in the classroom and within professional learning communities.

Figure 2

Relationship between knowledge and practice (Kennedy, Ball, & McDiarmid, 1993)



Kennedy, Ball, and McDiarmid (1993) constructed a model that shows the relationship between knowledge and practice (Figure 2). The authors argue teachers have "knowledge, values, beliefs, dispositions, skills, etc." (p. 8) within each of the six domains. Some domains might work together to inform a teacher's decisions and some might have more influence over others. For example, a teacher can value the role of learners as active participants in a discussion, but they may not know how to facilitate discussions that help students learn specific learning objectives. As another example, a

teacher might use a scripted curriculum to teach subject matter less familiar to her, but she might create her own lesson plans to teach subject matter that is more familiar. The authors believe the model can help teacher educators and researchers better understand the extent to which each domain influences a teacher's decision. Because the model includes aspects of professional identity, it is important to discuss identity in more detail, and the ways in which it can influence a teacher's learning of core practices.

Professional Identity. Identity refers to the beliefs, values, and attitudes that constantly change as one becomes a teacher. Rodgers and Scott (2008) conducted an extensive review of how professional identity develops while one learns to teach. The authors found definitions of identity, in relation to teacher education and adult learning, share four ideas:

> (1) that identity is dependent upon and formed within multiple *contexts* which bring social, cultural, political, and historical forces to bear upon that formation; (2) that identity is formed in *relationship* with others and involves *emotions*; (3) that identity is *shifting*, *unstable*, and *multiple*, and, (4) that identity involves the construction and reconstruction of meaning through *stories* over time. (p. 733)

Thus, A teacher's professional identity is dependent upon their background and past experiences in education, as well as their visions and habits about teaching and students. For example, teachers have beliefs about their practice, their roles, their students' roles, and the content they teach; and these beliefs influence their decisions and behavior in the classroom (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, et al., 2012; Li, 2014; Nespor, 1987; Pajares, 1992; Richards, 2008; Timperley & Phillips, 2003; Tsui, 2011). A teacher's present educational experiences, such as those in teacher preparation, as well as

the context in which they work also influence one's professional identity (Flores & Day, 2006, Rodgers & Scott, 2008). As their professional identities emerge, a pre-service teacher's vision for teaching guides their enactment of core practices (Grossman, et al., 2009; Hammerness, et al., 2005).

Contextual Factors

Conceptual and Practical Tools. Learning core practices is a collective experience facilitated by conceptual and practical tools (McDonald, et al. 2009). Conceptual tools are theories and principles about teaching and learning which teachers use to make instructional decisions. For example, during teacher preparation, a teacher might gain knowledge of the social constructivist theory, which supports learning as a social process. Teachers also often learn about the principles that support the importance of differentiating instruction, as well as teaching culturally relevant information. These conceptual tools provide teachers with knowledge about teaching, but teachers also need practical tools to put the theories into practice.

Practical tools are specific strategies that teachers can enact in classrooms. For example, think-pair-share is a strategy teachers learn to promote talk between two students. Teachers might also use role cards during small group work, a strategy that assigns specific jobs to students as they work collaboratively to complete a task. Or they might use a tiered lesson plan to provide instruction for multiple levels of students. Structured curriculum, which is common in most schools, might serve as both a practical and a conceptual tool. For example, principles of the curriculum might rely on learning as a social process and provide opportunities for students to co-construct knowledge through specific strategies such as partner talk, small group work, and whole group discussions.

The curriculum might also contain pre-designed higher-order questions and high-level tasks for the teacher. Pre-service teachers need ample opportunities to connect their conceptual knowledge and strategies in practice when learning how to enact core practices (Grossman, et al., 2009).

Opportunities for Practice. "Practice" encompasses a wide range of meanings. An individual can practice skills that come naturally or that have become easy to perform, such as tying a shoe or driving a car. But when discussing the need for opportunities to practice a complex skill like DBT, we are referring to "deliberate practice". Ericsson (2008) argues deliberate practice is necessary to learn a skill that goes beyond what one can do automatically, or with little effort. Based on his review of research on skill acquisition, Ericsson (2008) identified four conditions that need to be in place for a person to improve performance of a complex skill. These conditions make up deliberate practice. Ericsson found individuals made "significant improvements in performance" when they were "1) given a task with a well-defined goal, 2) motivated to improve, 3) provided with feedback, and 4) provided with ample opportunities for repetition and gradual refinements of their performance" (p. 991).

Likewise, pre-service teachers need opportunities in their teaching contexts to learn about and develop instructional routines that support core practices. These complex skills can only be mastered through deliberate practice. Teachers need ample guided opportunities to learn about and implement them across the curricula, receive constructive feedback, and reflect upon their instructional use of the skills (Feiman-Nemser, 2001; Ghousseini, 2015; Grossman, et al., 2009). These opportunities should take place in both university methods courses and authentic classroom settings.

In methods courses, Grossman, et al. (2009) calls these guided opportunities *approximations of practice*. Pre-service teachers learn about an instructional routine, plan for enactment of the routine, and rehearse it while their peers act as students. Afterwards, peers and instructors provide feedback and help the pre-service teacher reflect upon their practice. The objective is to learn how to enact core practices in a highly scaffolded and low-stakes environment before implementing them in a real classroom. McDonald, et al. (2013) suggest a similar cycle for learning to enact core practices in teacher education. They assert pre-service teachers need to learn about an instructional activity that helps to develop the core practice (i.e. through instructor modeling or videos), plan for and rehearse the activity with their peers, enact the activity in a real classroom, and analyze their teaching and plan for next steps.

Novice teachers also need multiple opportunities for practice in authentic classroom settings where they receive guided support to conduct inquiries around their teaching (Ball & Cohen, 1999; Feiman-Nemser, 2001). These opportunities might be in the form of co-teaching, where both the student teacher and mentor plan a lesson around a core practice, enact it together, and reflect upon their instruction and student learning before planning next steps. Novice teachers should also practice specific routines independently, but mentors should serve as a coach by giving them explicit feedback and guiding reflective practices.

Opportunities for practice can also work in conjunction with one another. For example, Lampert, Franke, Kazemi, Ghousseini, et al. (2013) suggest teacher educators and novice teachers participate together in rehearsals to help prepare novice teachers for ambitious teaching. Preservice teachers first work with their peers to plan for and

rehearse a lesson focused on a specific strategy. Next, they practice it with students in the classroom, and finally, they reflect upon the lesson with the teacher educator and their peers.

Learning in Communities. Integral to learning in communities is that learning is a social practice; teachers use their shared expertise to participate in collective reflection and problem solving around teacher and student learning (Lave, 1996; Little, 2006; Wenger, 1998). The conversations are structured and systematic, and through their collaborative nature members gain knowledge of and access to supportive resources (Lave, 1996). Teachers analyze student data and engage in ongoing inquiry to determine how to respond to students' needs by improving their instructional practices. The community helps novice teachers understand the complexities of teaching, including for example, the many strategies and routines one must understand to enact core practices. It also helps teachers make productive decisions about their instruction by guiding analyses of student understanding. As a result, the communities have the potential to improve novice teachers' deep understandings of core practices.

Wenger (1998) identifies three characteristics of communities of practice: mutual engagement, joint enterprise, and a shared repertoire. Participants in a community of practice are mutually engaged by contributing their own expertise and by productively building on the expertise of others in the group. For example, a pre-service teacher might bring her knowledge of using the role cards strategy while the veteran teacher provides expertise for how to establish the norms and expectations with the students for using such a strategy. A joint enterprise assumes members work together for a common goal. The community negotiates the goal and the ways in which the community reaches the goal.

For example, the field supervisor, university instructor, mentor teacher, and intern might work together to negotiate a vision of DBT and the roles each person will play to make the vision a reality. The end result is viewed as a collective accomplishment. A shared repertoire includes "routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions or concepts" (p. 83) the community uses as part of its practice. This might include specific guidelines and prompts pre-service teachers use to provide feedback to one another during in-class rehearsals, or it might include a conversation protocol the mentor and intern use to guide their reflective practices after implementing a specific DBT strategy.

Technology and communities of practice. Wenger's research on communities of practice assumes teachers are conversing face-to-face. However, it is worth noting the number of people communicating via smartphones and social media is on the rise (Smith, 2015). Indeed, the majority of teens with access to digital devices prefer to use them to communicate with their friends rather than having face-to-face conversations (Anderson, 2015). As these teens enter the teaching profession, their use of technology could influence the ways in which they participate and value communities of practice. Sherry Turkle, (2015) who has become an invaluable resource on the subject, has discovered teens and young adults struggle with listening and speaking face-to-face due to their reliance on communicating with technology. As listening and speaking skills are necessary for successful communities of practice, technology could ultimately influence the ways in which new teachers learn about complex teaching practices.

CHAPTER THREE

Method

This study focused on the factors that influenced an intern's learning about and implementation of discussion-based teaching (DBT). Specifically, I sought to answer the following questions:

1) In what ways do the mentor and intern work together to promote the intern's vision of DBT?

2) In what ways do opportunities for practice influence an intern's enactment of DBT?

3) How do contextual and biographical factors influence an intern's implementation and learning about DBT?

To investigate my research questions, I conducted comparative case studies involving two cases: (1) a student teacher, or intern, and her first mentor teacher and (2) the same intern and her second mentor teacher.

Context and Participants

Internship. The internship year is a component of the teacher preparation program of a large Midwest university from which the intern received her undergraduate degree. To receive a teaching certificate from this university, students must complete one full year of a teaching internship in a kindergarten thru fifth grade classroom following their graduation. Throughout the year, the interns take a total of four required master-level courses focused in literacy, mathematics, social studies and science. Interns attend the classes approximately one day a week for six hours in a university building. Thus, interns are in their field placements approximately four days per week. During the fall

semester interns complete a two to three week guided lead teaching (GLT) period where they plan and teach a 10-day unit in both math and literacy. Prior to GLT interns choose one instructional practice to focus on throughout the literacy unit, such as DBT. During the spring semester, interns complete a six-week lead teaching period where they teach full time, five days per week.

Intern. Cathy, the intern participant, had graduated the previous spring with a degree in Elementary Education. She was working towards her urban education certification during the internship year. She began the internship in a kindergarten classroom and moved to a fourth/fifth grades combination classroom in January.

I first met Cathy at the beginning of her internship year after one of her literacy courses. Prior to the class, I had emailed the instructor to see if I could speak to any students who had shown interest in learning about and implementing discussion-based teaching as they planned for their GLT units. Cathy was one of the interns who enthusiastically agreed to speak with me, as DBT was a main focus of her literacy unit, and as she said, she wanted student talk to be at the forefront of her teaching. After my initial meeting with Cathy, I spoke with her university field instructor who had been supervising Cathy in her internship classroom since the start of the year. The field instructor reported Cathy had a strong belief system about DBT and its benefits for students. She also described Cathy as a reflective practitioner who was enthusiastic to learn and grow.

Context One. Cathy began the internship year in a kindergarten classroom with her mentor teacher, Sarah. When I discussed Cathy's context with her prior to the study, she informed me Sarah was open to Cathy implementing DBT and trying out new

instructional strategies. Sarah was also participating in a mentoring professional development program led by the university faculty. She was a veteran teacher of more than 20 years. She had worked as either a second grade, first grade or kindergarten teacher in the same large, urban public school district throughout her career. The prekindergarten thru third grade school has a population of about 300 students. 62% of the students are minority, and the majority of this percentage is Hispanic. Seventy-seven percent receive free lunch. Sarah has a parent volunteer that helps in her classroom for a few hours each day, providing administrative help and one-to-one assistance for students. The teachers have no prep time and students do not receive art, physical education, or music. The school has two class sets of iPads, but teachers must go through the district's technology department before they can download any programs. This often takes weeks, which dissuades most teachers, including Sarah, from using them at all. The school was designated as a STEM magnet school (Science, Technology, Engineering, Math) the year prior to the study. However, teachers did not know it was a STEM school until the following year. Once Sarah became aware of the school's designation, she began attending quarterly STEM professional development sessions that focused on project-based learning. When I met Sarah, she had attended two sessions, which she spoke about excitedly. The teachers have access to project-based learning science curriculum, as well as a basal reading curriculum. There is no school-wide writing or math curriculum, so Sarah often relies on math lessons she finds online and Lucy Calkins writing lessons.

Context Two. In January, Cathy moved to a third/fourth combination classroom with her mentor teacher, Kate. Kate was a veteran teacher of 18 years. The university's intern coordinator (IC) informed me Kate was open to implementing DBT and trying out

new instructional strategies. She was not part of the university's mentoring professional development program. The placement was in a prekindergarten thru fourth grade Montessori public school in a suburban school district. Approximately 300 students attend the school and seven percent qualify for free lunch. Thirty-five percent of the students are minority, and the majority of this percentage is Asian. Several of the faculty members from nearby universities send their children to the school.

Kate has a full time staff member in her classroom that provides administrative help and some assistance to students. The teachers receive 45 minutes each day of prep time while students attend physical education, art and music class. Each student has a laptop in the classroom, which they use throughout the day. Teachers receive regular on and off-campus trainings focused on student engagement. They are encouraged to video record themselves and observe one another teaching. According to Kate, they are experts within their school. They use the standard Montessori curriculum, which provides teachers with detailed lessons and manipulatives; although Kate often supplements other materials, especially during social studies and writing. Although Kate has many resources available, she feels tremendous pressure to get through the curriculum and meet the district's high expectations.

Prior to transferring to the Montessori school, Kate taught in a nearby district for 12 years. She attended a year of Montessori training, which she paid for herself. She explained this was a difficult decision because she took a large pay cut when she transferred, and her Montessori education credits did not count towards continuing education credits mandated by the state. Nonetheless, she believed in the school's philosophy of teaching and knew the school leader had a reputation of supporting her

teachers. At one point during the study, Kate volunteered to host 40 teachers in her classroom from area schools as part of a Kevin Feldman professional development program that emphasizes student engagement.

Case Study

A case study approach is an appropriate choice for studying the individual case because it allows researchers to develop an in-depth understanding and a detailed description of the unit of analysis (Flyvbjerg, 2011; Yin, 2014). More specifically, a multiple-case study design is appropriate for two reasons. First, it provides an in-depth examination of two cases that can be compared to make cross-case conclusions. These two cases can provide insight to inform a more common case, or one where the circumstances are similar to those of other student teachers (Yin, 2014). Second, theories regarding the biographical and contextual factors that have been known to influence teachers' development are now being applied to the enactment of core practices, such as discussion-based teaching. A multiple-case study design provides the potential to "confirm, challenge or extend" (Yin, 2014, p 51) these theories specifically related to how teachers learn to enact core practices.

Data Sources

A benefit to conducting case studies is the opportunity to collect several sources of data to corroborate arguments (Yin, 2014). Throughout my data collection procedures, I developed data triangulation by collecting multiple sources of data, and thus strengthening the construct validity of the study (Yin, 2014). These sources included direct observations, semi-structured interviews, audio-recorded conversations, and documents.

Observations. I conducted a total of nine direct observations, three during Cathy's first placement and six during her second placement. Each observation lasted three to seven hours, and they were conducted at least once a month November thru April. I scheduled the observations with the intent to see each content area at least two times in each context, as this would allow me to see how the mentors and intern enacted DBT practices across the curricula. I met this objective, with the exception of science. Science was taught less frequently in both contexts and as a result, I was only able to observe it one time in each placement. Although the main focus of my observations were on the intern, I observed each mentor on two different occasions as well. Evidence from these observations helped corroborate my conclusions for each research question.

I was a passive observer throughout all observations. I took detailed field notes and collected photographs to help document important classroom characteristics (Yin, 2014). I also frequently audio-recorded student-student and teacher-student interactions as I took field notes. I referred to these audio recordings throughout my data analysis to ensure my notes aligned with the actual interactions that took place. For example, I often recorded and took notes on Cathy facilitating whole group discussions. During data analysis, I compared the recordings to my notes to check the accuracy of her talk moves I had written.

Interviews. I conducted two one-on-one semi-structured interviews with the Cathy, the intern. The first interview took place in November and the second one took place in April. I also conducted one-on-one semi-structured interviews with the mentor teachers, one with the first mentor teacher in November, and two with the second mentor

teacher at the beginning of March and at the end of April. I audio-recorded each interview and they lasted approximately 30-60 minutes each.

The interviews were segmented into three parts based on the three research questions (Appendix A). This helped me gain insight into the influential biographical and contextual factors, including the intern's and mentors' personal views and understandings of DBT, as well as the ways in which the mentor supported the intern. Before I asked questions related to their knowledge of discussion-based teaching, we viewed a video segment of a student-led discussion in a third grade classroom so the participants could draw on evidence from the video in their responses. The protocol for the second round of interviews was based on data collected November through April. For example, because there was evidence that Cathy was implementing DBT differently by the end of the second semester compared to the first semester, the following questions were asked: Consider your first semester versus this semester. How would you compare and contrast your DBT experiences? The ways you enact DBT? What do you think influenced the differences/similarities?

Conversations. A total of five mentor-intern conversations were audio-recorded by the intern and submitted to me. Two of these conversations took place during her first placement, and three took place during her second placement. I also recorded conversations between the intern and mentor throughout my observations, as they often conversed after lessons and during prep time. Conversations focused on co-planning future lessons and debriefing lessons taught by the intern. These conversations provided insight into how the mentor viewed her role and supported the intern, as well as the ways

in which the mentor and other contextual factors influenced the intern's knowledge and implementation of DBT.

I also audio-recorded spontaneous one-on-one conversations between the mentor and me and between me and the intern that took place during recess, lunch and prep time. These conversations focused on a variety of topics connected to what I had observed that day. For example, Cathy's second mentor teacher, Kate, shared with me her observation tool after I noticed her using it to take notes during Cathy's lesson. This led to a conversation about how she looked for evidence of student engagement, and her rationale for doing so. As another example, after I observed Cathy teach a lesson with several components of DBT, we had a conversation about how she planned that particular lesson and what influenced her decisions to use particular DBT strategies throughout it. Finally, I observed and audio-recorded one conversation between Cathy and her university field instructor during which they debriefed a social studies lesson Cathy had taught. This conversation provided insight into what Cathy's goals had been prior to teaching the lesson and the extent to which the field instructor influenced Cathy's learning about and implementation of DBT.

Documents. For further triangulation, I collected documents as secondary data sources to help validate evidence from the aforementioned sources (Yin, 2014). These documents included the mentors' observation protocols and materials they received from DBT-related professional development trainings. The intern and mentors also shared with me district curriculum and lesson plans.

Study Design

I conducted the first case study and second case study separately. After collecting data for each study, I wrote an overview of preliminary findings. After analyzing the data from each study, I drew cross-case conclusions. Because the context of Cathy's second placement was so different than her first placement, some redesigning took place before the start of the second case study. For example, I conducted two audio-recorded conversations with Cathy regarding her ideas and beliefs about the different contexts. One conversation took place at the beginning of her second placement and one took place at the end of the year. During these conversations, Cathy discussed the differences in student populations and her relationships with her mentors. Another redesign feature is that I conducted a second one-on-one interview with Cathy's second mentor teacher, Kate, at the end of the year. By that time, I had evidence to show Kate was supporting Cathy's vision of DBT, which included several audio-recorded conversations that showed Cathy's perspective of how Kate was supporting her. Therefore, I wanted to ask Kate questions to dig deeper into how she viewed her role in promoting Cathy's vision of DBT. Finally, in my efforts to redesign features of the study, I sought to "saturate the data" so that eventually I was gaining little new insights or understanding (Remler & Ryzin, 2011). For example, data from Kate's second interview supported evidence I had already collected, but it did not provide me with many new insights.

Data Analysis

Prior to data analysis, I transcribed all interviews in full. I also transcribed excerpts of all audio-recorded conversations. These excerpts were chosen based on their relevance to the research questions. For example, I did not transcribe parts of the

conversations that got off topic, such as when the mentor and intern discussed non-academic related issues about specific students.

As a general strategy for analyzing my data, I relied on theoretical propositions (Yin, 2014) as described in my theoretical framework. For example, I looked for evidence of the intern participating as a member of a learning community, as well as resources and tools she often used to support her teaching (i.e. scripted curriculum, support from her mentor, course assignments, etc.). In combination with this strategy, I examined possible rival explanations (Yin, 2014) to determine if there were other factors that influenced the interns' learning that were not discussed or were ignored in reference to those identified in the theoretical framework (Glesne, 2006). More specifically, I analyzed the data in three phases.

Phase One. I performed open coding, a line-by-line coding of the interview transcripts, conversation transcripts, and field notes to identify any theme, idea or issue that might be related to the intern's learning about and implementation of discussion-based teaching. Ten broad categories emerged including, for example, Intern Prior Experiences, Mentor Prior Experiences, Intern Beliefs, Mentor Beliefs, Mentoring Practices, etc. I then looked for patterns to create a smaller set of categories, or core themes, and sorted the data into those categories (Emerson, Fritz, & Shaw, 2011). For example, within Mentoring Practices, themes emerged such as Co-Planning, Guided Reflection, Problem Solving, etc. It was realized during this phase that two categories, Knowledge and Opportunities for Practice, needed to be defined more explicitly before moving forward.

Knowledge. When looking for evidence of knowledge, I looked for any discussion of or implementation of DBT-related practices. For example, in the second interview Cathy said, "The questions that you pose cannot be yes or no questions. They have to be deeper questions than that" (April 27, 2016). This segment showed Cathy had knowledge of the types of questions that should be asked when implementing DBT, so I coded it as "knowledge". As another example, a mentor teacher shared in her first interview, "We're more into project-based learning, I think that's different than discussion-based teaching" (November 23, 2015). This segment showed the mentor teacher had a possible misconception about discussion-based teaching, because project-based learning has many components of DBT. Therefore, I also coded this segment as "knowledge" as it could be evidence that she is lacking knowledge of specific DBT features.

Opportunities for practice. When looking for evidence of opportunities for practice, I looked for evidence of enacting, observing, talking about, and/or reflecting on features of DBT. For example, Cathy said the following during a social studies lesson she taught on March 3, 2016: "We are going to get into groups to talk about…What purpose of the judicial branch does this scenario involve? How do you know? Do you agree with the ruling? Why or why not?" This segment was coded as opportunities for practice because it is evidence of Cathy enacting DBT. As another example, Cathy and her mentor teacher discussed the groups Cathy made for an upcoming science lesson (Field Notes, March 10, 2016). This was also coded as opportunities for practice because it was evidence of Cathy and her mentor talking about DBT.

Phase Two. In phase two, I performed focused coding by completing a line-by-line analysis to determine further connections between the data and core themes, and to define subthemes as appropriate. Table 1 shows examples of subthemes created within a core theme, Intern Knowledge.

Table 1

Example of line-by-line analysis to create subthemes

Core Theme: Intern Knowledge	
Subthemes	Line
Instructional goals	You also have to think about what your aim is for the discussion (Interview 2, April 27, 2016, line 78)
Intentions of implementation, students, beliefs	Giving them those little low-risk exposures first I think will be good so if I'm thinking about setting up my future classroom- having them talk to a neighbor about what they did over the weekend (Interview 2, lines 128-133)
Environment, students, beliefs	It really is like if you don't create an environment where kids feel they can talk to each other, you're not going to be successful. (Interview 2, lines 191-196)
Students, challenge, math	They don't want to talk about math. They want to get the right answer and not talk about why… they forget about the process. And the process is where the discussion comes in, so if we eliminate the process, there's no discussion to be had. (Interview 2, lines 295-301)

Phase Three. For further triangulation, I analyzed the secondary data sources to find additional evidence of how the contextual and biographical factors influenced the implementation of DBT. For example, I reviewed the professional development materials Kate, the second mentor teacher, gave me to look for evidence of how DBT strategies were being taught at the trainings. This helped corroborate evidence I had that showed

how Kate learned about specific DBT strategies, which she modeled for Cathy. During this phase, I also listened to all audio-recorded conversations again to ensure I had transcribed and coded all relevant excerpts. Finally, I examined the data to determine if there were other factors that influenced the interns' learning that were not discussed or were ignored in reference to those identified in the theoretical framework (Glesne, 2006). Indeed, one such factor surfaced which will be discussed in Chapter Six.

The Researcher's Role

Although I was not teaching at the time of this study, I am a teacher at heart. Prior to graduate school, I taught for 7 years in an elementary classroom. For four years during graduate school, I taught at the university level. My role as "teacher turned researcher" was a challenge throughout the study. I believe Cathy saw me as a source of knowledge. She asked me for DBT resources, including videos and handouts from trainings she knew I had facilitated. Because I wanted Katy's participation in the study to help her professional growth, I tried to answer her questions and provide her with resources after I completed data collection, although I am sure the teacher in me unintentionally provided her with immediate feedback on occasion.

Furthermore, I have been committed to DBT from the start of my teaching career. After participating in several professional development sessions connected to DBT, it eventually became a natural part of my practice. I witnessed the social, academic and even emotional benefits it had on my diverse, high-needs students. I later worked on a team for three years to provide DBT professional development for teachers in high-needs urban schools. It is likely my moral commitment to DBT, and my own experiences with the practice, influenced how I thought about and interpreted the data.

Looking Ahead

Chapter Four describes findings from the first case study of Cathy and her mentor teacher, Sarah. Findings from the second case study of Cathy and her mentor teacher, Kate will be described in Chapter Five. In Chapter Six, cross-case conclusions will be provided in response to the three research questions. I will also return to the theoretical framework and explain a new model of factors that influenced Cathy's learning about and implementation of discussion-based teaching. Finally, the chapter will discuss implications for teacher preparation programs and suggestions for future research.

CHAPTER 4

Context One: Cathy and Sarah

Cathy began her internship in a kindergarten classroom with her mentor teacher, Sarah. She began the placement the first week of September and I met Cathy six weeks later. At that time, Cathy had a positive attitude about her placement as she expressed many times that Sarah gave her the autonomy to try whatever she wanted. According to Cathy, discussion-based teaching (DBT) is what she wanted to try more than anything else. Yet several factors influenced her ability to enact DBT in the way she had hoped. In this chapter, a description of Cathy's prior experiences with DBT will be provided, which laid the foundation for her vision of the practice. Next, an explanation of how interrelated biographical and contextual factors influenced the knowledge and enactment of DBT for both Cathy and Sarah will be provided, as well as a description of the role Sarah played in supporting Cathy's enactment of DBT. The chapter concludes with a summary of the pair's influential factors.

Cathy's Prior Experiences: "Like a Sponge"

Cathy didn't always envision herself wanting to implement discussion-based teaching. Before coming to college, she admitted she had very different ideas about teaching. "They were all very well intended", she explained, "but they were the products of how I was taught" (Interview One, November 23, 2015). Throughout her K-12 education, she didn't recall ever having a "free-flowing discussion" (Interview One). Some teachers allowed her and her classmates to talk, but there was always a protocol they had to follow with the questions pre-planned by the teacher. Cathy shared a story she will never forget about a high school teacher who "shut her down" when she tried to

say what she thought a poem was about. She said the teacher wasn't interested in hearing other perspectives. Yet, Cathy explained her perceptions about teaching "changed drastically" when she came to college "because professors were like I don't want the right answer…Give me what you think…I've seen how powerful it can be for even myself…when a teacher lets us loose on an article, that's what I learn from. I learn from my peers and what they bring to the table" (Interview One).

During our first interview, she laughed as she told me about an article she had read many times in her courses about discussion-based teaching:

> It's burned into my head because we've read so much about it in every assignment. It says please reference Almasi, and its like oh my God! But it really gets you thinking about are you being serious about discussion-based teaching.

The Almasi chapter (from Gambrell & Almasi, 1996) she referred to is a staple in at least two of the literacy methods courses at the university. Almasi explains the different roles students and teachers play in discussions versus recitations. She also discusses the cognitive, social, and affective benefits of classroom discussions, such as improved critical thinking skills, improved social interactions, and increased enjoyment of the subject matter. During their fourth year at the university, preservice teachers used the ideas in the chapter to analyze a literacy discussion they planned for and facilitated. Cathy said the instructional videos she viewed in her classes also helped her learn about the value of DBT because she could see that the students were listening to their classmates, valuing their ideas, and responding to them.

Yet, she believed her experiences with DBT had been limited. For example, she told me about an assignment from her senior-level literacy methods course in which she had to plan, teach, and reflect on a DBT lesson. "We didn't get to do it over three days or over a week or be able to spend that time with the kids. So we could write about it but from a very limited stand point." (Interview One) She described another discussion lesson she conducted her senior year in a science methods course. The instructor helped her focus more on talk moves and as a result she learned how to press for more information from the students. But again, she was only able to apply her ideas about discussion-based teaching in one lesson during the course. She was happy her current literacy and math professors encouraged the interns to plan for discussions during their guided lead teaching and she hoped it would improve her learning about DBT. After all, she was a self-described "sponge" when it comes to learning new things, and she especially resonated with DBT.

Cathy's Internship Experiences: "The Exploration Phase"

As a result of Cathy's limited experiences prior to the internship, she was unsure about her ability to effectively implement DBT, but she was also hopeful and knew it was something she wanted to do. Ten weeks after the start of the internship, I asked Cathy about where she thought she was in developing the practice. She responded:

> I would say very much at the beginning. Its very much the transition between reading about and idealizing it and fantasizing about this awesome discussion based lesson you're going to have, to planning it, studying mentor texts, studying whatever stories you're going to have…So, its really kind of the exploration phase. Trying to implement it. (Interview One)

Cathy's experiences with DBT in the teacher education program made her eager to implement the practice, but she believed she had a long way to go before she could do so with success and confidence. In our first interview, Cathy showed her timidity about implementing DBT:

> You say you want to implement it, but are you doing what you need to be doing in order to actually implement it? Which I think is a big risk as a teacher is to let your classroom go. Um, because you never want to seem like you're out of control and I think that's just something all teachers feel is that kind of productive chaos or productive struggle. Are you ready to let that go? So I'm going to have to like mentally prepare myself to do a discussion-based lesson, because there's no writing, there's no directions or outline for them. I don't dictate it...How do I navigate them back to the question?

Cathy talked about her attempts at implementing DBT in her internship placement and explained she was concerned about focusing too much on managing the students, and not enough on the content. She was also concerned that she would not give students enough scaffolding to help them be successful and wondered about the limits of her expectations. Can they think abstractly? What is too advanced for the students that could cause challenges?

Cathy was facing many of the same challenges that often discourage teachers from implementing DBT. Cathy viewed the practice as risky and challenging, and she was concerned about her ability to keep students focused on the learning objective. Novice and veteran teachers feel the "productive struggle" she described in the interview,

as it is difficult to facilitate a discussion that ensures students are participating in the discourse and learning from their peers at the same time.

In several instances Cathy shared what she hoped her students would be able to do with DBT, but she said she had not "trained them yet". For example, she wanted students to ask their own questions, respond to higher-level questions, use talk cards with sentence starters (which they had in the classroom), and guide the discussion. These features of DBT were taught in her courses and were discussed in the aforementioned Almasi text. She told me about a third grade teacher, Mr. G, she recently observed at the same school:

> He is just like out of this world to watch! Like so up beat and gets the kids going. I mean he asks questions of them and they all know how to talk to each other. They were doing math one day. And he was like, he had put a problem on the board and one kid went up there to solve it and he said, "Alright, what do we think about this?" and he let the kids talk about why it was wrong or right. And the problem was done correctly but he let them prove why it was. He didn't go up there and say, "Yep, next one". Um, so that was really cool to see. He was very high energy. Very interested in getting the kids involved and not being the one whose talking all the time. (Interview One)

Through Cathy's university courses and observation of Mr. G, she understood the value of DBT and had knowledge of several strategies she wanted to implement. She expressed several concerns about enacting the practice, but her concerns are common for novice and veteran teachers. Even with her concerns, she knew DBT was a practice she wanted to improve upon.

Sarah's Perspective: "Sort of at the Beginning"

Sarah, the mentor teacher, recalled her own K-12 education without fondness. "It was all the teacher. All of us sat there. And I remember not liking school because I was not um, I wasn't a really good student" (Interview One, November 23, 2015). As a result, she believed students, especially kindergartners, should have more time to play and explore. She also believed this is when students learn how to work together and problem solve. I observed centers (the students' time to play and explore) each day I observed. One day Sarah cut out the math lesson and decided to give students more center time instead. Yet, she said the curricular mandates hindered her ability to give the students as much playtime as she would have liked.

As Sarah talked about her own experiences, she questioned her knowledge and maintained that the lack of resources prevented her from effectively implementing discussion-based teaching. When asked about the role of the students in DBT, Sarah responded,

> The role of the student would be (pause) to, to answer the questions. To get um, to be able to think through and problem solve or- I don't really know- I would think (laughs)…and create an environment that they're all learning from. (Interview One)

As I pressed her to talk more about how she plans for DBT that helps students "problem solve", she said planning for specific questions "should" be done, but she replied,

> That's a hard thing. And I think you learn it more as you teach because you know, their questions lead to a different way of questioning. And I think that you, you really learn that as you're teaching. I think that's a hard thing to teach

somebody, you know what I mean? I think if they see it, they can remember it and try to integrate it. But I, I just think that's sort of, its something you learn.

Sarah acknowledged that learning how to plan for and ask high-level questions is challenging and she was unable to explain whether she planned for such questions. She believed it is something a teacher learns while teaching or by observing. She did not see it as something that needed to be explicitly taught or scaffolded for new teachers, perhaps because she did not receive explicit instruction for how to plan for and implement high-level questioning, an important feature of DBT.

When I asked Sarah where she is in her development of discussion-based teaching, she responded, "Well, sort of in the beginning in a lot of ways because we're more into like project based learning and so we're doing more with- I think that's different than discussion based. Am I correct or not?" (Interview One). Sarah was referring to a Science, Technology, Engineering, and Math (STEM) professional development she recently attended to learn about project-based learning (PBL). At the time of our interview, she had not implemented any of the PBL lessons, but she had plans to implement one later in the month. I explained to Sarah the integrated components of DBT and PBL. She showed reluctance in implementing the first PBL lesson, and any DBT lesson:

> Cathy and I are always trying to figure out the best way to get them on the right path or saying what we're hoping they're going to say. (Laughs.) Um so I would say in kindergarten I feel like I'm sort of at the beginning…because its hard to get them to converse with each other…In kindergarten we find group things are very hard because they're still so into "me, me, me". (Interview One)

Indeed, when I asked Sarah to describe a DBT lesson she planned for and implemented, she could not recall a particular one. Instead she explained a PBL lesson she planned to implement, but in her description of the lesson she did not describe any elements of DBT, including how the students would work together. For example, Sarah explained they would be reading Jack and the Beanstalk, and

> They [students] have to try to create their own beanstalk by using pipe cleaners…that will hold a little teddy bear at the top. So what we have to do is really start talking about what the structure needs to look like, what needs to be strong, how the base needs to be strong. (Interview One)

Sarah's description of the lesson portrayed students as working individually. She did not say they would need to focus on how to work together, or how to conduct an inquiry. Instead, she said the students would "create their own" and it seems they would be given so much background information about structures ahead of time that there would be little opportunity for them to co-construct learning nor engage in high-level thinking during the project.

Sarah seemed to be aware that she had a lot to learn about DBT and she wished there were more resources available. She asked about school districts, or specific teachers, where effective implementation of DBT was happening, so she could observe teachers in action. She felt this would be most beneficial to her because she is a visual learner and she wanted to see what changes she should make. "I'm very open to change", she said. She also feels that lack of time is holding her back from learning about and implementing DBT:

> I would love to have more, more project based um situations…There's just a lot of things we keep talking about but its, its time because we don't have the art, music, PE, we have no planning time. So its all done after school and…I feel like that's what stops me. But…I mean that's not the answer to this. I mean I'm not going to get better at it if I don't give that time up or put into it. But it takes a lot of planning to do anything well. (Interview One)

At the end of our interview, she brought up the challenge of time again. She said she knows the kids love DBT, but the time for implementing it and getting the materials together makes it so difficult: "Its just time. I mean it really is, and being able to get the materials around. Because all the kids love it you know. Its just, its just the time of implementation and what its pulling away from, you know what I mean? Not that its bad, but…It's time".

Sarah stated another challenge with implementing DBT is "the type of children we get". She said their prior knowledge and vocabulary is limited which makes the students struggle with communicating their ideas. She said it is also difficult to "keep them reined in and keep them from not yelling out and from not giving the answers- especially at this level because they just want to be heard" (Interview One). She understood students needed to be taught how to work together and discuss ideas, but it seems her limited knowledge of DBT and lack of time for planning kept her from enacting features of high-quality DBT.

Sarah seems to think DBT could be important, but she also believes there are barriers that prevent her from making enactment of DBT a priority, including time, resources, and her particularly challenging students.

Sarah's Enactment of DBT

Sarah, the mentor, labeled her enactment of discussion-based teaching as "beginning". My observations of Sarah supported her belief. I only observed Sarah attempting DBT a few times. On one occasion, after students completed a craft activity in which they made turkeys, Sarah put a picture of an ostrich on the overhead screen and asked students, "What makes ostriches birds?" (It sounded like a student asked her about ostriches.) The students raised their hands and waited to be called on. Before calling on anyone, Sarah asked questions about the ostrich's characteristics and the students answered in unison. The remainder of the conversation went as follows:

Sarah: Look at the pictures of people riding ostriches. Why can't we ride birds around here?

(Students raise their hands to answer.)

Sarah: Look at the picture of turkeys. Do turkeys have…(lists characteristics of birds)?

(Students answer in unison.)

Sarah: How many fingers and hands did we have in all?

(Students had traced their hands to make the turkey's feathers.)

Conner: 5

Sarah: Who thinks there is a different answer out there?

Monica: 4

Sarah: What do you think, C?

Charles: 10

> Sarah tells students to quietly come to the back of the room. She apologizes to me and says, "This is not a typical day, I won't see a lot of "why" questions." (Field Notes, November 23, 2015)

Sarah attempted to initiate student dialogue by asking questions, but the questions were surface level and they were asked in a recitation style. She called on a few students to answer her questions, and she did not use talk moves to press their thinking or to encourage elaboration. Instead, she concluded by showing the students the correct answer.

In another example, Sarah engaged in a read-aloud with a Martin Luther King, Jr. informational book:

> **Sarah**: Does anyone know what a protest is? (No one responds, so Sarah explains.)
>
> (She continues reading.)
>
> **Sarah**: He was playing things you guys like to do. How many of you have ever sang in a church? (Some students raise their hands.)
>
> **Sarah**: So these are things you have done also.
>
> (She continues reading.)
>
> **Sarah**: What does that mean? (In reference to Martin Luther King Jr.'s experience of being told he couldn't play with his friends because he was black.)
>
> **Monica**: They aren't going to be friends anymore?
>
> **Sarah**: Why? What reason do they give us? (She calls on a student and adds to what he says.)
>
> (She continues reading.)

Sarah: Does anyone know what a slave is?

(She calls on a student, and adds to what he says.)

Sarah: We are going to stop here. So far, what have we learned about MLK? Do we do different things than he did? Do we get to play at different places than he got to play?

(Sarah does not call on students to respond to her questions. She dismisses them from the carpet.) (Field Notes, January 20, 2016)

Sarah largely used a recitation approach to guide students in thinking about the meaning of words in the text and in making personal connections. She made one attempt to call on a student to build on the idea of his peer. Overall, she did not encourage students to elaborate on their ideas. She called on one student per question, and added on to their response to ensure it was "correct". The stated objective of the read aloud, to learn why MLK Jr. is important and how he changed the way we live in our country, was a high-level prompt. However, Sarah did not connect back to it at any other time during the read aloud.

During center time, Sarah frequently enacted features of discussion-based teaching, where students talking to each other seemed to occur naturally. For example, during center time on December 10, 2015 the following interaction took place:

> The boys at the blocks center put their hand up and say a peer's name to show her where they are. A student starts adding to the structures the boys are making. The boys don't seem to mind at all. One boy adds to the other student's structure. A structure falls and Sarah asks, "How can we build something that won't fall? What can you do to fix the problem?" A student responds, "Make legs." Sarah

> restates her question, "How can I make this from falling on his?" She prompts students to think about how to make the structure stronger. Two boys at the alphabet group immediately start working together using one puzzle board. The two girls work independently. Students at the cutting/gluing group are talking quietly and playing a guessing game with each other as they cut. Two girls walk around the room together looking for "letter O" words, as suggested by Sarah. Later, a boy joins them and they search together. Two boys at the alphabet center problem solve together. They realize one has upper case letters and the other has lower case letters so they decide to work together to complete task. (Field Notes)

This excerpt represents the steady flow of student talk and collaboration I observed each time the students participated in centers. Sarah encouraged students to work together during centers and at times she prompted them to use their problem-solving skills. Important to note is centers seemed to be the exception to the rule. I most often observed students sitting quietly and restlessly at their desks or at the carpet for extended periods of time until Sarah called on them to speak.

Cathy's Enactment of DBT

Cathy said students are doing the "beginner workings of discussion-based teaching" (Interview One). Cathy led small-group writing conferences in which students could talk to each other about their stories and share pictures they created. Students were also provided opportunities to quietly talk about their writing with their table peers. She asked students to share their thinking in math, but this was not observed as being a discussion; at this point students did not build off each other's responses or explain their agreement and disagreement. Cathy tried to implement features of DBT during whole

group instruction. On one occasion, Cathy used turn and talk at the beginning of a writing lesson when she asked students to share their own stories with a friend. The students quickly turned to one another as if it were a daily routine, although it was never observed to happen again. Cathy tried especially hard to implement DBT during read-alouds. At the end of her first placement, on January 20, 2016, Cathy engaged in what was a typical read-aloud lesson. She was reading a Junie B. Jones book while students sat at the carpet, and she frequently stopped reading to initiate student talk:

> **Cathy**: What do you think will happen to Junie?
>
> (Monica raises her hand to answer, "Maybe she will never be able to play." Cathy calls on Jeremiah who answers, "She's grounded". Students start saying they have been grounded before. Cathy continues reading and stops to ask: "What is Junie B. making progress on? What has she been doing this whole book?" She calls on Veronica who says, "Cutting hair".)
>
> **Cathy**: Cutting hair. Marcus, is that what you were going to say?" Marcus responds "yes" and Cathy says he has the right idea because "beauty shop" is in the title.
>
> (A student makes a prediction, and Cathy says, "Let's finish the chapter and see." She stops and asks what students think Junie is holding. They chorally respond that she has scissors. Cathy continues reading.)
>
> **Cathy**: Why is Junie B Jones frowning?
>
> (She calls on Marcus and repeats what he said: "Maybe she thought her hair looked awful". Another student is called on and says, "Maybe her hair is too short.")

Cathy: (repeating what a student just said) Ooh, we're predicting that she's going to get in trouble.

(She calls on four students in all, then she continues reading and stops to ask, "Do you know what "tiltier" means?")

Anthony: Bendier!

(Cathy shows what tilting means by standing and tilting her body.)

Similar to Sarah, Cathy led students in making predictions through personal connections and in thinking about the meaning of the words. She promoted student participation by calling on several students to answer the same questions and by allowing them to answer chorally. However, Cathy used a recitation style approach. She did not encourage students to elaborate on their ideas, or to respond to each other's ideas. This might have been in part because the levels of questions she asked did not promote critical thinking, and therefore did not necessarily require elaboration. Yet, because Cathy did most of the talking, only a small percentage of students shared individual thoughts and it was unclear if the students valued the ideas of each other.

Although Cathy was attempting to implement DBT moves, she was aware she was not implementing effective DBT lessons. She told me she had tried doing DBT lessons but the students "just answered some questions to me"(Interview One). She described a social skills lesson she taught during the first few weeks of school and afterwards she reflected on how she could have initiated more student talk. She did not mention asking Sarah for guidance. On multiple occasions she told me neither she nor Sarah had implemented a "true" DBT lesson, nor had they discussed a DBT lesson. When I asked her how she and Sarah were analyzing DBT together, she was matter-of-fact

when stating, “I wouldn’t say we’re really analyzing anything because there’s nothing to analyze” (Interview One). She claimed they had never made an anchor chart with the students or documented their ideas. My observations support this claim, as there was no evidence of co-constructing knowledge, except for during centers. On the other hand, Sarah claimed they were implementing DBT “wherever it fits in” and were talking about it throughout the day, especially when they decided how to pair students (Interview One). The following excerpt, from my first interview with Cathy, further showed how their ideas about student talk differ:

> I don’t believe in like “does everyone agree” and everyone goes “yeah!”. That doesn’t teach me anything. That doesn’t tell me that you all actually know something. Whereas I think with my mentor it’s very much, um, you know, she’ll pose a question and it's a leading question. She wants the kids to understand something and so she’ll say “dadadada, we understand that, right?” and all the kids, because they’re six years old, say “yes!”. That's kind of the difference there, I think.

Cathy had the knowledge of several components of DBT and she could recognize a true DBT lesson. However, her understanding seemed to differ from her mentor’s, making it difficult for Cathy to move her learning of the practice to the next level.

Cathy and Sarah: The Dilemma

Cathy told me on several occasions that her mentor was open to Cathy trying new things. Indeed, when I asked Sarah about her role as a mentor, she said she sees herself, “Just sort of as a guide. Trying to guide her [Cathy] the way I think things work, but also allowing her to try it her way and talking about what she did…right or what needs to

change" (Interview One). Sarah also praised Cathy's teaching and her confidence, which had encouraged Sarah to let Cathy have autonomy. Although Cathy was given the green light to try new things, such as DBT, Cathy was struggling to find the scaffolded support she needed. The following excerpt shows the dilemma in which Cathy found herself:

> I think that my mentor tries and that's something she wants to do but it takes a lot of planning and it requires a lot of trust and a lot of skill building and its hard because in our classroom there's a lot of telling kids to be quiet. Like, "you're being too loud and stop talking", and I actually think that discussion-based lessons would solve like 90 percent of the behavior issues we have because they're so deeply engaging. And so I think we spend a lot of time telling kids to be quiet when we should be teaching them how to talk strategically. So use those words and use them to build something, to do something! Um, so I think that's kind of been a frustrating point for me is that I would love to get the kids talking. (Interview One)

Cathy said the students had never learned how to talk to one another, and she did not know how to do that for kindergartners. She knew they needed explicit instruction and scaffolding, but she was not sure where to begin. Sarah had never modeled it for her and Cathy believed Sarah did not have the knowledge to do so. Cathy did not fault Sarah for this. As stated in the above excerpt, Cathy believed Sarah wanted to enact DBT, but Cathy identified herself as more of a risk-taker. She believed Sarah had been teaching one way for so long that she's "nervous to implement it" (Interview One). Cathy also thought Sarah lacked confidence because she was unsure whether she was doing it right or wrong. Cathy wished someone could coach her and Sarah.

Cathy also expressed concern that she and Sarah did not know how to plan for a DBT lesson. Cathy hoped to overcome this obstacle during her writing unit, in which she planned to implement student talk. She found the curriculum Sarah initially suggested promoted a lecture-based approach to learning. Cathy expressed her concerns and Sarah was responsive. She suggested Cathy use Lucy Calkin's storytelling curriculum instead. Cathy was excited about the prospects of the new curriculum, but Sarah's feedback and suggestions kept Cathy from implementing it the way she had hoped.

In one audio-recorded conversation between Sarah and Cathy, they planned for a writing lesson Cathy would implement the following day. At the beginning of the conversation, Sarah suggested students can do a "turn and share" with their partners. Sarah talked for a few minutes about what the partners could discuss and suggested they make puppets that would help them remember what they should talk about. After three minutes, Cathy asked for help implementing the partner talk:

> **Cathy**: So tomorrow then, do you have any suggestions for how I like teach them the rules of think-pair-share? Like how do I talk that out for them and tell them 'okay, one person needs to be this role and then this role', you know?
>
> **Sarah**: Well, and the thing I'm wondering is do we want to pair them up with kids who we think will work well together? Because maybe we need to get to the point, and that's something that Lucy [Calkins] does too, is have their writing partners. Writing partners are different than the math partners and it's not always the two best writers…(goes on to discuss examples of different types of writers and some specific student pairs).

> **Sarah**: And a lot of times with the writing partners, I have them sitting by each other at the back. And they learn to turn and talk. So it's knee to knee. And you know, eye contact. And um, you're quiet. And you know, a lot of times, too, after they share their story, having the other person either retell the story or make a positive comment. (December 14, 2015)

Sarah suggested they need to plan for writing partners and she suggested what the rules should be when they talk with their partners, but she never answered Cathy's initial question about how to teach students the rules and procedures for roles beyond classroom management. During the 11-minute conversation, Sarah discussed eight different topics and four were writing-lesson ideas. Therefore, they never really plan a lesson, yet Sarah ended with saying "We know what we're doing for writing at least." Throughout the conversation, Sarah shared what she was thinking and made all but one of the suggestions. She asked Cathy for her opinion one time.

During a seven and a half minute debrief of one of Cathy's writing lessons on December 18, 2015, Sarah immediately started by saying Cathy did a good job of stating the goals. For the remainder of the debrief, Sarah's feedback was about management. At 3:30 minutes into the conversation, she told Cathy how she should set up the norms and expectations for writing partners. Sarah said they needed to show the students "what is right, and what's not, especially for our boys who can't do the right thing." She continued by suggesting they could do a whole period with the students being actors showing the wrong way and the right way. She suggested they make a chart together as a class. Cathy said she was impressed with how well the students worked with partners, especially the volume level. Sarah agreed and said at a later time, once they start understanding the

writing, they could tell students they could go to a partner for help. She says, “but we’ll do more of that later”. She goes back to saying they need to do the wrong way and the right way, because she has found it is a really good way to teach them “what to do and what not to do”. Near the end of the debrief, Sarah asked Cathy, “So do you have any questions, comments? How do you feel?” Cathy said again that she was really impressed with how well the students worked together and believed one reason is because they tried something new.

Cathy asked for Sarah’s suggestions about how to teach students the rules of writing partners a few days prior to this lesson. Yet, Sarah waited until after the lesson to give suggestions when Cathy seemingly no longer needed them. According to Cathy, the students participated very well and enjoyed talking to each other. Sarah’s mentoring practices were similar to most. Her feedback was surface-level and did not go beyond classroom management (Clark, et al., 2014). Sarah did not elicit any reflection from Cathy, nor did she provide feedback about Cathy’s instruction and student learning. Finally, she did not enhance Cathy’s learning by providing scaffolded and targeted next steps for Cathy to work on. These mentoring moves are crucial to a new teacher’s learning, and the fact that Sarah did not implement them seemed to influence Cathy’s ability to enact DBT.

Concluding Thoughts

Cathy knew she wanted to implement discussion-based teaching when she began the placement, but she soon realized she needed a lot of knowledge and support to do so. Her prior coursework experiences gave her knowledge of DBT strategies and of the benefits DBT provides students, but she needed more scaffolded opportunities to practice

DBT. Although Sarah allowed Cathy the freedom to try new strategies, she lacked the knowledge and resources needed for her to provide Cathy with the proper coaching. As a result, Sarah and Cathy rarely enacted features of high-quality DBT. Table 2 summarizes the factors that were most influential to Cathy's enactment of DBT during her first internship placement. Sarah's factors are also included on this table, because as her mentor teacher, they indirectly influenced Cathy's enactment. These factors are discussed in more detail in Chapter Six. The first category, Knowledge of Strategies, represents the DBT strategies Cathy and Sarah talked about or implemented. They knew of the strategies, but they did not necessarily know how to enact them. The second category, Perceived Challenges, represents the challenges Cathy and Sarah discussed that seemed to hinder their enactment of DBT. The final category, Perceived Support for Implementation, represents the resources and learning opportunities that Cathy and Sarah believed supported their enactment of DBT.

Table 2

Factors influencing Cathy's enactment of DBT: Context one

	Knowledge of Strategies (O=Observed)	Perceived Challenges	Perceived Support for Implementation
Cathy (Intern)	• Partner talk (O) • Asking high-level questions (teacher and student) • Role cards • Teacher talk moves	• "Letting go"/loss of control • Facilitating balance of discourse and student learning • Risky practice • Lack of prior experience implementing DBT • Lack of established norms and procedures for student talk • Lack of modeling from mentor	• Autonomy to try to new strategies • Prior course experiences
Sarah (Mentor)	• Asking high-level questions (teacher and student) • Partner talk • Small group collaborative learning (O)	• Lack of time • Lack of professional development • Students' abilities	• PBL curriculum and training

CHAPTER FIVE

Context Two: Cathy and Kate

At the end of January, Cathy was moved to a new internship placement with a new mentor teacher, Kate. Kate taught a third and fourth grade combination class. During this part of her internship experience, Cathy was able to enact discussion-based teaching (DBT) practices daily. This shift in enactment of DBT practices was a result of several influential factors, many of which were connected to her new mentor's use of DBT and the way she enacted her role as a mentor. In this chapter, Cathy's experiences with DBT during the second placement will be described, including her improved knowledge and enactment of the practice. Next, an explanation of Kate's experiences and implementation of DBT in her classroom will be provided. Kate's mentoring practices and the ways in which she supported Cathy's development of DBT will also be discussed. The chapter concludes with a summary of the factors that influenced the ways in which Cathy and Kate enact DBT.

Cathy's Knowledge: "Scaffolding is Big"

During her final interview (April 27, 2016), Cathy spoke confidently about DBT, and she demonstrated her understanding of the practice by explaining the features that had to be in place. She said, "First, right off the bat, you have to have a protocol, procedure and community set up in the classroom." She said the "low risk exposures" to DBT, such as students talking to a partner about what they did over the weekend, are important to help students learn the norms and procedures at the beginning of a year. Similarly, on many occasions, Cathy shared the environment has to be safe for students to feel comfortable sharing: "I know I've said that multiple times during this. But it really is

like if you don't create an environment where kids feel they can talk to each other, you're not going to be successful" (Final Interview).

Cathy explained students also needed "structure and stability" to feel safe talking. When students know what to expect, such as how to talk and listen to each other, they will be more successful. She described the culture in Kate's classroom as "a community of talkers" in which "we've all got things to say and they're all important, and we can learn from one another". An environment in which students feel safe participating, and in which students feel their ideas will be valued are important components of high-quality DBT.

Cathy believed making the purpose of the discussion clear was "key". She explained, "You have to have a clear objective. You have to have a clear aim for the lesson because if you don't, you're just going to have a conversation that's going all over the place" (Final Interview). In order to keep the conversation aligned with the purpose, Cathy discussed the importance of teacher talk moves, such as eliciting more information from students. She shared "If they [the students] say something you don't just say, 'yeah, right'. You say 'tell me more', or like, 'okay, so I hear you saying this, can you tell me more about it?'" Cathy explained her role, in part, is to understand what the students are thinking and to help them work through their ideas. She also discussed the importance of revoicing for students, a talk move her field instructor and mentor worked with her on to implement. She thought revoicing was important to scaffold students' understanding. Finally, Cathy believed the types of questions asked were important for helping students work toward the lesson objective while having a deep discussion. She explained, "The questions that you pose cannot be yes and no questions. They have to be deeper questions

than that. You can't have a discussion if you're not asking a deep question" (Final Interview). Indeed, teacher talk moves, high levels of questions, and a clear learning objective are all features of high-quality DBT.

Finally, Cathy often talked about the role of the discussion topic. She believed it had to be a topic that was relatable to the students' lives so that students could bring their own experiences into the discussion. At the same time, the topic had to "peak their interest", so Cathy believed it was important for her to know about her students' backgrounds and interests so she could make the content relevant and engaging. Cathy thought, "scaffolding is big in discussion-based teaching", and she believed all the features she discussed had to be in place to provide students with the proper support to participate in effective DBT.

Although Cathy was no longer timid about implementing DBT, she still expressed some concerns about the practice. First, she called DBT "one big formative assessment", because she believed it gave students the opportunity to "get their knowledge out" (Final Interview) which allowed her to provide students with immediate supports. Yet, she wondered if DBT allowed her to know what all students were thinking, and was she providing the right scaffolding for all students? Similarly, she wondered if all students were actively listening and understanding the content of the discussion. Cathy found math to be the most challenging content area because her students wanted to focus on the "right answer" without discussing their thought process. Finally, her whole group discussions were very much teacher-led and she hoped to implement more student-led discussions in which the students "cultivate some of those deep questions" and respond

naturally to what other students say. She believed such a discussion was possible through modeling and establishing clear norms and procedures.

Cathy's Enactment of DBT: A Daily Routine

Cathy's growing knowledge of DBT transferred to her daily practice. When asked how often she planned for and enacted DBT in her second placement, she responded, "at least one lesson everyday", then she added, "probably every lesson in our classroom is focused around getting kids to talk" (Final Interview). Indeed, Cathy was observed implementing DBT strategies throughout the entire day, and within entire lessons, as shown in the following two examples.

Lesson One: Social Studies. After six weeks in her second internship placement, it was evident Cathy made student talk a priority. In a social studies lesson on March 3, 2016, Cathy initiated student talk within every stage of the lesson. First, Cathy helped students recall the different branches of government. She initiated a think-pair-share in which students shared the purpose of each branch. After calling students back to a whole group, she asked pairs to share out what they discussed, and asked students to provide examples of how the branches performed their purpose. Next, Cathy put students in pre-planned small groups. She gave each group a different newspaper article that described a court ruling, and directed them to discuss the following prompts: What purpose of the judicial branch does this scenario involve? How do you know? What evidence from this article will help back up your stance? Do you agree with the ruling? Why or why not? She told students, "These prompts will stay on the board while you all are working. When you are done working with your group you are going to pick someone to share with the class what you think." Finally, before students began working, she reminded

them that their group members might have different ideas than their own, but "We can learn from each other when we hear different perspectives." Throughout the small-group activity, Cathy sat with each group to provide support. She often asked questions such as, "What evidence is there? Why do you think that? Do you have any other ideas? What does that mean?" Later, students sat in a whole group and Cathy asked each group to share ideas. Again, she pushed students to explain their thinking by asking questions like, "What makes you think that?" On two occasions, she helped students recall an idea she overheard during their group conversations. At one point, when a student's response elicited a lot of talk at once, Cathy told students to turn to a nearby peer and talk for 30 seconds about their thoughts.

Lesson Two: Science. During a science lesson on March 22, 2016, Cathy showed short video clips of weather scenes and asked students to write their observations on a handout. She then asked students to share their observations with a partner before sharing in a whole group. Throughout the short discussion, Cathy used talk moves to help students meet the objective of the lesson, which was to understand the factors that influence changes in weather. For example, she responded to students' ideas with, "What else is different about them? Think about the definition of weather. What does that mean for us? Can you add to what Stephanie said?" Students then worked in small groups to complete a task in which they were to act out a scene to represent a group of related weather words (i.e. humidity, rain, atmosphere). Each group then performed for the whole group and students praised their peers after each performance.

Features of High-Quality DBT. The two lessons show Cathy was able to enact several features of high-quality DBT. First, she used different structures, such as whole

group, small group, and partner talk, to initiate student participation. Second, she implemented high-level tasks, or ones in which students were required to collaborate, co-construct knowledge, and think at a higher level. Furthermore, the tasks allowed multiple perspectives to be shared. Third, she used a wide range of teacher talk moves and she responded quickly to students' ideas. For example, to encourage elaboration, she asked questions such as, "What does that mean?" and "Why do you think that?" To elicit student responses, she asked, "Do you have any other ideas?" and "Can you add to what Stephanie said?" She also strategically chose students to share out the ideas she heard them discuss in small groups. These moves helped Cathy scaffold students to draw connections between their ideas and the content. Finally, it was evident norms and procedures were in place for students to participate, and they seemed to feel safe sharing their ideas.

The framework for many lessons Cathy taught came from the Teacher's Curriculum Institute resources. This resource has many lessons that promote student collaboration. Cathy shortened the lessons and modified small group activities to require more co-construction of learning. For example, Cathy modified a science lesson in which she was supposed to give students definitions to copy. Instead, the students worked in small groups to come up with their own definitions for weather-related words. They wrote the definitions on post-its and displayed them on the board. Cathy then asked the students to determine what the definitions had in common, then they agreed as a whole group on a definition. The curriculum was a supportive resource for Cathy, and the ways in which she modified the lessons showed her understanding of DBT and her dedication to making it a priority.

Cathy's enactment of elements of DBT was not limited to social studies and science. She implemented DBT strategies throughout the day, across all content areas. For example, during math, Cathy often encouraged students to share their strategies for solving problems, and to work together to complete the post-lesson assignments. During word study, she asked students to co-construct the meanings of common prefixes and suffixes, as well as new vocabulary words. She facilitated whole group discussions during sacred writing time, in which students shared their thoughts about photographs or quotes.

Guided reading seemed to be the time of day Cathy was least likely to integrate high-quality features of DBT, although it was evident she tried. During guided reading, Cathy read texts with small groups of students based on their reading development levels. She followed a scripted curriculum mandated by the district, which did not seem to align with the goals of high-quality DBT. The following excerpt is from a typical guided reading lesson (April 13, 2016):

> **Cathy**: Turn to the person next to you. Just by looking at the cover, what do you think this book will be about? (Students talk to partners)
>
> **Cathy**: Zack and Ali, what did you talk about? (Students respond) Sam and Michael? (Students respond)
>
> **Cathy**: Okay, anything else?
>
> (No one responds, so Cathy asks a student to read the first page.)
>
> **Cathy**: So what does the author want us to think about on this page?
>
> **Ali**: The setting.
>
> **Sam**: The characters.

(Cathy calls on Michael to continue reading.)

Cathy: Has the author introduced a problem yet?

(Students shake their heads no, so Cathy reads on.)

Cathy: Is Joey [character in book] dedicated to the job?

Sam: Yes

Cathy: Why do you think that? (Sam responds.)

Cathy: Ali, you said yes. Tell me why. (Ali responds.)

(Cathy clarifies both students' answers to summarize how they know Joey is dedicated.)

Cathy: Read the rest of the page and give me a thumbs up when you're done.

Cathy: What do you think is going to happen? (A student responds.)

Cathy: Okay, you'll finish reading the book then you'll answer questions 1, 2, and 3. (Dismisses students.)

The structure of the curriculum seemed to force Cathy to ask a variety of low-level questions that were not connected to a larger lesson objective. The texts did not promote critical thinking, but it was necessary for Cathy to use them because the students would be asked to recall ideas related to them on the mandated weekly assessment. This made it difficult for her to use DBT in a purposeful way, which is often a challenge for teachers. Nonetheless, even with these constraints, Cathy attempted DBT strategies, such as partner talk and moves that encouraged students to elaborate on their ideas.

Kate: A "Natural" Part of Her Practice

Kate's influence on Cathy's practice was clear from the start, as Kate implemented elements of DBT on a daily basis. In the first interview with Kate (March 3,

2016), she described her vision of DBT developed during her own internship year. Her placement school had professional learning communities (PLCs) that focused on student talk. Kate observed teachers learning about and enacting DBT. She said the process was, "playing out right before me". She shared a professor at the university trained and supported the teachers. Kate explained how the experience developed her vision of teaching:

> I took away from that [experience], this philosophy, this notion, that I'm not the keeper of the knowledge, the children are. This isn't about me all day. It's about them. So the more opportunity you can have to engage them in conversation- and really don't just take the face value answer but to say "can you say more about that?" and dig deeper into why they're thinking- I think that leads to quite a revelation about what they really do know and don't know.

Kate discussed how her internship experience transferred to her first year of teaching. She tried to make DBT "as much a part of her teaching as possible". During her first year she was also taught inquiry-based science during a series of professional development sessions, and that eventually transferred into her math instruction. She was later involved in a project with the university that studied the use of different levels of questioning. She implemented her learning about questioning, and studied the affects of them, in her own classroom.

Kate's development continued when she began teaching at the Montessori school. The school was part of a Kevin Feldman program, which provided professional development to teachers with an emphasis on student engagement and talk strategies. Kate shared a small booklet of 11 notecards from the program. Each notecard described

how to implement a specific DBT strategy, such as structured partnering, think-pair-share, and Yes-No-Why in which students debate their position on a certain topic. Kate keeps the booklet nearby for reference. With the support of the school's administrator, the program also encouraged teachers to video-record themselves teaching, observe their colleagues, and provide feedback using a rubric that focused on student engagement. Kate believed the process had helped "break down some barriers" (Field Notes, April 13, 2016) within the school to make teachers more open to sharing their expertise and accepting constructive feedback. At the time of the final interview (April 27, 2016), Kate was preparing for 40 teachers from surrounding schools to observe her teach using the program's rubric. She volunteered to host the teachers because she wanted their feedback.

Kate viewed enacting DBT as a "natural" (Interview One) part of her practice, rather than something she consciously planned for every day. However, she was very strategic about setting up the classroom environment for DBT from the start of the year. According to Kate, she spent the first six weeks practicing norms and procedures for collaborative learning. She also articulated the importance of other features of high-quality DBT. First, she believed that each "discussion should be accessible to everybody", meaning all students should be able to participate through the use of different participation structures and teacher talk moves; and the content should be something the students can connect prior learning to. She thought DBT was "incredibly valuable", especially when it involved posing questions to the students that "dig deeper" to "find out what they really know". She also felt it was important for students to ask questions, but the teacher should "steer" the conversation to ensure the learning objective is met (Interview One).

When asked about challenges she faces when enacting DBT, Kate said, "Ultimately, it's time". She expressed the "tremendous pressure" she felt from the school district to ensure all the standards and curriculum were taught. This pressure sometimes made her question whether she should enact components of DBT, such as small group tasks that can take longer than anticipated. Nonetheless, it seemed she valued the practice so much that it took precedent over her hesitancies. In the first interview, she shared, "I think its valuable to incorporate that [DBT] into your everyday teaching if you can…and getting them [the students] to articulate instead of sitting and getting."

Kate's Enactment of DBT

Kate initiated whole group discussions at the start of each day during "sacred writing". The purpose of sacred writing was for students to practice on demand writing for a short period of time about a specific quote, photograph, or word chosen by the teacher, and then discuss their thinking in a whole group setting. Most often, the prompt was "What does this make you think about?" After a few minutes of independent writing, students discussed their thoughts. During the sacred writing period on March 3, 2016, a picture of earth surrounded by hands was displayed on the overhead screen. After a few minutes of independent writing, Kate began the whole-group discussion by asking students, "Who would like to share their thoughts?" The discussion continued as follows:

Ali: World inside our hands.

Kate: What does that mean to you? The world's inside our hands? That's an interesting way of thinking about it, so let's dig deeper.

(Kate calls on three students, and Brian responds, "Earth Day").

Kate: Tell me more about that.

(Brian explains. Kate calls on Diana who reads what she wrote.)

Kate: It makes you think the earth is in our presence. Tell me more about what you think about that.

(Diana explains her thinking.)

Kate: So Diana is thinking the earth has been given to us and we need to take care of it.

Kate: Yesterday we talked about rights and responsibilities in social studies. How does what we discussed connect to what you see up here?

(Kate waits for a response, but no one answers.)

Kate: Do you think we have a responsibility to earth?

Brian: To take care of it.

Kate: And that goes back to what you said earlier…(She makes a connection to an earlier response.)

Kate encouraged students to elaborate on their ideas and make connections to academic content from a previous day's lesson. The task itself also allowed multiple perspectives, as there was not one right or wrong answer. Finally, there were clear norms and procedures established. Students waited to be called on and they did not talk over one another.

During a writing lesson on March 3, 2016, Kate and the students co-constructed an anchor chart to help students understand ways they could introduce their topic to a reader (they were working on expository essays). The following excerpt shows how Kate used a teacher talk move, revoicing, to help students understand their peer's thoughts, which is an important feature of high-quality DBT.

Darrin: You could write down a fact and say, "to learn more you could read this".

Kate: You could say something like, "Many people don't know…I have found…" What are some other ways?

Therese: Start with a suspenseful fact.

Kate: Start with a jaw-dropping fact or statistic.

Ali: This is kind of the same as a question, but an idea.

Kate: Tell me more.

Ali: Like I don't like the president. You can come up with an idea and tell why you don't like him.

Kate: So I wonder if we can begin with a personal connection to your topic?

At the end of the lesson, Kate suggested students who are writing similar types of essays should talk together about their ideas. Several students chose to work together throughout the rest of the writing period, which was typical of all writing periods observed. Even those who did not choose to work with a partner naturally discussed their work with those around them. For example, a student asked her peer, "What color do you think of when you think of poverty?" Another student asked her peer, "Who is Malala? Is she still alive?" (Field Notes, March 10, 2016). Questions such as these often led to short discussions between students, as it seemed natural and routine for them to collaborate. Instead of relying on a teacher to answer a question, the students asked their peers. They moved quickly to talk to one another, without asking permission from a teacher.

Kate also regularly planned for students to co-construct learning in small groups by completing meaningful tasks. For example, students worked in small groups to

research Native American tribes and typed up what they learned in a Google Doc shared amongst the team members. They co-authored the introduction, and each student used the rest of the information to write their own book about the tribe. Kate explained to me that students had varying levels of writing development, so when she started the project she said to the students, "What do you think about working in groups so you can write the sections together and make it more of a collaborative project?" (Field Notes, March 10, 2016). The students loved the idea, and each group made different decisions about how to do it collaboratively. For example, one group decided each member would become experts of one section, and report back to the group. Another group decided to research and write each section together. Kate planned for students to share their books with first graders and to put them in the school library to give the project "more purpose".

Cathy and Kate: "A Well-Oiled Machine"

In my first interview with Kate, she discussed how she viewed her role as a "guide" for Cathy. She explained,

> I think my role is to be reflective out loud and share what I'm thinking about things, always. But also to give Cathy the freedom to try and to feel like this is a safe environment to try. And I'm here to help Cathy think about the lesson and what worked, and what didn't, and what could be done differently next time. And just be that safe place to try before you're out on your own when you don't have that extra person watching all the time.

To Kate, being a mentor encompassed several responsibilities. She felt she should be a reflective practitioner, create a safe learning environment in which Cathy could take risks, and facilitate Cathy's own reflecting. Kate also said, "I'm here to help Cathy

understand what is considered to be best practices of a teacher" (Interview One). To fulfill these responsibilities, Kate explained how she mentored Cathy through three stages: modeling, co-teaching and co-planning, and coaching.

Modeling. In the first interview, Kate explained that during Cathy's first few weeks in the classroom, she shadowed Kate by "observing and recording everything." Kate would often turn to Cathy and say, "I'm doing this because…" to explain her rationale for instructional decisions. She believed "being as articulate as possible" was important for Cathy to understand "all the interworking of making something like this work". In the final interview, Kate discussed how the mentoring experience made her a better teacher because she had to verbalize the purpose of everything. She said if she "can't say what the purpose is, that's a problem."

Cathy took notes on "everything" and asked Kate questions like why she was doing what she was doing. Throughout this stage, Kate modeled talk moves to help elicit student responses and rephrase their thinking in both large and small group settings. She also thought aloud about how she made decisions for grouping students before any small group task, such as by academic abilities, personalities, and group sizes. In a conversation with Cathy on April 27, 2016, Cathy explained how Kate's modeling of DBT supported her own implementation:

> I've mirrored her. I mean I've literally mirrored what she said. That's how everyone learns! You mirror it first and then you start to nuance it a little bit. So with this whole discussion-based teaching, I was like, okay, I've watched Kate do a million discussion lessons where she's going to set it up for the kids to talk and I go with it.

Co-Teaching and Co-Planning. After a few weeks, Kate and Cathy began co-teaching. They both taught students in small groups, and they took turns doing the whole group instruction portion of each lesson. Kate said they often discussed lesson planning, and even met several times outside of school so Kate could guide Cathy "through the lesson planning process" (Kate, Interview One). This included Kate thinking aloud about how she plans daily and weekly lessons, and helping Cathy think about her own lesson ideas.

During a co-planning conversation on April 20, 2016, Kate and Cathy planned for problem-solving lessons in math. Cathy had taught a problem-solving lesson earlier that day and realized students were at "very different places in terms of problem solving ability". Therefore, the two discussed how they could differentiate instruction by placing students in tiered groups and integrating more dialogue about math within each group. Together, they formed groups based on "concrete, just right, and abstract" thinkers. Kate encouraged Cathy to think about what the goal of problem solving would be for each group, and they discussed specific steps and scaffolding techniques Cathy would use throughout the following week. At one point, Cathy said she wanted students to be able to explain their thinking and process. Kate reminded her students would need to be taught how to do that and encouraged Cathy to consider the question, "How will I show them what I want them to do?". Cathy explained in detail how she would show them. Later, Kate remembered she had a problem-solving book she got from a professional development session. They looked through the book together and found specific resources and problem-solving questions for Cathy to use. Kate showed Cathy, through specific examples, how she could modify the school's math curriculum by using the book

as a supplementary resource. Finally, Kate recalled another book she received when she participated in a professional development at the university. She showed Cathy how the book is “full of really great problems…that make [students] go a step beyond finding the right answer.” The two discussed specific, authentic problems they would both use with the students to "give them something to talk about”.

In this example of co-planning, the conversation was about the students and instruction, and it remained focused on problem solving. It stemmed from a problem encountered in practice, and resulted in specific, short-term steps to help solve the problem. Finally, both Kate and Cathy noted that they benefited from the conversation. They both walked away with concrete ideas about instructional practices, and the conversation led Kate to recall two different useful resources she had forgotten about using.

In her first interview, Kate described the way in which Cathy and Kate plan for DBT by sharing,

> I don’t know I would say we’ve had explicit conversations about discussion-based teaching. I think more of the discussion we’ve been having is, ‘how have you been getting the children involved in the teaching?’ And it actually ends up that it happens through discussion.

In her final interview, Cathy described how she and Kate planned for DBT together. She explained Kate always emphasized the importance of asking “meaty questions” that require students to think deeper or support an opinion. Similarly, she always encouraged Cathy to help students elaborate on their ideas. When planning for a lesson together, they would also discuss “the flow of how the students are going to be talking and who they

will be talking to". For example, would the students work with partners during the whole lesson, or would they think-pair-share, then talk as a whole group? By the end of this phase, Cathy described her and Kate as a "well-oiled machine" (Field Notes, March 22, 2016). They still conversed regularly, and Cathy often asked Kate for her thoughts about each lesson. However, Cathy felt Kate trusted her to ensure lessons were designed "in a productive way…using gradual release of responsibility and discussion-based teaching" (Final Interview).

Coaching. After six weeks in her second placement, Cathy became the lead teacher. She planned for and taught every lesson. In her final interview, Kate described the transition, "The more that Cathy took over in the room, the more observant I became of her and how things were going. We would debrief and I would always say, 'How do you think that went?'". (Later, in a conversation between Cathy and Kate, they laughed about how Kate always started a debrief by asking that question.) Kate and Cathy debriefed after nearly every lesson. In her final interview, Cathy described Kate's role during lead teaching:

> Even though I was lead teaching, [Kate] knew what was going on in the room. Its not like she pulled herself out of the context, she knew what content I would be teaching so we could have conversations…I would say we worked very closely together.

Kate often took notes when she observed Cathy. When asked about what she wrote down, Kate shared, "I've kept it very much focused on what I see, then I write my 'wonders' off to the side" (Final Interview). She explained how the school participated in a "teachers' learning together model" that included a rubric for observing other teachers.

The rubric focused on a teacher's use of engagement strategies, such as sentence frames, choral response, scaffolding (for student talk), precision partnering, formative assessment (through student talk) and active listening. Kate said she had the rubric in mind when she observed Cathy, so she always looked for student engagement.

Kate acknowledged that keeping students engaged could be a challenge: "I call it 'monitor your air time', right? You don't wanna be the one that's doing all the talking during the lesson, and it's hard" (Final Interview). She described a particular social studies lesson Cathy taught in which the kids were not engaged. Kate shared what they discussed during the post-lesson debrief:

> I said 'How do you think it went?' and she said, 'Well they should have had more turn and talk time. I noticed I was losing them.' I said, 'Okay, so what are you going to do next time?' [Cathy said] 'I'm not going to talk so much, I'm going to let them talk'.

Kate then told Cathy that she had talked for 28 minutes while the students sat there. Kate said after that, Cathy planned more high-level discussion questions and small group tasks, and she implemented turn and talk more frequently. Cathy also shared this experience during the final interview and said the following about her debriefs with Kate:

> Its almost always 'how could you have gotten the kids to talk more?'…Its always 'how are you putting the learning back on them?'...If I've ever had a really big critique, it's almost always because the lesson was me really heavily talking. It was the kids weren't engaged because they weren't talking or doing anything, you were just talking at them. So it just brings to my mind, like, why isn't discussion-based teaching just called teaching?

These debrief sessions helped remind Cathy of why DBT was so important, and it made her more aware of strategically planning for it in the future.

During the post-lesson debriefs, Kate also provided Cathy with opportunities for guided reflection. For example, after a sacred writing lesson taught by Cathy on March 22, 2016, it was clear to Kate that Cathy was discouraged and had a lot of thoughts about the lesson, so Kate allowed Cathy to lead the conversation. First, Cathy described how she felt many students were talking over one another during the whole-group discussion. The conversation continued as follows:

> **Kate**: Maybe tomorrow the prompt is just the written word 'respect'. After they share thoughts, ask 'Why do you think I chose this prompt for today?' Or flip it and have them talk first if you feel like they come in and are very talkative.
>
> **Cathy**: I always go back to, 'Was this engaging? Did I create something that was genuine?' (Cathy explains how she chose the photograph and wrote the prompt to make it authentic for the students.)

Cathy then shared another problem that occurred when students said they were done writing before the time was up. Kate responded with a quote from Lucy Calkins, a writing curriculum author, who says, "When you're done, you've just begun". She suggested Kate could use the quote as a sacred writing prompt and ask them to discuss, "What does this mean for you? For sacred writing time?" Finally, Cathy shared about an occasion when two students wrote very little during sacred writing. Kate reminded Cathy the two students always write slowly, and she suggested allowing the students to talk to one another about the prompt, instead of writing, then asking them to share during the whole group discussion to "take the pressure off" them.

Throughout the conversation, Kate listened closely while Cathy reflected out loud. Kate provided feedback when necessary, but she allowed Cathy to guide the conversation because it was clear she had a lot of thoughts and feelings about the lesson. Kate's suggestions were specific to the problems Cathy faced, and they were ones Cathy could implement the very next day. Finally, Kate's suggestions were focused on student engagement and learning.

On several occasions, Cathy talked about how her opportunities for reflection had "really helped [her] discussion-based teaching" (Final Interview). In a conversation on April 27, 2016, Cathy and Kate discussed changes Cathy made to a lesson she taught a few days earlier. Near the end of the conversation Cathy reflected on the roles Kate and her field instructor, Megan, played in developing her practice:

> **Cathy**: One of the biggest things I'm going to miss about the internship year is not having a mentor.
>
> **Kate**: An instructional coach type thing?
>
> **Cathy**: Yes…the reason I have felt so successful in these last few months of the internship is because I've had a network- starting with you- of people to watch me and talk with me, and help me reflect and ask me important questions. I think I've had such a unique experience because you're so reflective…I've gotten such valuable feedback here, things that have pushed me to be able to talk about teaching and practices that I value.
>
> **Cathy**: (In reference to the lesson they discussed at the beginning of the conversation.) If I hadn't had the space to reflect on that with you, and later talk about it that day with Megan, I don't know if I would have changed anything.

Concluding Thoughts

Cathy began her second internship placement discouraged about her abilities to implement discussion-based teaching, but she knew it was still a practice she valued and wanted to learn. With the support from her mentor, Kate, she was able to improve her knowledge of DBT strategies, and her enactment of the practice. Kate provided Cathy with modeling, targeted feedback and collaboration, and regular opportunities for guided reflection. As a result, Cathy consistently enacted many features of high-quality DBT. Table 5.1 summarizes the factors that were most influential to Cathy's enactment of DBT during her second internship placement. Kate's factors are also included on this table, because as her mentor teacher, they indirectly influenced Cathy's enactment. These factors are discussed in more detail in the following chapter. The first category, Knowledge of Strategies, represents the DBT strategies Cathy and Kate talked about and implemented. Some strategies were observed only one or two times, while others were observed regularly. The second category, Perceived Challenges, represents the challenges Cathy and Kate discussed. Although the challenges did not seem to hinder their enactment of the practice overall, they did keep the two from implementing specific strategies, such as student-led whole group discussions. The final category, Perceived Support for Implementation, represents the resources and learning opportunities that Cathy and Kate believed supported their enactment of DBT.

Table 3

Factors influencing Cathy's enactment of DBT: Context two

	Knowledge of Strategies (O=Observed at least one time; OR = Observed Regularly)	**Perceived Challenges**	**Perceived Support for Implementation**
Cathy (Intern)	• Partner talk (OR) • Whole group discussions (OR) • Small group, high-level tasks (OR) • Asking of high-level questions by the teacher (OR) • Asking of high-level questions by the students (O) • Teacher talk moves (OR) • Student talk moves in small groups (O) • Student talk moves in whole group • Norms and procedures for student talk (OR)	• Teaching students to use talk moves in whole group discussions • Assessing all students' understanding	• Autonomy to try new strategies • Established norms and procedures for student talk • Modeling from mentor • Collaboration with mentor • Guided reflection opportunities with mentor and field instructor • Problem-solving with mentor • Targeted debriefs with mentor and field instructor • Curriculum resources (i.e. Teacher's Curriculum Institute)

Table 3 (cont'd)

Kate (Mentor)	• Partner talk (OR) • Whole group discussions (OR) • Small group, high-level tasks (OR) • Asking of high-level questions by the teacher (OR) • Asking of high-level questions by the students (O) • Teacher talk moves (OR) • Student talk moves in small groups (O) • Student talk moves in whole group Norms and procedures for student talk (OR)	Lack of time	• Participation in professional learning communities during internship • University-based professional development opportunities Kevin Feldman/school-wide professional development

CHAPTER SIX

Bringing It All Together

This study sought to answer the following questions:

1) In what ways do the mentor and intern work together to promote the intern's vision of discussion-based teaching (DBT)?

2) In what ways do opportunities for practice influence an intern's enactment of DBT?

3) How do contextual and biographical factors influence an intern's implementation and learning about DBT?

In this chapter, an explanation of how the mentor teachers and the opportunities for practice within Cathy's teaching contexts played a role in Cathy's enactment of DBT will be provided. Next, all contextual and biographical factors that influenced Cathy's learning about and implementation of DBT will be described. The chapter will conclude with an explanation of how this study contributes to current research and it's implications for teacher education programs.

In what ways do the mentor and intern work together to promote the intern's vision of DBT?

The ways in which Sarah and Kate worked with Cathy to support her vision of DBT were very different. Sarah took on a traditional mentoring role with little focus on Cathy's vision of DBT. In contrast, Kate took on a more educative mentoring role as she provided daily scaffolding to promote Kate's vision of DBT. Unlike traditional mentoring in which mentors provide surface-level feedback and ask close-ended questions, educative mentoring mandates a collective responsibility for the mentor and mentee to

improve their instructional practices and students' learning through collaboration and reflection (Feiman-Nemser, 2001).

Table 4 shows the mentoring moves practiced by each mentor. Based on my review of the literature, the asterisk signifies moves representative of educative mentoring, the highest level of mentoring that is considered most beneficial to the interns' learning and enactment of instructional practices (Bell, Stanulis & Maculoso, 2015; Drago-Severson, 2007; Feimen-Nemser, 2001; Kardos, et al., 2001; Little, 2006; Payne, et al., 2003; Wood, 2007).

Table 4

Sarah and Kate's mentoring moves

Sarah	**Kate**
Provided a level of autonomy for Cathy to try new instructional strategies	Provided a level of autonomy for Cathy to try new instructional strategies
Transferred knowledge and ideas	Provided opportunities for collaborative learning and co-planning*
Facilitated surface-level conversations	Facilitated conversations about "problems of practice"*
	Focused conversations on student learning and specific teaching strategies*
	Provided opportunities for guided reflection*
	Conducted frequent observations followed by focused feedback*
	Provided modeling of high-quality DBT*
	Viewed mentoring as beneficial to her own learning*

Both Sarah and Kate provided some level of autonomy for Cathy. Cathy was able to try new strategies and modify instructional plans. For example, during her first placement, Cathy felt the writing curriculum Sarah had originally suggested was too teacher-centered and did not allow for student talk. Sarah then suggested Cathy use the Lucy Calkins writing curriculum, a more student-centered curriculum. Cathy used the

curriculum as a guide for her writing unit by pulling out ideas that aligned with her vision of the unit, such as implementing writing partners and providing students with opportunities to share and discuss their writing. During her second placement, Cathy modified the curriculum in all content areas on a daily basis to align with her vision of teaching. For example, in sacred writing, when students wrote on-demand to a high level prompt, she chose prompts that connected to the students' backgrounds and experiences to promote a deeper post-writing discussion. Likewise, in social studies, she followed the learning objectives provided in the curriculum, but planned her own high-level questions that she knew would connect to the students' prior experiences and interests to initiate more student talk.

Although Cathy was granted autonomy in both placements, she did not consistently plan for and enact her vision of DBT until during her second placement with Kate. This is a result of the scaffolding Kate provided for Cathy, which promoted Cathy's vision of DBT. For example, Kate and Cathy often *co-planned* together, which allowed Cathy to hear Kate's thought-process and ask questions. These conversations were always *collaborative* in nature, as both Kate and Cathy offered their ideas about next steps and talked through their rationales for every decision made, including how to place students in small groups. Kate frequently facilitated conversations about "*problems of practice*". For example, she helped Cathy plan for differentiated math groups when Cathy realized all the students were at different levels during a previous math lesson. She also helped Cathy plan for high-level questions and small group tasks after Cathy taught a whole-group, lecture-based lesson in which the students were disengaged. Instead of explicitly focusing on student management, Kate helped Cathy understand that student

misbehavior can be corrected when students are actively participating and engaged in their learning through DBT. Their conversations were also focused on *student learning and specific teaching practices*. After nearly every lesson, Cathy reflected with Kate about the extent to which specific students met the learning objective, based on their contributions during the discussions and small-group activities. They also discussed levels of participation and ideas for how to group students the following day to support their learning. The conversations focused on one or two specific teaching practices at a time, such as differentiating instruction and planning for high-level questions.

Kate also provided opportunities for *guided reflection* multiple times throughout the day. Most often, Cathy led the conversations and Kate took on the role of a listener. This ensured Cathy was able to reflect on what was important to her, which was typically connected to the implementation of a DBT strategy. Kate provided feedback when necessary, but typically led Cathy to form her own conclusions and ideas by asking Cathy questions such as, "And why do you think that happened?" and "What are you going to do next time?" Furthermore, Kate conducted *frequent observations* in which she often used a rubric that focused on teachers' use of engagement strategies, many of which are also DBT strategies. In this way, Kate was able to provide Cathy with *focused feedback* on Cathy's implementation of DBT. Kate also *modeled* features of high-quality DBT for Cathy, especially during Cathy's first few weeks in the placement. When Cathy began teaching, she immediately started "mirroring" Kate's DBT moves. Finally, Kate viewed her mentoring experiences as *beneficial to her own learning*. When she collaborated with Cathy, she knew it would support her own instructional practices as well; and perhaps this is another reason she made collaborative conversations a priority.

In contrast, during co-planning and debrief conversations, Sarah often transferred her knowledge and ideas to Cathy by spending the majority of the time making suggestions about teaching that she thought would work well. The conversations never reached beyond surface-level topics, such as classroom management, to focusing on student learning and teaching practices. They also covered several topics within a short amount of time, rather than focusing on one or two specific teaching strategies or problems of practice. In terms of supporting Cathy's vision of DBT, some conversations focused on setting students up for working in partners but the suggestions did not respond to Cathy's needs. During one conversation, Sarah never specifically answered Cathy's question about how to establish norms for working with partners. In another conversation, Sarah provided some suggestions when it seemed Cathy no longer needed them.

In what ways do opportunities for practice influence an intern's enactment of DBT?

Teachers need many guided opportunities to learn about and implement core practices across the curricula (Ghousseini, 2015; Grossman, et al., 2009). These opportunities for practice were most noticeable during Cathy's second placement, which resulted in her implementing high-quality features of DBT on a regular basis, and across the curricula. During her second placement, Kate modeled DBT strategies for Cathy, scaffolded Cathy's planning of DBT lessons, and provided Cathy with constructive feedback and opportunities to reflect on her enactment of DBT. In contrast, Cathy had few opportunities for practice during her first placement, and as a result, she rarely enacted DBT.

In a conversation on April 13, 2016, Cathy reflected on her development in learning to enact discussion-based teaching. When she began the internship year, she was excited to try DBT. She thought it was a practice she would no doubt implement right away because she had knowledge of several strategies. However, she admitted,

> I can say that at my old placement I never planned for it [DBT], because there was not support for it. My mentor hadn't modeled it so I was nervous trying to implement it. I think that just like when we try to teach students, we model it for them. We explicitly model it. I don't know why it's any different for adults. When you're teaching teacher candidates how to teach, they need to watch people.

In the final interview (April 27, 2016), Cathy discussed how her observations of Kate and opportunities for practice influenced her own teaching. She shared,

> And did I totally and completely mirror her [Kate]? Has my teaching style very much become like her? Yea, it has. But I love her teaching style. And it works with who I am as a person and it makes me excited to teach. She has them talking all throughout the day…so everyday I would plan for discussion-based teaching.

Table 5 shows evidence of how the opportunities for practice in each placement influenced Cathy's teaching. During her first placement, Cathy was only observed implementing partner talk. During her second placement, Cathy was observed implementing several DBT strategies, many of which are features of high-quality DBT. The single asterisk represents a strategy that Cathy's mentor teacher modeled for Cathy. The double asterisk represents the strategies Cathy implemented that are considered high-quality features of DBT.

Table 5

Cathy's enactment of DBT strategies

First Placement (O=Observed at least one time; OR = Observed Regularly)	Second Placement (O=Observed at least one time; OR = Observed Regularly)
• Partner talk (O)	• Partner talk (OR)* • Whole group discussions (OR)* • Small group, high-level tasks (OR)* ** • Asking of high-level questions by the teacher (OR)* ** • Asking of high-level questions by the students (O)* ** • Teacher talk moves (OR)* ** • Student talk moves in small groups (O)* ** • Norms and procedures for student talk (OR)* **

Sarah, Cathy's first mentor teacher, most often implemented a traditional recitation approach in which she asked a student a literal question, evaluated their answer, and moved on. Students also participated in quiet seatwork throughout much of the day. This influenced Cathy's ability to enact DBT because mentors need to provide opportunities for modeling high-leverage practices. Features of high-quality DBT were observed during center time, but it seemed to occur naturally. Therefore, Cathy was not able to see the planning involved in implementing the features, such as setting up norms and procedures. Although there is no evidence Sarah implemented partner talk, Cathy was observed implementing it a couple of times. Partner talk is a relatively simple DBT strategy and one that is often taught in methods courses, therefore it is not surprising Cathy felt confident enough to try it.

Kate, Cathy's second mentor teacher, enacted DBT strategies on a daily basis. Throughout the modeling and co-teaching/co-planning phases of Kate's mentoring, Cathy was able to observe Kate enact the strategies across the curricula. Cathy took notes on what she saw and what Kate said, and she asked Kate questions to clarify how she planned for the strategies. As a result, Cathy admitted she "completely mirrored" Kate. Also during the co-teaching/co-planning mentoring stage, Kate and Cathy planned DBT lessons together. During these conversations, Kate emphasized the importance of asking high-level questions and she always encouraged Cathy to consider how she would help students elaborate on their ideas. They also discussed the specific participation structures they planned to use, such as partner talk, small group, or whole group discussions. During the coaching phase of Kate's mentoring, she and Cathy collaborated on a daily basis, and often several times throughout the day. During these conversations, Kate provided Cathy with opportunities for guided reflection. She listened closely to Cathy, asked questions, and offered her suggestions only as needed. She also observed Cathy with a lens on the ways in which Cathy implemented DBT strategies. This allowed Cathy to receive focused feedback on her implementation of DBT.

Opportunities for practice in university courses. Much research has been conducted to determine the ways in which opportunities for practice within university methods courses can support undergraduate and graduate students learn to enact core practices, such as DBT. For example, pre-service teachers learn about an instructional activity that helps to develop DBT (i.e. through instructor modeling or videos), plan for and rehearse the activity with their peers, enact the activity in a real classroom or with their peers, and analyze their teaching to plan for next steps (Grossman, et al., 2009;

McDonald, et al., 2013). This is an important point to acknowledge, because Cathy did receive a few of these opportunities in her science and literacy methods courses senior year. However, they fell short of providing her with the skills and knowledge she needed to feel confident enacting the practice during her first placement. Had she not experienced a second placement, it is likely Cathy never would have learned how to enact high-quality DBT during her internship year. In the final interview, Cathy shared they "talked about discussion-based teaching" a lot at the university, but,

> You can't do it until you practice it. You really can't. Until you practice a lot. I only now feel like I can do a discussion-based teaching lesson. But that's been two months- three weeks of me watching Kate do it and then more weeks of me doing it- and in multiple subject areas, small group and whole group, even one on one with students like trying to get them to talk.

Cathy also said she watched videos of DBT during her teacher preparation courses, but it seemed this was not enough to give Cathy the tools she needed to implement the practice. Cathy needed someone to "explicitly model it" in person, and multiple times. Cathy later acknowledged a pre-service teacher could potentially learn how to implement a high-leverage practice like DBT even if she does not have the opportunity to observe it. However, she believed,

> You have to have someone who is at least willing to learn. Maybe they'll learn right along side you. Maybe you two will read an article together and think of an activity. You watch some videos online, right? Those are some things I think of with my old mentor [Sarah]. Like had she been willing to do that, I think we could have thought of some really cool things. (Final Interview)

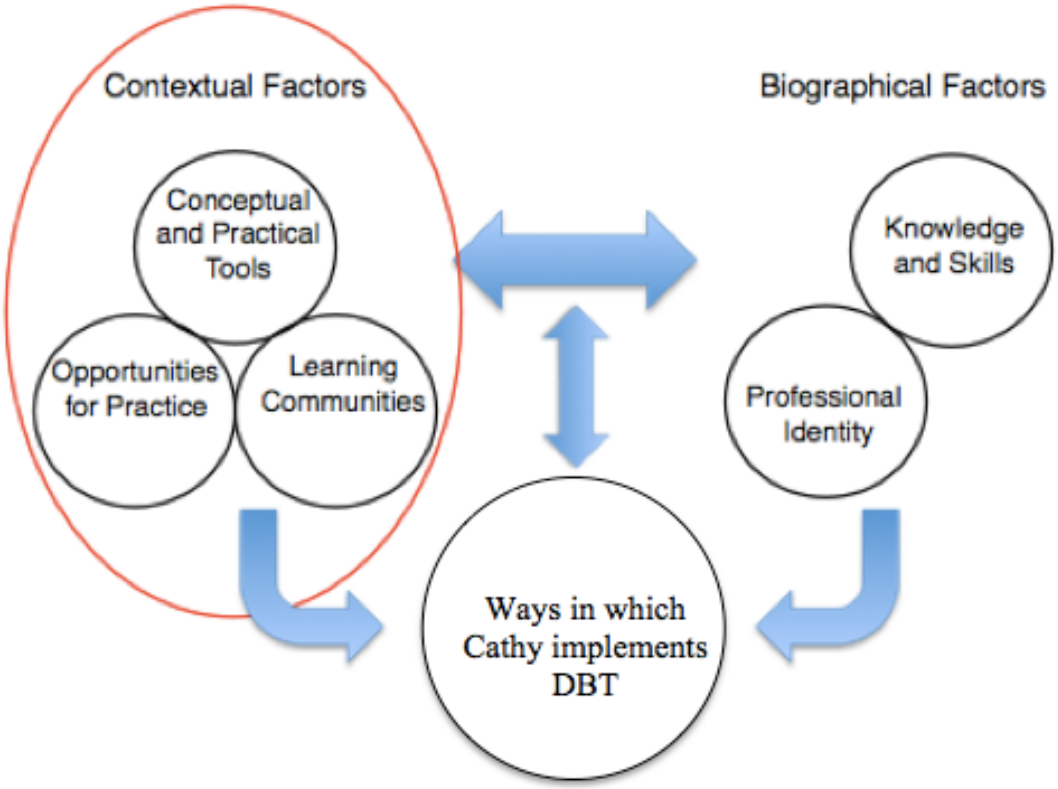
Cathy's opportunities for practice and experiences working with her mentor teachers played important roles in the ways in which she learned about and enacted DBT. However, there were additional factors that influenced her implementation of DBT.

How do contextual and biographical factors influence an intern's implementation and learning about DBT?

The theoretical framework for this study (Figure 3) showed the interrelated factors I assumed would influence Cathy's learning about and implementation of DBT prior to conducting the study. These factors were found in research about how novice teachers learn to enact core practices.

Figure 3

Theoretical Framework



In addition to the biographical and contextual factors I used to guide my study, an additional unanticipated factor emerged, "perceived challenges". In this section, I will discuss the ways in which each factor influenced Cathy's learning about and implementation of DBT. I will also describe how each factor influenced the mentors' understanding of the practice, and ultimately the support they were able to provide Cathy. This section will conclude with a new model showing the interrelated factors that influenced Cathy's implementation and learning about DBT.

Conceptual and practical tools. Conceptual tools are theories and principles about teaching and learning which teachers use to make instructional decisions. In her final interview, Cathy explained, "Discussion-based teaching doesn't happen in a day, you have to spend weeks teaching and practicing norms and procedures". She believed the students in her second placement were successful in participating in DBT because her mentor, Kate, spent so much time at the beginning of the year teaching the norms and procedures, and the students were expected to follow them on a daily basis. Cathy's first mentor teacher, Sarah, never explicitly taught students how to talk for the purpose of learning. Instead, Cathy said students in her first placement "got the message 'don't talk' everyday". Therefore, in the two placements, there were very different principles about teaching and learning that were implicitly taught to Cathy. As a result, Cathy rarely enacted DBT in the first placement and frequently enacted it during her second placement.

Cathy gained knowledge of social learning theories during her teacher preparation courses, which influenced her vision of DBT. She read about DBT, watched videos of it

in action, discussed the importance of the practice, and planned some DBT lessons. These experiences served as conceptual tools that she used when forming her teaching vision.

Similarly, Cathy's second mentor, Kate, learned principles of DBT during her own internship year through professional learning communities. She continued to receive DBT professional development during her first year, and later through the university. In her present role at the Montessori school, she received frequent DBT professional development opportunities through the Kevin Feldman program. In contrast, Sarah's only DBT professional development opportunity she discussed was the problem-based learning (PBL) training. Therefore, Kate had more conceptual tools that influenced her decision to make student talk a priority, and she ultimately passed these tools on to Cathy.

Practical tools are specific strategies that teachers can enact in classrooms. The observation rubric Kate used while observing Cathy was both a conceptual and practical tool that influenced Cathy's enactment of DBT. As a conceptual tool, it put an emphasis on principles of DBT, further making DBT a priority in both Kate and Cathy's instruction. As a practical tool, it provided specific DBT strategies on which Sarah could focus while she observed and debriefed with Cathy.

The specific DBT strategies Cathy learned to implement during her university courses and during her second placement were also practical tools. These included norms and procedures for talk, partner talk, teacher and student talk moves, small group tasks, and high-level questioning. The framework for many lessons Cathy taught during her second placement came from the Teacher's Curriculum Institute. This curriculum was also an influential practical tool because it supported her enactment of DBT by providing

ideas for high-level tasks and questions. In contrast, the district-mandated literacy curriculum Cathy used during the second placement influenced her enactment of DBT in a seemingly negative way, as it did not align with her vision of DBT; the texts did not promote critical thinking or multiple perspectives. As a result, Cathy asked low-level questions and followed the traditional recitation instructional approach during small group reading instruction.

Opportunities for practice. Cathy's opportunities for practice during her second placement influenced her understanding and enactment of DBT. Her mentor teacher, Kate, provided Cathy with modeling, co-planning, guided reflection, and focused feedback. Cathy "mirrored" Kate's enactment of DBT at the beginning of her placement, and later felt confident enough to plan for and implement the practice on her own. By the end of the semester, she was enacting features of high-level DBT regularly and across the curricula. In contrast, because Cathy did not receive opportunities for practice during her first placement, she struggled to learn about DBT and she rarely enacted the practice until her second placement. Cathy participated in approximations of practice in the university courses, in which she learned about DBT routines, planned for a couple DBT lessons, and taught the lessons in real classrooms. These approximations of practice seemed to influence her vision of DBT, but they did not play a significant role in her enactment of the practice.

Learning in communities. The most influential member of Cathy's learning community was Kate. Kate and Cathy had structured conversations together in which they reflected on student learning and their teaching. They collaborated regularly to analyze data, solve problems, explore new resources and plan for next instructional steps.

They both perceived these experiences, which were most often related to DBT, as necessary to improve their instructional practices. Cathy's university supervisor also played a role in Cathy's learning community. The supervisor provided Cathy with guided reflection opportunities and provided feedback to support Cathy's vision of DBT. For example, in one observed debrief between Cathy and the supervisor, the supervisor facilitated a discussion about how Cathy's high-level questions influenced student learning and participation. She encouraged Cathy to continue planning for questions that promote critical thinking and multiple perspectives.

Cathy also viewed her fellow intern colleagues as members of her learning community. When the interns met during courses, they were often given time to discuss their experiences and reflections. However, in a conversation on April 20, 2017, Cathy shared her disappointment in these opportunities because she believed the instructors could have promoted deeper reflections. She believed the conversations typically remained "surface-level", promoted little participation, and resulted in more complaining from her peers than problem solving. There was, however, one experience that stood out to Cathy because it allowed her to share her vision of DBT with her colleagues. At the end of the semester, pre-service teachers had the opportunity to observe colleagues from other schools. Several colleagues chose to observe Cathy teach a discussion-based lesson. That evening, a colleague from a first-grade internship placement called Cathy to share how much she enjoyed watching her teach and how impressed she was at the "deep questions" Cathy asked her students. The colleague admitted to only asking her students surface level questions and rarely giving them opportunities to talk, so Cathy explained how she had planned for the lesson. She said to her colleague, "You still have three days,

try something!" (Conversation, April 27, 2016). The experience afforded Cathy the opportunity to reflect on her teaching and share her expertise about DBT.

Professional identity. Identity refers to the beliefs, values, and attitudes that constantly evolve as one becomes a teacher. A teacher's professional identity is dependent upon their background and past experiences in education, as well as their visions and habits about teaching and students. Indeed, Cathy's professional identity changed throughout the year and it influenced her implementation of DBT. She began the internship year with a vision of teaching that promoted DBT. However, she lost sight of her vision during her first placement. She found herself with different ideas about her role as a teacher and the students' roles. These ideas aligned with the traditional ideas of education, in which the teacher transfers knowledge and the students sit quietly unless they are called upon. Kate's vision of teaching, and the opportunities she gave Cathy to observe and practice DBT, helped shift Cathy's vision of teaching during her second placement to one that again promoted DBT.

Kate and Cathy shared a common vision of teaching. They both believed in the importance of discussion-based teaching to support student engagement and learning. They believed students had the ability to 'talk to learn' as long as they had the proper scaffolding and opportunities. Cathy and Sarah, her first mentor teacher, did not seem to share the same vision of teaching. During her first placement, Cathy felt her and Sarah's roles were to "fill time" and "keep the students occupied". She shared everything seemed to be "busy work", while in her second placement "everything had a purpose." She claimed, "I talk so much less here than I did in my first placement, and I love it!" (Conversation, April 13, 2016).

During a conversation on March 10, 2016, Cathy expressed how much her two different mentors had influenced her vision of teaching. She said after several weeks into her second placement, she was forming a "totally different belief system" about classroom management and what students can do, and "should be aloud to do". As an example, she discussed a social studies lesson she had taught the previous week in which students were working in groups. When the students' voices got a little louder she at first "felt her heart race and wanted to tell them to quiet down", but then she realized it was okay for the students to talk a little louder to one another if they were on task and as long as they were not "yelling". She said talking was considered a privilege ("it was always the students 'get' to talk") in her first placement, while in her second placement talking was considered a right. She explained,

> In this environment there's so much room for kids to share what they know and its valued. That's a big difference. Like I have the space here to value what they're saying, and l understand the value of getting kids talking.

When asked on multiple occasions about whether she thought the type of schools played a role in her change of beliefs (the first school was in an urban setting, the second was in a suburban setting), Cathy was adamant that it did not. In a conversation on February 22, 2016, Cathy responded, "It doesn't matter if its suburban or urban- all students need support, it just might be different support. All students can absolutely learn with the proper support. If they don't learn, it's my fault- I didn't give them enough scaffolding".

The participants' past experiences also helped shape their professional identities. Cathy began her undergraduate career with ideas about teaching that contrasted with

DBT. Because she had only been taught the "traditional" approach, it is all she knew at the time. Yet, throughout her undergraduate years, her perceptions about teaching "changed drastically" (Interview One, November 23, 2015) because her instructors encouraged the co-construction of learning through discussions. The university methods courses also promoted DBT through readings, video-viewings, discussions, and assignments. These experiences helped shape the vision Cathy had of DBT when she entered her internship year.

The mentor teachers' prior experiences also influenced their own professional identities. Cathy's first mentor, Sarah, experienced traditional approaches to learning when she was a student, and she received few professional development opportunities to learn about DBT throughout her career. As a result, she implemented teacher-centered approaches. Kate, on the other hand, participated in professional learning communities focused on DBT during her internship year, and she received several university-based and school-wide DBT professional development opportunities as a classroom teacher. As a result of these experiences, Kate understood the value of DBT, and they also provided her with the knowledge and skills necessary for her to enact the practice.

Knowledge and skills. Sarah had limited knowledge about DBT, which made it difficult for her to give Cathy the support she needed to work towards her vision of the practice. When responding to questions about DBT during her interview, she responded with statements like, "I don't really know" and "Am I correct or not?" She was not able to share how she planned for DBT, even when pressed to do so during the interview, and her skills for implementing DBT were only observed during center time. Sarah did express knowledge of some DBT strategies, such as high-level questioning and partner

talk, but she did not seem to understand how to successfully enact them. It also seemed her knowledge of the teacher's role and of the learners informed her decisions. For example, she took on a more authoritative role in which she expected the students to sit quietly and work independently during most parts of the day.

Kate showed she had knowledge of several high-quality DBT strategies, which she gained through opportunities for practice. For example, during her own internship year, she worked with colleagues in professional learning communities to plan for DBT, share their expertise about the practice, and reflect on their implementation of it. As a practicing teacher, Kate participated in professional development experiences that focused on DBT. These opportunities allowed Kate to conduct inquiries about implementing DBT, and collaborate and reflect about enacting the practice in learning communities within and across local schools. As a result, she gained knowledge of how to enact features of high-quality DBT across the curricula. In return, she was able provide Cathy with opportunities for practice that allowed Cathy to gain the necessary knowledge for enacting several high-quality features of DBT. Cathy watched Kate model DBT, practiced DBT herself, after which she received focused feedback from Kate; and she analyzed and reflected on her implementation of DBT with Kate's guidance. Kate began her internship year with knowledge of DBT strategies and theories of learning, but these opportunities for practice during the second placement gave Kate the knowledge of how to enact DBT in a real classroom setting, across the curricula, and on a daily basis.

Perceived Challenges. Although "perceived challenges" had not been initially considered as an influential factor, it was found that all three participants perceived several barriers that seemed to inhibit their abilities to fully and successfully enact their

visions of DBT. I say these are "perceived" because, for example, Sarah believed the students' abilities posed a challenge, but Cathy did not see this as a barrier. Even so, any challenge is real in the person's mind and can potentially influence one's practice, so they cannot be ignored. They need to be realized in order to respond to them.

Both Kate and Sarah perceived "lack of time" to be the greatest challenge. They both discussed how they would like to implement DBT more, but they did not have enough time to plan for it. Time seemed to be more of a barrier for Sarah, because DBT was not a "natural" part of her practice like it was for Kate; Kate had the skills and knowledge to implement some DBT strategies (e.g. partner talk, high-level questioning, and teacher talk moves) without spending time planning for them. Sarah also believed her lack of professional development opportunities was a barrier to her learning about and implementing DBT, as the PBL training seemed to be the only structured opportunity she had for learning about the practice.

Cathy began the internship year feeling like many barriers were keeping her from enacting DBT. She was concerned about losing control of the students and losing sight of the learning objectives. She lacked prior experience implementing DBT, and she was not receiving any modeling from her mentor. Finally, her classroom lacked norms and procedures for student talk, and she was unsure how to establish them. By the end of her second placement, she had overcome most of these challenges, although she still believed teaching students to use talk moves and assessing all students' understanding during discussions were challenges to enacting DBT. However, the challenges did not inhibit her from enacting several other features of high-quality DBT across the curricula. Kate's mentoring and the opportunities for practice she gave Cathy seemed to be the most

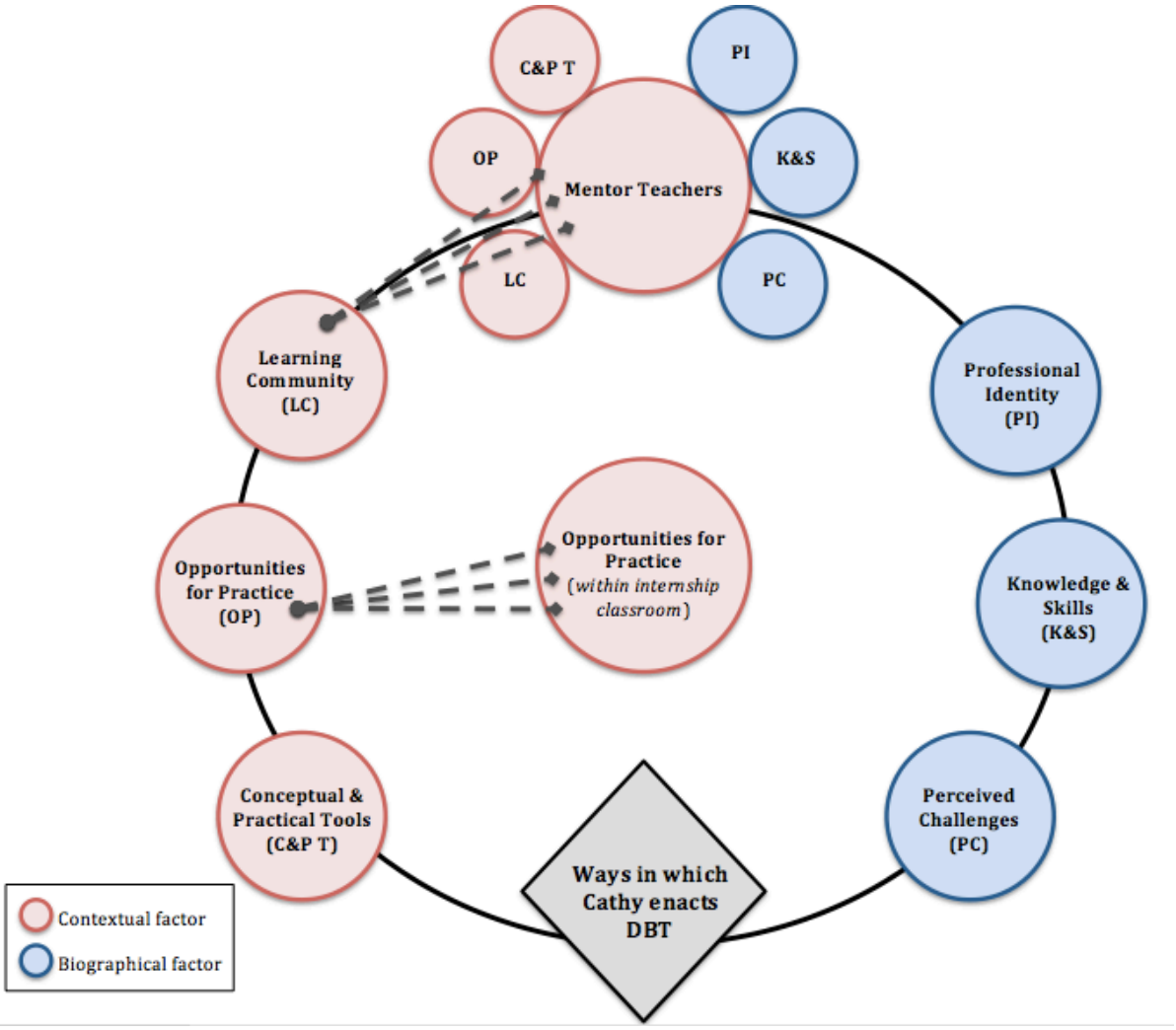
influential factors that helped Cathy move beyond the challenges from her first placement to implementing DBT in her second placement.

A New Model: Circle of Influential Factors

Findings from this study confirm and extend theories of how teachers learn about enacting core practices. Several contextual and biographical factors influenced Cathy's learning about and implementation of DBT, although contextual factors seemed to play the most important role, as represented in Figure 4. The factors lie on one line, or "circle of influence", to show how they were interrelated; all factors influenced Cathy's enactment of DBT, but also influenced each other.

Figure 4

Circle of Influential Factors



Cathy's mentor teachers, Sarah and Kate, were the most influential people within Cathy's learning community. They lie on the circle as a factor *within* her learning community, but also as its own contextual factor. This decision was based on the characteristics that define learning communities as members who participate in collaborative learning, guided reflection and problem solving together. During Cathy's first placement, there was no evidence that her mentor teacher, Sarah, held these

characteristics. Therefore, she was not part of Cathy's learning community. Nonetheless, she was an influential factor in the ways in which Cathy learned about and implemented DBT, so in that sense she is a contextual factor on the circle. Cathy's second mentor teacher, Kate, played an influential role within Cathy's learning community as she supported Cathy's vision of DBT through guided reflection, problem solving, and collaboration. The model shows contextual and biographical factors connected to the mentor to represent the factors that influenced their own learning about and implementation of DBT, which ultimately influenced the ways in which they supported Cathy's vision of the practice. It was found that the same factors that influenced Cathy's enactment of DBT also influenced Sarah and Kate's enactment. Kate's own opportunities for practice and her participation in professional learning communities that focused on DBT influenced her professional identity and provided her with knowledge and skills to support Cathy's vision of DBT. Sarah's lack of opportunities for practice and participation in learning communities, as well as her perceived challenges, seemed to influence her professional identity in a way that made her enact teacher-centered practices. This, in addition to her limited knowledge and skills, influenced Cathy's learning and made it challenging for Cathy to enact DBT during her first placement.

Also important to Cathy's learning about and enactment of DBT were her opportunities for practice. The most influential opportunities for practice were those provided for Cathy within her internship classroom, and specifically those within Kate's classroom. The opportunities for practice Kate provided Cathy allowed Cathy to successfully work towards her vision of DBT. Without them, it is unlikely Cathy would

have learned how to enact so many high-quality features of DBT during her internship year. Therefore, this factor is at the center of the "circle of influence".

Discussion

McDonald, et al. (2013) are calling for the preparation of teachers to enact core practices. This requires a shift from focusing on what teachers need to know about core practices to focusing on how teachers enact that knowledge in real classroom settings. This study contributes to the research, as it is an example of how one intern learned to enact her knowledge of discussion-based teaching during her internship experience. Cathy's second mentor, Kate, played the most important role in helping Cathy enact her vision of DBT. Feiman-Nemser (2001) conceptually describes the characteristics of an educative mentor, which she asserts will provide the most support to novice teachers. This study extends Feiman-Nemser's work by showing what one educative mentor did to support an intern's enactment of discussion-based teaching. Evidence suggests the context in which student teachers are placed matters for two reasons: autonomy and exposure are not enough to build complex learning and mentors need to be prepared as educative.

Autonomy and exposure are not enough to build complex learning. The fact that Sarah granted Cathy autonomy to try what she wanted seemed to be a benefit at the start of the study. Indeed, this is a reason the two were chosen as participants. Yet, evidence from this study shows autonomy is not enough to help novice teachers build on their knowledge of discussion-based teaching and enact it in the classroom. Beginning teachers need to be part of a learning community in which they can co-construct learning of the practice. Furthermore, it is unlikely exposure to DBT, such as in university

methods courses, will provide interns with the tools necessary to successfully enact high-quality DBT across the curricula. Beginning teachers also need frequent opportunities for practice in the real classroom in which they receive focused feedback and modeling. Evidence from this study shows that under these conditions, beginning teachers can learn how to enact core practices such as DBT.

Learning in Communities. Findings from this study confirm Wenger's (1998) extensive research on communities of practice that shows learning is a social practice; specifically, teachers learn collectively through shared expertise and working towards common goals. Novice teachers need be part of a learning community with at least one person and evidence from this study suggests the mentor can be the most influential participant in an intern's learning community. Specifically, the mentor can play a vital role in an intern's enactment of DBT when they share a common vision of the practice. Once a shared vision is established, the mentor needs to engage the intern in focused, structured conversations in which she guides analysis of the intern's (and the mentor's) implementation of DBT strategies, and helps determine productive next steps. Evidence from this study shows conversations such as these are not only beneficial when they are planned out and scheduled, but also when they happen on a whim; quick two-to-five minute collaborative conversations in between teaching moments can support a novice teacher's enactment of DBT.

Opportunities for practice. Grossman, et al. (2009) call for approximations of practice in which pre-service teachers learn about a specific teaching strategy, plan for enacting it, and rehearse it with their peers. This all takes place in the university setting as a way to provide scaffolding to pre-service teachers in a low-stakes environment.

McDonald, et al. (2013) suggest a similar cycle that emphasizes the need for pre-service teachers to enact the instructional strategy in a real classroom, then reflect on their teaching with their peers. Evidence from the study confirms both examples of approximations of practice can be beneficial to novice teachers' learning about core practices. They can provide PSTs with conceptual and practical tools that are necessary for implementing core practices, and they can help establish a vision of enacting the core practice. Nonetheless, findings from this study suggest approximations of practice alone do not provide pre-service teachers with the knowledge and skills necessary to consistently enact core practices such as DBT in a real classroom. Evidence suggests novice teachers can only learn to enact core practices when they have ample guided opportunities in authentic classroom settings to see and implement the practice across the curricula, receive constructive feedback, and reflect upon their enactment. Yet, this study shows it cannot be assumed all pre-service teachers receive these types of opportunities by simply being placed in a real classroom with a mentor teacher. They need to be placed with educative mentors.

Mentors need to be prepared as educative. Over the past two decades, research has shown the need for a shift in mentoring practices. Instead of the traditional mentoring approach, mentors need to view their roles as teacher educators (Clark, Triggs and Nelson, 2014). Bell, Stanulis and Maculoso (2015) argue this level of mentoring, or educative mentoring (Feiman-Nemser, 2001), is essential to support new teachers' learning of core practices. Findings from this study support this research. New teachers need to be placed with mentors who provide modeling, targeted feedback and collaboration, and regular opportunities for guided reflection around the core practice.

The evidence suggests when new teachers receive a traditional style of mentoring, it can be challenging to enact their knowledge of core practices. This is true even when the new teacher wants to enact the core practice and has a foundation of conceptual and practical tools.

Limits of traditional mentoring. Clark et al. (2014) describe several components of traditional mentoring similar to what Cathy encountered during her first placement. For example, her feedback was most often positive and surface-level, debrief topics rarely went beyond classroom management, and although Sarah gave Cathy autonomy to try new things, she seemed to encourage her to teach in ways that were already familiar to her. Clark, et al. (2014) assert these components of traditional mentoring do not typically lead to construction of new knowledge. Instead, it typically confirms what the novices already know. Indeed, findings from this study suggest this type of mentoring is insufficient to support a novice teachers' enactment of complex practices like DBT. Moreover, Stanulis and Brondyk (2013) determined mentor teachers struggled to help their mentees enact discussion-based teaching until they began implementing it themselves in their own classrooms and realized the benefits of it on student learning. Yet, even if the mentor teacher is familiar with core practices like DBT and implements them in her own practice, it might not be enough for the mentor to simply transfer that knowledge to the intern. To improve the knowledge of both professionals, evidence from this study suggests collaborative and reflective conversations around student learning and the core practice also need to take place.

Creating conditions for educative mentoring. This study contributes to research by shedding light on how educative mentoring can help new teachers learn about core

practices, such as DBT. In accordance with researchers' view of educative mentoring (Feiman-Nemser, 2001; Bell, Stanulis, & Maculoso, 2015), findings from this study suggest when the following conditions are present they can support novice teachers' learning of core practices: (1) opportunities for collaborative learning and co-planning, (2) facilitated conversations around problems of practice, (3) focused conversations on student learning and specific teaching strategies, (4) opportunities for guided reflection, (5) frequent observations followed by focused feedback, (6) modeling of the core practice, and (7) a view that mentoring is beneficial to the mentor's learning. Although this study provides only one example of an educative mentor, findings seem to demonstrate another important feature necessary for educative mentoring to support novice teachers' learning of core practices: the mentor needs to have a vision of the core practice; she needs to view it as beneficial to student learning and it needs to be a part of her own teaching. For example, perceived challenges seemed to influence how all three of the study's participants enacted DBT. While Kate and Cathy worked to enact DBT despite their perceived challenges, Sarah was unable to do so, which in return influenced Cathy's enactment of DBT during the first semester. It seemed Kate was able to overcome her perceived challenges because she had a clear vision of discussion-based teaching and she believed it supported her students' learning. Moreover, Kate's vision and practice with DBT supported her ability to implement many of the educative mentoring moves that led to Cathy's enactment of the practice (i.e. modeling DBT, facilitating frequent conversations about DBT, helping Cathy reflect on her enact of DBT, etc.).

In sum, the findings from this study are consistent with previous research: mentor teachers play the most influential role during the student teaching experience (Clark, Triggs, & Nielson, 2014; Hobson, Ashby, Malderez, & Tomlinson, 2009). In fact, these findings suggest mentor teachers can be even more influential than university instructors when helping pre-service teachers learn how to enact a core practice such as DBT. As verified in this study, not all mentors are educative mentors. Therefore, these findings support those who have determined the need for a collaborative relationship between the university and the mentors (Clark, et al., 2014; Schuster, 2014; Stanulis & Brondyk, 2013). Because research shows most mentors take on a more traditional role of mentoring, universities need to provide professional development focused on educative mentoring practices. Likewise, research shows few teachers enact DBT due to the complexity of the practice. Therefore, as Stanulis and Brondyk (2013) assert, universities also need to provide mentors with professional development focused on DBT. In what follows, implications for teacher preparation programs and suggestions for future research will be discussed.

Implications and Future Research

Although there has been a lot of discussion around carefully selecting placements for student teachers and mentor education, it seems not a lot has been done. Student teachers need to be placed in contexts that foster growth. Teacher education programs can help ensure this happens by preparing mentor teachers to be educative. We cannot assume all mentor teachers have the vision and resources to support novice teachers as they learn to implement core practices. Therefore, teacher education programs need to provide mentors with focused PD around educative mentoring and core practices.

Teacher education programs should also help mentors understand the importance of their roles and assure mentors they are working as a team to support the needs of the interns.

As part of the PD, universities can help address several factors that influence a teacher's learning of core practices. For example, during the PD, they will provide practical and conceptual tools, as well as opportunities for practice. This will take place in a learning community, in which participants will co-construct learning, share their expertise and reflect on their practice. As a result, participants will develop their knowledge and skills of both educative mentoring practices and core practices, such as DBT. It is likely the professional identities of the participants will also evolve as they share their experiences and learn new ideas about teaching and learning. This study found an additional factor, perceived challenges, to also play a role in the teachers' enactment of DBT. Therefore, PD facilitators need to understand the perceived challenges of the mentor teachers and work to address them. For example, if teachers find it challenging to "fit in" DBT, facilitators can suggest ways to integrate it with other mandated initiatives.

Some might claim such a program will require too many resources from the university. However, this should be viewed as an investment program. First, the turnover rate for the university's mentor teachers may decrease when they receive mentoring support and strategies they can immediately apply to their classrooms. Second, when universities commit to supporting mentor teachers, they are committing to the development of teacher leaders. Teacher leaders will not only support the learning of their mentees, but they also have the potential to support their colleagues (Cooper, et al., 2016). They can help develop new mentor teachers within their schools and share their expertise about core practices. As teacher preparation programs continue their partnership

with these schools, they can be assured mentors are working together to enact good mentoring and teaching practices.

Still, preparing mentors to be teacher educators will be a challenging feat for many universities. Therefore, research of teacher preparation programs that are working to provide professional development opportunities for mentor teachers around core practices and educative mentoring practices will need to be conducted. For example, Launch into Teaching, a program directed by Dr. Randi Stanulis at Michigan State University, provides mentor teachers professional development sessions focused on educative mentoring practices and discussion-based teaching. Studying programs such as this one will help create a model that other universities can build upon.

Moreover, exposure to DBT during Cathy's undergraduate program was not enough to give her the support she needed to enact DBT at the start of her internship year. Therefore, undergraduate programs should ensure pre-service teachers (PSTs) are receiving frequent modeling, focused feedback and guided reflection from an expert to help the PST improve her practice. This expert might be the classroom teacher or the course instructor. Because DBT has many components, it might benefit the PST to focus on just one DBT strategy at a time, such as partner talk or a specific talk move, with the support of the expert. This can help the PST move from knowing of many strategies to being able to implement a few from the start of her student teaching experience, of which she can build upon. It is important to continue research around teacher preparation programs that are providing approximations of practice for specific core practices during undergraduate methods courses. Research should especially focus on programs that provide frequent opportunities for PSTs to teach in authentic classroom settings in which

an expert is providing feedback and guided reflection. Insights into how PSTs in these programs implement the core practice at the start of their internship year will be of particular interest in this field of study.

Furthermore, this study provides support for the factors that may influence novice teachers' learning about and enactment of DBT. Further research should be conducted to confirm or extend these factors. For example, the roles in which one's biography and context play in helping novice teachers learn about DBT will likely vary depending on the case. As such, studying multiple cases across a diverse sample of K-12 placements will provide greater insights into the common influential factors that teacher preparation programs can address to better support new teachers. Moreover, this study focused on one specific core practice. Future research connected to other core practices will be beneficial. For example, do the factors found to be influential in this study also influence how other core practices are learned? Again, this will provide insights for teacher preparation programs so they can provide appropriate support for new teachers. Finally, the factors that influenced the mentors' enactment of DBT ultimately influenced how Cathy implemented the practice. Therefore, more research on how specific factors, such as perceived challenges, may influence mentor teachers' enactment of the practice will also benefit universities working to develop a professional development program for mentors so that PD facilitators can acknowledge the factors and work to address them.

Limitations

This study focused on one intern and her two mentor teachers. As such, a limitation to this study is its small sample size. The study aimed to develop an in-depth understanding and a detailed description of the cases (Flyvbjerg, 2011; Yin, 2014). Yet,

due to the nature of comparative case studies, the findings are not meant to be generalizable. A larger, more diverse sample size may have provided deeper insights into the research questions. For example, this study took place in two elementary placements. Because research shows DBT is a difficult practice to enact in all grade levels, future case studies should represent a diverse sampling of K-12 grade levels and content areas.

Conclusion

As universities prepare future teachers to enact discussion-based teaching, it will require they invest more resources into mentor teachers. By providing focused professional development around DBT and mentoring practices, mentors can provide the opportunities for practice and educative mentoring novice teachers need in order to enact high-quality features of DBT across the curricula. As the educational field continues to focus on DBT and other core practices, it will be important to recognize the factors that influence one's learning about and enactment of each practice. This will help universities prepare future teachers to teach ambitiously.

Researcher's Reflection: A Note to the Audience

You probably noticed the distinct differences between the populations at each school, and you might be wondering if these differences played a role in how each mentor teacher and Cathy enacted discussion-based teaching. It is true the first school was made up of low-income, minority students while the second school was mainly middle-class, white students. I considered these differences throughout my data collection and analysis, thinking some kind of evidence- from an observation, an interview, a passing conversation- would appear to show that the student population was indeed an influential factor. After all, research shows minority students are often silenced in the classroom. Nonetheless, I have no data to corroborate the assumption that the student populations influenced the ways in which any one of the participant's enacted DBT. While Sarah did refer to "these students" during an interview, it was in the context of 'these kindergartners are too young and immature to do group work'. Therefore, while that phrase ("these students") might have rubbed you the wrong way- as it did me- it did not seem to be in reference to the fact they were minority students. As the author and researcher, it is my responsibility to be true to the data and to the participants. With that said, I will also admit that while I was surprised the student population was not proven to be a factor, I was also relieved. I was relieved that this would not be another study that shows discussion-based teaching is only happening at a certain school because it is made up of mainly middle-class white students. I was relieved this would not be another study that showed low-income minority students are being silenced because they are low-income minority students. Rather, I was relieved this study shows factors that we *can* control to be the most influential in helping Cathy learn about and implement DBT.

I also want to return to my argument about focusing my theoretical framework on only the biographical factors that have already been proven to influence teachers' learning about core practices. As I said in Chapter Two, it would be nearly impossible to examine all of one's biographical factors. For example, I did not ask the participants about conversations at their dinner tables growing up, or the ways in which they communicate with their friends and family in this digital age. With the understanding that examining biographical factors is quite an undertaking, I want to be clear that it is very likely there are some, if not many, influential factors that were left uncovered during this study.

APPENDIX

Appendix A

Semi-Structured Interview Protocols

Interview One

Research Question: How do contextual and biographical factors influence an intern's implementation and learning about DBT?
(Prior to asking the first question, participant and I will watch a video (representing a classroom discussion. Note-taking prompts: What do you notice about the role of the teacher? What do you notice about the role of the students?) 0-1:30 ; 4:12- 5:40; 6:25-end
1. Describe what you noticed in the video in regards to discussion-based teaching (DBT).
2. Possible follow-up prompts, if needed:
   - What components of DBT did you notice?
   - Tell me about the teacher's role.
   - Tell me about the student's role.
   - Explain the extent to which discourse seemed to influence the student learning and in what ways.
   - Is this an approach you would use in your classroom? Why or why not?
3. What factors do you take into consideration when planning for and implementing DBT? Possible follow-up: What do you believe is the role of the teacher? Of the students? In what ways, if any, does the topic or subject matter influence your planning for and implementing DBT?
4. Can you talk me through some challenges and supports? Why do you think those challenges exist? How do you overcome the challenge? Is there anyone you talk with about the challenges or to support you with implementing DBT?
5. Why do you think it is important to implement DBT?
6. Where are you now in developing this practice? Where do you think you want to go?
Intern: Beyond the internship, where do you imagine yourself in enacting DBT? Compared to now, how does it differ and why? What is preventing you or supporting you in getting there?
7. How does your vision of DBT contrast with what you've experienced?
8. Is there anything else you would like to discuss in terms of how you implement DBT and what influences your implementation of it? Your learning about it?

Research Question: In what ways do opportunities for practice influence an intern's enactment of DBT?
1. Tell me about your experiences with **participating** in DBT. Possible follow-up: Is there a particular experience that stands out to you?
2. Describe your experiences with **implementing** DBT.
3. Tell me about a particular lesson where you implemented DBT. When did it happen? What was the experience like for you? How did it compare to the lesson in the video? (Prompt if needed for intern: Do you remember doing it in 405 and what was it like for you? What did you think of it? What was your experience?)
4. How often do you plan for and implement DBT? Possible follow-up: How often do you think DBT should take place?

5. Is there anything else you would like to discuss in terms of your experiences with implementing DBT?

Research Question: In what ways do the mentor and intern work together to promote the intern's vision of DBT?

(Mentor)

1. How do you view your role as a mentor? In what ways do you and your intern work together? How do you determine the focus of the conversations? Tell me about a conversation you had with your intern that you felt was especially productive.
2. Are there opportunities for the intern to practice DBT? For example, is the intern seeing it from you or another teacher in the school?
3. How are you talking about DBT and analyzing it together? (Seeing it, enacting it, analyzing it, reflecting upon it) Can you talk me through some examples?

(Intern)

1. In what ways do you and your mentor work together? How do you decide what strategies/instructional practices you will use/try out? Tell me about a conversation between you and your mentor that you felt was especially productive.
2. Are there opportunities for you to practice DBT? For example, are you seeing it from your mentor or another teacher in the school?
3. How are you and your mentor talking about it and analyzing it together? (Seeing it, enacting it, analyzing it, reflecting upon it). Can you talk me through some examples?

Interview Two (End of April)

Research Question: How do contextual and biographical factors influence an intern's implementation and learning about DBT?

(Intern)

1. After living with DBT for these past several months, what would you say now about DBT?
2. In what ways, if any, has your vision of DBT changed throughout the year? Possible follow-up: Did your vision change or just the way you enacted it?
3. What are the key components of DBT?
4. How did the student role and teacher role unfold in your classroom?
5. After trying elements of DBT in your internship year, what role do you see DBT playing in your own classroom? Possible follow up: What tools/resources will you need to enact DBT next year?

Research Question: In what ways do opportunities for practice influence an intern's enactment of DBT?

(Intern)

1. Tell me about your experiences with implementing DBT over the past several months. Possible follow-up: Is there a particular experience that stands out to you?
2. Consider your first semester versus this semester. How would you compare and contrast the your DBT experiences? The ways you enact DBT? Possible follow-up: What do you think influenced the differences/similarities?

3. What features of DBT made the students more or less successful? (i.e. the way you structured participation- such as partner/whole/small- ways in which students participated- such as hand signals, hand raising, etc. Were the features different from last semester compared to this semester? If so, how? Follow-up: What role did you play in making the features more or less accessible for students?
4. What do you think went well? What are you still concerned about?
5. How often did you plan for and implement DBT?
6. In what content area did you feel most successful and why? Were there principles or ideas from that content area that you transferred to other areas?
7. Is there anything else you would like to discuss in terms of your experiences with implementing DBT?

Research Question: In what ways do the mentor and intern work together to promote the intern's vision of DBT?
(Mentor)
1. How do you view your role as a mentor? In what ways have you and your intern worked together?
2. How have you determined the focus of the conversations? Tell me about a conversation you had with your intern that you felt was especially productive.
3. How have you been talking about DBT and analyzing it together? (Seeing it, enacting it, analyzing it, reflecting upon it) Can you talk me through some examples?
(Intern)
1. In what ways do you and your mentor work together? How have you decided what strategies/instructional practices you will use/try out?
2. Tell me about a conversation between you and your mentor that you felt was especially productive.
4. How have you and your mentor been talking about it and analyzing it together? (Seeing it, enacting it, analyzing it, reflecting upon it). Can you talk me through some examples?
5. Do you feel like you have support for enacting DBT? Do you feel like you have the resources?
6. Are the DBT experiences you have discussed different from your first context? If so, in what ways? Possible follow-up: How would you describe your relationships with the two mentor teachers?

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