Self-study of a Supervisor Making Connections in an Integrated Instructional Third Space in Elementary Mathematics and Field Experience

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Self-study of a Supervisor Making Connections in an Integrated Instructional Third Space in Elementary Mathematics and Field Experience

by

Katie Arndt

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Curriculum and Instruction with a concentration in Elementary Education Department of Teaching and Learning College of Education University of South Florida

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Date of Approval: November 8, 2016

Keywords: teacher education, culturally responsive teaching, elementary mathematics

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ABSTRACT

Too often teachers see mathematics as a culturally neutral subject. Teacher educators need to be aware of their own practice and how it impacts the facilitation of preservice teacher learning, in particular in relation to elementary mathematics and culturally responsive teaching. This qualitative self-study focused on understanding a teacher educator’s enactment of an espoused platform in an integrated instructional third space of an elementary field experience and an elementary mathematics methods course in relation to culturally responsive teaching and mathematics. The research questions guiding this self-study were: (1) In the context of the self-study, to what extent do I enact my espoused teacher education platform in the integrated instructional third space that exists at the intersection of an undergraduate elementary field experience and an undergraduate elementary mathematics methods course in relation to culturally responsive teaching and mathematics?; with one sub question (a) What facilitators and challenges do I face as I try to navigate living out my espoused platform within this third space?; (2) In the context of the self-study, how do I transform as a teacher educator while engaging in the process of framing and reframing my platform within this integrated instructional third space? The study took place in the unique context of an integrated instructional third space with the same person who served as the instructor of the mathematics methods course and field supervisor.

Data collection included the researcher’s teacher education platform, field notes from observations, and field notes from pre and post conferences with preservice teachers, documents
and artifacts from teaching, and a researcher’s journal. The findings pointed to a set of routines of practice for teacher educators to engage in while facilitating preservice teacher learning about culturally responsive teaching and mathematics knowledge for teaching. The routines of practice included: probing questions, utilizing personal connections, offering suggestions, modeling, and targeted activities. The findings also included facilitators and barriers to the process of working with preservice teachers in the integrated instructional third space in relation to their learning of culturally responsive teaching and mathematics; they include: relationships with preservice teachers, relationships with collaborating teachers, and critical conversations. This study has implications for teacher education program design, mathematics course development, field experience course development, and teacher educator professional development.
CHAPTER ONE
INTRODUCTION

Background

The education of teachers in the United States needs to be turned upside down. To prepare effective teachers for 21st century classrooms, teacher education must shift away from a norm, which emphasizes academic preparation and course work loosely linked to school-based experiences. Rather, it must move to programs that are fully grounded in clinical practice and interwoven with academic content and professional courses (NCATE, 2010, p. ii)

The Blue Ribbon Panel Report titled Transforming Teacher Education Through Clinical Practice: A National Strategy to Prepare Effective Teachers (NCATE, 2010) argued that teacher educators responsible for supporting preservice teacher learning during clinical experiences must be able to integrate coursework and fieldwork in order to develop preservice teachers’ abilities to meet diverse student needs. Along with content integration, The Blue Ribbon Panel Report also calls for: a student learning focus, integrated and dynamic clinical preparation, accountability of preservice teacher candidate’s progress, preservice teacher learning in interactive professional communities, the use of technologies to enhance productivity, effectiveness, collaboration, powerful research to support improvements in teacher preparation, and strategic partnerships for powerful clinical preparation (NCATE, 2010). The Blue Ribbon Report Panel goes on to argue that “While family and poverty deeply affect student performance, research over the past decade indicates that no in-school intervention has a greater impact on student learning than an effective
teacher” (NCATE, 2010, p. 1). This historical report shifted teacher educators’ thinking about what teacher preparation programs should entail and calls for more research in this area (NCATE, 2010). In order to make the changes called for in the Blue Ribbon Report, it is necessary to study all aspects of teacher education, including how teacher educators engage in field supervision to support and to facilitate preservice teacher learning in content areas with diverse students as well as how they develop their supervisory practice. That is particularly relevant since preservice teachers often enter teacher education programs having limited experiences with students from different cultural backgrounds (Bleicher, 2011; Castro, 2010; Silverman, 2010; Sleeter, 2001; Taylor & Sobel, 2001).

The Blue Ribbon Panel Report calls for integration of coursework and fieldwork in relation to content integration. White (2002) illustrates that a common misconception for preservice teachers is making assumptions that certain groups of students (i.e. African Americans, Hispanics, White females, and the poor) are not mathematically inclined. In 2014, the National Council for Teachers of Mathematics (NCTM) published Principles to Action, which outlined guiding strands for school mathematics. The six strands are: teaching and learning, access and equity, curriculum, tools and technology, assessment, and professionalism. All six of these strands set out by NCTM are strong recommendations, research-informed actions for all teachers, teacher educators, and any other stakeholders involved in students’ mathematical education. In the access and equity strand, NCTM states, “An excellent mathematics program requires that all students have access to a high-quality mathematics curriculum, effective teaching and learning, high expectations, and the support and resources needed to maximize their learning potential” (p. 5). This is similar to what Gay (2002) has called for in terms of developing a culturally responsive pedagogy.
While NCATE and NCTM have made both of these powerful calls, one area that needs to be explored is how mathematics teacher educators enact those calls within an integrated instructional third space at the intersection of the clinical context and the university mathematics methods course context. Furthermore, there is a need for teacher educators to explore how to best support and facilitate preservice teacher development of working with diverse students, especially in content areas where preservice teachers are historically underprepared, such as elementary mathematics (Kitchen, 2005; Sleeter, 2001; Turner et al., 2012; White, 2002). Illuminating the best support for preservice teachers can be difficult to determine because, even when mathematics teachers are prepared, there can be other issues to consider. For example, Aguirre, Zavala, and Katanyoutanant (2012) argue, “Teachers are well intentioned in their support of children to learn mathematics, but these intentions are mitigated by beliefs about the nature of mathematics, how children learn mathematics, and the teacher’s role in this process” (p. 116). Ladson-Billings (2009) states that being responsive to the diverse needs of students begins with a teachers’ set of beliefs. Teachers’ beliefs can be unpacked through the process of uncovering one’s educational or supervision platform. Platforms are another term for a “floor of beliefs, opinions, values, and attitudes that provides a foundation for practice” (Sergiovanni & Starratt, 2002, p. 71). Uncovering those beliefs is an important step for teachers to take in order to move them in the direction towards being culturally responsive to their students’ needs through an assets-based approach to teaching (Gay, 2000; Glickman, Gordon, & Ross-Gordon, 2014; Ladson-Billings, 2009; Villegas & Lucas, 2002). Villegas and Lucas (2002) propose that culturally responsive teaching is a vital component to be incorporated throughout a preservice teachers’ education, as suggested by the NCTM equity strand, rather than as additional courses throughout their education program. Ideally teacher educators should help preservice teachers
understand the importance of culturally responsive teaching, along with knowledge and pedagogical practices to help them engage in culturally responsive teaching in their field experiences and coursework. The need for integration throughout a preservice teacher’s coursework falls on teacher educators of all content areas.

As a way to explore clinically-rich mathematics teacher education focused on equitable practices, I decided to first explore my own enactment of that work through self-study. Loughran (2006) discusses the unique nature of teacher preparation in that the content (what is being taught) and the process (how it is being taught) overlap. The aim of this self-study was to uncover to what extent I enacted my espoused teacher education platform, in relation to culturally responsive teaching and mathematics knowledge for teaching, in an integrated instructional third space of an elementary mathematics field experience and an elementary mathematics methods course. In addition, I was interested in understanding what facilitators and challenges I faced based on the enactment of my platform, and how I transformed as a teacher educator while engaging in this process of framing and reframing my platform within this integrated instructional third space. Specifically, this study addressed the call from The Blue Ribbon Panel Report and followed the guidelines of the NCTM’s Principles to Action in order to support preservice teacher learning in elementary mathematics with a focus on meeting the needs of all diverse learners. Self-study offered a methodology that was flexible for studying my growth as a teacher educator as I uncovered, framed, and reframed my platform as well as studied the alignment of my platform with my practice (Bullough & Pinnegar, 2011; Loughran, 2006; Samaras & Freese, 2009).
Rationale

With an increasingly diverse population of students and a continuous influx of white middle class teachers (Villegas & Lucas, 2002), there is a need for teachers to understand mathematical content knowledge as well as the knowledge of their students, which can help teachers anticipate what students may think and where they may be confused as well as what students may find interesting and motivating (Ball, Thames, & Phelps, 2008). Even though mathematics is typically thought about as strictly numbers, mathematics is actually not a politically neutral subject area (Aguirre & Zavala, 2013; Aguirre, Zavala, & Katanyoutanant, 2012; Bartell, 2013; Bowers & Flinders, 1991; Gutierrez, 2009; Jackson, 2013). When mathematics is perceived as just numbers teachers may forget the background knowledge necessary for students to understand mathematical concepts and the associated contexts of mathematics problems. According to Turner et al. (2012) “a critical aspect of learning to be an effective mathematics teacher for diverse learners is developing knowledge, dispositions, and practices that support building on children’s mathematical thinking, as well as their cultural, linguistic, and community-based knowledge” (p. 68). Villegas and Lucas (2002) argue that sociocultural consciousness, “the recognition that there are multiple ways of perceiving reality and that these ways are influenced by one’s location in the social order” (p. 21), cannot be learned in one course or even in multiple courses in one semester. The oversimplifying of the nuances and the complexities of mathematical planning and implementation lay the groundwork for preservice teachers to take on deficit thinking, when a teacher focuses on what a student does not know or have, instead of what they do know and have, in a mathematics classroom (Milner, 2010). Deficit thinking creates an environment in which students are not allowed to think critically and express themselves creatively (Milner, 2010).
One way to achieve the move toward greater equity in mathematics is to support the development of preservice teacher learning of culturally responsive teaching practices. Gay (2000) defines culturally responsive teaching “…as using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them” (p. 29). Too often teachers see mathematics as a culturally neutral subject. It is important that teachers learn to see education from various perspectives, especially teacher educators who are working with the next generation of teachers (Gay, 2002; Ladson-Billings, 2009; White, 2002). Teachers, teacher educators, and preservice teachers, need to “see mathematics teaching as a political activity rather than neutral activity, develop an awareness of the role power plays in school policies and curriculum practices, and actively seek to dismantle structures and practices that perpetuate inequities in mathematics education” (Aguirre & Zavala, 2013, p. 167). Gutierrez (2013) addressed this idea with questions about the effects of a global society present in mathematics learners and the influences of media and technology on students. She went on to argue that the “standardization of the curriculum and the focus on high stakes tests leave teachers with little room to reflect upon how such students are constructing themselves and being constructed with respect to mathematics” (Gutierrez, 2013, p. 37). In addition, it is important that teacher educators understand how their instructional decisions can influence how preservice teachers learn about planning for and enacting elementary mathematics lessons that are culturally responsive to their students (NCTM, 2014; Presmeg, 1998; Turner et al., 2012; White, 2002). Through the use of self-study, teacher educators can engage in framing and reframing one’s own practice. “As teacher educators engaged in the study of our practice, we would ‘walk our talk’ or
demonstrate our integrity by bringing together our beliefs and our actions” (Hamilton & Pinnegar, 2000, p. 239).

NCATE’s (2010) *The Blue Ribbon Panel Report* has made the call for teachers to “educate all students – including those from increasingly diverse economic, racial, linguistic, and academic backgrounds – to the same high learning outcomes” (p. 1). Clinical experiences provide opportunities for preservice teachers to work with students from a variety of cultural backgrounds. Villegas and Lucas (2002) argue that the coursework and fieldwork must be intertwined in relation to culturally responsive teaching to serve as a framework guiding the infusion of diversity across a preservice teachers’ education. One of the ways supervisors engage in self-reflection is through the use of self-study (Burns & Jacobs, in press). Burns, Jacobs, and Yendol-Hoppey (2016) note that most of the literature on preservice teacher supervision discusses observation and feedback tasks used, when in reality supervisors also engage in community building, building relationships, etc. They also note that reflective practices, through the use of self-study, or inquiry are ways to enhance the field of preservice teacher supervision. In order to explore the intertwining nature of coursework and field work, I decided to study my own practice through self-study in order to uncover what pedagogical practices best supported my facilitation of preservice teacher learning in relation to culturally responsive teaching and mathematics knowledge for teaching (Samaras, & Freese, 2009).

**Purpose**

The purpose of this self-study was to uncover to what extent I enacted my espoused platform facilitating preservice teacher learning, in relation to culturally responsive teaching and mathematics knowledge for teaching, in the integrated instructional third space of an elementary mathematics field experience and an elementary mathematics methods course in relation to
culturally responsive teaching and mathematics knowledge for teaching. In addition, I was interested in understanding what facilitators and challenges I faced based on the enactment of my platform and how I transformed as a teacher educator while engaging in this process of framing and reframing my platform within this integrated instructional third space. Loughran (2006) discussed the unique nature of teacher education in that the content and process of teacher education overlap. The relationship between the content of what teacher educators teach and the process of how the content is taught cannot be overlooked. Self-study is a systematic process to help one illuminate the nuances of practice. Part of the process of self-study is the framing and reframing of one’s beliefs (Samaras & Freese, 2009). That is an important aspect of self-study because it allows the researcher to think about things differently, changes how he or she looks at the teaching practice, and ultimately changes one’s practice (Samaras & Freese, 2009). Self-study allows teacher educators to study specific pieces of their practice in a unique context, uncover specific practices, and help to discover and even change one’s practice (Ambrose, 2004; Lee, 2011).

The findings of this study gave insight to teacher educators who work in integrated instructional third spaces in all content areas and to those who wish to facilitate preservice teachers’ learning of culturally responsive teaching, in particular in relation to mathematics knowledge for teaching. This study emerged directly from the literature on culturally responsive teaching, elementary mathematics, and field supervision. The integrated instructional third space, within an elementary mathematics methods course and field experience, served as a vehicle for facilitating the learning of culturally responsive teaching with preservice teachers. This self-study added to the research on culturally responsive teaching in elementary
mathematics and the integrated instructional third space in a clinically rich teacher education program.

**Importance**

The context of this self-study is significant as it is situated in a clinically rich teacher education program within the integrated instructional third space of an elementary mathematics methods course and field experience (NCATE, 2010). The integrated instructional third space in this study was unique in that I taught the same cohort of preservice teachers as their mathematics methods instructor and field supervisor. The NCATE report called for the core experience in teacher preparation to be clinical practice where “content and pedagogy are woven around clinical experiences throughout preparation, in course work, in laboratory-based experiences, and in school-embedded practice” (NCATE, 2010, p. 5). That integrated instructional third space is where preservice teachers engage in coursework concurrently with their field-based experiences. Despite that powerful call, few programs have fully integrated clinical preparation, and little research has been done on the experiences of teacher educators in that integrated instructional third space, especially in relation to core content areas, such as mathematics, and to culturally responsive teaching (NCATE, 2010).

This self-study was important because it focused on enacting my platform, specifically how I facilitated preservice teacher learning in relation to culturally responsive teaching and mathematics knowledge for teaching in that integrated instructional third space within an elementary mathematics methods course and field experience. In the mathematics teacher education literature, there have been only a handful of studies that have looked at models for integrating coursework into the field (Husman & Moyer, 2006; Kurz & Batarelo, 2009; Lowery, 2002). Researchers such as the “Teachers Empowered to Advance Change in Mathematics”
(TEACH Math) group have studied preservice teacher learning and development focusing on diverse learners in relation to mathematics methods coursework (Turner et al., 2012). That group offers a multitude of resources for thinking about incorporating diverse learners into preservice teacher coursework. They also call for research examining preservice teachers in their own classrooms as they enter teaching; however, what is missing is the connection between the methods courses and the field experience of preservice teachers, in particular from the point of view of the teacher educator.

This study addressed the gap in research on theory-to-practice connections in elementary mathematics in relation to culturally responsive teaching by studying the experiences of a teacher educator serving the role of mathematics methods course instructor and field experience supervisor. It was necessary that teacher educators study their own practice in order to uncover what pedagogical practices were most effective for working with a unique group of preservice teachers in that unique environment. In order to uncover the nuances of my experiences, I conducted a self-study to explore to what extent I enacted my platform in the integrated instructional third space in relation to culturally responsive teaching and to understand what facilitators and challenges I faced as I worked in that space. Finally, I wanted to find out how I transformed as a teacher educator while engaging in that process of framing and reframing my platform within that integrated instructional third space.

**Methodology**

In order to better understand how I enacted my espoused platform, I chose to do a self-study within the context of an integrated instructional third space—the space in a clinically rich teacher education program where a teacher educator served as both a field supervisor and content course instructor concurrently with the same group of preservice teachers. For this self-study there were
two contexts over two semesters. During the first semester, I was a mathematics methods course instructor for 31 preservice teachers as well as a field supervisor for 16 out of the 31 preservice teachers. The preservice teachers were in their final year in an undergraduate elementary education program. The mathematics methods course was the second course they took in mathematics methods. The preservice teachers’ field experience was in the same school for their final year as it was for the previous year of field experiences. They were in their field experience two full days a week. The second semester I was a field supervisor for 11 of the preservice teachers who were in the final semester of their undergraduate elementary education program. These final interns spent five full days a week in the same school for the entire two years of the teacher education program. The following research questions guided my study:

1. In the context of the self-study, to what extent do I enact my espoused teacher education platform in the integrated instructional third space that exists at the intersection of an undergraduate elementary field experience and an undergraduate elementary mathematics methods course in relation to culturally responsive teaching? (a) What facilitators and challenges do I face as I try to navigate living out my espoused platform within this third space?

2. In the context of the self-study, how do I transform as a teacher educator while engaging in the process of framing and reframing my platform within this integrated instructional third space?

In order to explore those questions, I used self-study methodology. According to Samaras (2011), self-study is a way to examine teaching systematically, while focusing on our own purposes, as well as how, and if, we align our own knowledge, dispositions, and beliefs with our own teaching practice. The process of self-study allows for personal, professional, and
programmatic renewal. The process of self-study uses critical friends, colleagues, students, and self to compare opposing views of the researcher and the context of the study.

The theoretical framework underpinning my work was constructivist theory. Constructivism aligns with self-study because, according to Ham and Kane (2004), the self-study methodology is derived “from the iterative and repeated self-critical analysis of that experience in a conscious attempt to ‘know’ or understand it” (p. 126). That iterative critical analysis embodies the constructivist theoretical frame. Therefore, self-study methodology assisted in understanding to what extent I enacted my espoused platform as a teacher educator in the integrated instructional third space in relation to culturally responsive teaching and mathematics knowledge for teaching, and in understanding the facilitators and challenges I faced as I worked in that integrated instructional third space. Finally, I wanted to find out how I transformed as a teacher educator while engaging in that process of framing and reframing my platform within that integrated instructional third space.

This self-study took place in an integrated instructional third space within my role as a mathematics methods instructor and a field supervisor for the same cohort of preservice teachers. As part of my data collection, I used Seidman’s (1998) phenomenological interviewing technique to uncover my platform, which I used to guide the writing of my platform. In addition, I used the notes I took from observations and pre- and post-conferences with my preservice teachers, documents and artifacts from my own teaching practice, transcripts of pre- and post-conferences, and a researcher’s journal as data collection methods. Throughout the duration of the self-study, I worked with various critical friends at least once a week, either in person or via Skype, to discuss my platform enactment and data analysis. According to Samaras (2011), a critical friend is “a trusted person who asks provocative questions, provides data to be examined
through another lens, and offers a critique of a person’s work as a friend” (p. 75). This is an important aspect of self-study because it allows for alternative perspectives through the process of data analysis and framing and reframing one’s teaching practice (Samaras & Freese, 2009).

**Conceptual Framework**

The concepts that guided this study were mathematical teacher knowledge, Villegas and Lucas’s (2002) framework on culturally responsive teaching, the concept of platforms, and Burns and Jacobs’s (in press) preservice teacher supervision tasks. Those concepts were connected to the development of preservice teachers in their learning of elementary mathematics and culturally responsive teaching and the enactment of the two.

**Mathematical Teacher Knowledge**

This study built off of Ball, Thames, and Phelps’s (2008) egg model to expand on the types of knowledge a teacher needs in order to successfully plan and implement a mathematics curriculum (see Figure 1). This framework is relevant for teacher educators of mathematics and field supervisors of mathematics to successfully teach, supervise, and evaluate preservice teachers.

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<td>Knowledge of content and teaching</td>
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</table>

**Figure 1. Mathematical knowledge for teaching**
Drawing on the work of Shulman (1987) and his ideas, teacher knowledge in mathematics is comprised of content knowledge, curriculum knowledge, and pedagogical content knowledge. Shulman (1987) defines content knowledge as “the amount and organization of knowledge per se in the mind of the teacher” (p. 9). In mathematics, that knowledge is what a teacher knows about mathematical content before ever entering the realm of education from the viewpoint as a non-teacher. Curriculum knowledge according to Shulman (1987) is:

represented by the full range of programs designed for the teaching of particular subjects and topics at a given level, the variety of instructional materials available in relation to those programs, and the set of characteristics that serve as both the indications and contraindications for the use of particular curriculum or program materials in particular circumstances. (p. 10)

Curriculum knowledge in mathematics for a preservice teacher would include an understanding of what alternative texts and materials are available for them to use besides the county or state approved mathematics textbook. Finally, pedagogical content knowledge includes “the ways of representing and formulating the subject that make it comprehensible to others…[it] also includes an understanding of what makes the learning of specific topics easy or difficult: the conceptions and preconceptions” (Shulman, 1986, p. 9). Ball et al. (2008) argue that the pedagogical content knowledge is the most influential of the three, because of its focus on representations and conceptions or misconceptions to help broaden ideas about how to teach mathematics.

Ball et al. (2008) define “specialized content knowledge” as “the mathematical knowledge and skill unique to teaching … [It] is mathematical knowledge not typically needed
for purposes other than teaching” (p. 400). They argue there is something unique about teacher knowledge for mathematics that others do not need to know. Pedagogical content knowledge (represented in Figure One) has two subcategories as well. Using the work of Ball et al. (2008), that knowledge is broken down into “knowledge of content and students” (p. 401) and “knowledge of content and teaching” (p. 401). The difference between those two types of knowledge is that knowledge of content and students focuses on anticipating successes and misconceptions of students, while knowledge of content and teaching involves the knowledge needed to make instructional decisions.

In addition, there are three Types under the category of “common content knowledge” (Ball et al., p. 399) illustrated in Figure One. Those types of knowledge come from Tchoshanov’s (2011) work on the relationship between a teacher’s knowledge of concepts in mathematics and student achievement. Tchoshanov states Type-1 knowledge “requires recall and application of basic mathematical facts, rules, and algorithms to perform routine procedures” (2011, p. 142). That type of knowledge would allow a teacher to simply solve a basic mathematical problem, such as a division problem. Type-2 knowledge “is quite different from Type 1 knowledge in a sense that it focuses on conceptual understanding through increased quantity and quality of connections between mathematical procedures and ideas” (Tchoshanov, 2011, p. 142). That type of knowledge would now allow the teacher to demonstrate multiple ways of representing the previous division problem. Finally, Type-3 knowledge “requires testing conjectures, making generalizations, proving theorems, etc.” (2011, p. 143). Now the teacher would have to understand the theoretical underpinnings of division and what it conceptually means to divide two numbers.
As I engaged in my work as a mathematics methods instructor and field supervisor, I needed to be aware of the different types of knowledge preservice teachers needed in order to think about how they could be responsive to the needs of their diverse learners. That was important in the mathematics methods course in order to facilitate learning among my preservice teachers; however, it was equally important as a field supervisor to engage my preservice teachers in learning and thinking about mathematics in the elementary classroom.

Culturally Responsive Teaching

In addition to understanding the knowledge needed to become a teacher of mathematics, another important concept that guided this study was the facilitation of preservice teachers’ learning about culturally responsive teaching. Gay (2000) defines culturally responsive teaching “as using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them” (p. 29). Villegas and Lucas (2002) created a curriculum proposal for preparing culturally responsive teachers using six salient characteristics. Those characteristics state that a teacher (1) is socioculturally conscious, (2) has affirming views of students from diverse backgrounds, (3) sees himself or herself as both responsible for and capable of educational change, (4) understands how learners construct knowledge, (5) knows about the lives of his or her students, and (6) uses the knowledge about students’ lives for instructional planning. In order to facilitate my preservice teachers’ learning of culturally responsive teaching in relation to elementary mathematics knowledge for teaching, I needed to consider the work of Villegas and Lucas, how it related to my teacher education platform, and the enactment of my platform.
Teacher Education Platform

The concept of supervision platforms also informed this self-study since that concept was the basis for my reflection within the integrated instructional third space. Beliefs about teaching and learning heavily influence field supervisors, many of whom are former teachers (Bates, Drits, & Ramirez, 2011; Bullock, 2012; Glickman, Gordon, & Ross-Gordon, 2014; Nolan & Hoover, 2011; Sergiovanni & Starratt, 2002). Those beliefs can be exposed and understood by teacher educators through the process of writing an educational platform. “Every educator, no matter what role he or she plays, operates from a set of values and convictions about the fundamental purposes of education and how those purposes should be translated into the teaching and learning process” (Nolan & Hoover, 2011, p. 24). In order to understand the extent to which I enacted my platform, I first needed to uncover it, and then I used it as a basis for reflecting on my practice over the course of the study. The reflection occurred with the framing of my practice in relation to my platform as well as reframing over time as changes in my practice or platform occurred. That nature of framing and reframing is a major component of self-study (Lassonde, Galman, & Kosnik, 2009).

Preservice Teacher Supervisor Tasks

The concept of preservice teacher supervisor tasks informed this self-study as a basis for framing my actions while I taught within the integrated instructional third space. Burns and Jacobs (in press) conducted a qualitative meta-analysis of the literature on preservice teacher supervision published between 2001 and 2013. The meta-analysis resulted in the identification of five tasks and twelve practices for preservice teacher supervision. The five tasks are Targeted Assistance, Individual Support, Collaboration and Community, Curriculum Support and
Research for Innovation. See Table One for the five tasks and the practices associated with each task.

**Table 1**

**Burns and Jacobs (in press) Supervision Tasks and Practices**

<table>
<thead>
<tr>
<th>Supervision Task</th>
<th>Supervision Practice</th>
</tr>
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</table>
| Targeted Assistance                  | Providing focused instructional feedback  
|                                      | Fostering critical reflection                                                        |
| Individual Support                   | Providing challenge and support                                                       |
|                                      | Helping preservice teachers cope with stress                                          |
| Collaboration and Community          | Developing quality placements                                                        |
|                                      | Maintaining triad relationships                                                       |
|                                      | Creating learner-centered preservice teacher communities                              |
| Curriculum Support                   | Fostering theory to practice connections                                              |
|                                      | Strengthening curriculum planning                                                    |
| Research for Innovation              | Engaging in inquiry or self-study                                                     |
|                                      | Innovating to enhance supervision                                                    |

Those tasks and practices seen in Table One above provided the language to name my own teaching practices as I engaged in working with my preservice teachers in the integrated instructional third space over the course of both semesters.
Figure 2. Conceptual framework

The four concepts presented in this section undergirded my study in order to understand my platform in the integrated instructional third space in relation to culturally responsive teaching and mathematics knowledge for teaching, as well as to understand how I enacted my platform as I worked in that third space. In addition, those concepts allowed me to support how I transformed as a teacher educator while engaging in that process of framing and reframing my platform within that integrated instructional third space.

Limitations of the Study

As with any research, there are limitations to be addressed. As a qualitative researcher, I was the main instrument of data analysis; therefore, there was a potential for bias in my study (Janesick, 2001; Patton, 2002). The nature of self-study is to frame and reframe one’s thinking (Lassonde, Galman, & Kosnik 2009). Through the use of my critical friends in the process of my self-study, I was able to avoid some of the bias I encountered and reframe my own thinking.
about my teaching practice and my self-study. In addition, my preservice teachers’ knowledge of my self-study in the context of my own teaching could have affected how my preservice teachers interacted with me in both the field experience and the mathematics methods course. That could have potentially changed what data I collected. In order to try and avoid any changes in the naturally occurring data, I was upfront and honest with my preservice teachers about the intentions of my self-study. Finally, to mitigate my own biases, I was as explicit as possible in my choice of data collection, data analysis, and, ultimately, the understandings to which I came through using a variety of data sources to strengthen my conclusions, as well as the use of my critical friends to help frame and reframe my understandings (Lighthall, 2004).

The understandings that came out of my self-study are specific to my context of teaching, which limit their generalizability (Samaras & Freese, 2009). However, other teacher educators and teacher education program designers may benefit from my work by being able to apply some of the lessons learned and successes celebrated. For example, a teacher educator in a similar context, could use some of the strategies and practices I used in my study to spring board his or her own practice of working with preservice teachers on culturally responsive teaching with a focus on elementary mathematics. However, the understandings that came out of my study cannot be generalized to the teaching population as a whole.

**Definition of Terms**

In this section I present the operational definitions of terms of key concepts used throughout the dissertation. Some researchers will use the following terms in a variety of ways; the definitions provided here will be used throughout the entire proposal.

**Clinically Rich Teacher Education Program.** NCATE (2010) published the *Blue Ribbon Report on Clinical Preparation and Partnerships for Improved Student Learning* which
has called for teacher education to “move to programs that are fully grounded in clinical practice and interwoven with academic content and professional courses” (2010, p. ii). A clinically rich teacher education program therefore is a program that: is student learning focus, integrates content, integrates and is dynamic clinical preparation, has accountability of preservice teacher candidate’s progress, has preservice teacher learning in interactive professional communities, uses technologies to enhance productivity, effectiveness, and collaboration, has powerful research to support improvements in teacher preparation, and strategic partnerships (NCATE, 2010).

**Collaborating Teacher.** According to the online NCATE glossary “a clinical faculty member is a P-12 school personnel and professional education faculty responsible for instruction, supervision, or assessment of candidates during field experience and clinical practice” The clinical faculty at our university is referred to as a collaborating teacher. The collaborating teacher is an active teacher working in a district school who qualifies and agrees to have a preservice teacher from a college of education to study and to work in his/her classroom as a student teacher at the request of the college.

**Critical Friend.** According to Samaras (2011) a critical friend is “a trusted person who asks provocative questions, provides data to be examined through another lens, and offers a critique of a person’s work as a friend” (p. 75).

**Culturally Responsive Teaching.** Gay (2000) defined culturally responsive teaching as “…using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them” (p. 29). While this definition is not subject specific, it is appropriate in the context of mathematics instruction.
Field Experience. An experience that provides preservice teachers with varied and extensive opportunities to develop and demonstrate professional teaching practices, connect what they learn with the challenge of using it, while under the expert tutelage of skilled clinical educators; for example, planning for and enacting instruction (NCATE, 2010).

Field Supervisor. A full-time or part-time professional education instructor or faculty appointed by the college of education who enacts the tasks and practices of preservice teacher supervision (Burns, Jacobs, & Yendol-Hoppey, 2016).

Integrated Instructional Third Space. In this study, I define my integrated instructional third space as my unique position as the mathematics methods instruction and field supervisor for the same cohort of preservice teachers in a clinically rich teacher education program. This goes beyond facilitating preservice teachers’ learning through integrating coursework and fieldwork to include a common instructor to help bridge theory to practice connections between the two courses taught simultaneously.

Practices. The routines used to actualize a task related to field supervision (Burns & Jacobs, in press).

Preservice Teacher. According to NCATE, a candidate, or preservice teacher, are “individuals admitted to, or enrolled in, programs for the initial or advanced preparation of teachers, teachers continuing their professional development, or other school professionals. Candidates are distinguished from students in P–12 schools.”

Routines of Practice. According to Grossman, Hammerness, and McDonald (2009) routines make up a teaching practice, which can be focused on separately as opportunities for preservice teachers to learn and enact while practicing their instruction.
**Self-Study.** According to Lassonde, Galman and Kosnik (2009) self-study “involves study of the self and study by the self” (p. 10). While reflective practice and action research influence self-study there is a clear distinction. Lassonde et al. distinguish self-study using the terms self and study, versus action, research and reflection. Self-study may also include data collection methods outside the realm of reflection or action research, such as personal history, narrative inquiry, reflective portfolios, memory work, or arts-based methods. The difference is in the methodological features of the self-study.

**Tasks.** The areas that need to be addressed in order to create the clinical context needed to meet preservice teacher learning needs (Burns & Jacobs, in press).

**Third Space.** Zeichner (2010) argues “third spaces involve a rejection of binaries such as practitioner and academic knowledge and theory and practice and involve the integration of what are often seen as competing discourses in new ways - an either/or perspective is transformed into a both/also point of view” (p. 92).

**Summary**

In order to understand the deeper nuances of my platform and the extent to which I enacted my platform in relation to the facilitation of my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching I decided to engage in a self-study to explore the integrated instruction third space between myself and my practice (Bullough & Pinnegar, 2001). Therefore, I conducted a self-study to understand to what extent I enacted my platform in the integrated instructional third space in relation to culturally responsive teaching and mathematics knowledge for teaching, and to understand what facilitators and challenges I faced as I enacted my platform in that integrated instructional third space. Finally, I wanted to find out how I transformed as a teacher educator while engaging in this process of
framing and reframing my platform within that integrated instructional third space. For data collection, I used phenomenological interviews to uncover my platform, my espoused teacher education platform, field note data from pre and post conferences with preservice teachers, documents and artifacts from my own teaching practice, and a researcher’s journal. Those forms of data collection allowed me to see how my teacher education platform aligned with my teaching practice, in relation to culturally responsive teaching and elementary mathematics, what facilitators and challenges I encountered along the way, and finally how I transformed as a teacher educator.

**Organization of the Remaining Chapters**

In the chapters that follow I present prior research that supports my self-study topic. In chapter two, I review the current literature on culturally responsive teaching in elementary mathematics, and supervision as the vehicle to support culturally responsive teaching in mathematics. At the end of chapter two, I make connections to my work as a field supervisor and elementary mathematics methods instructor, clinically rich teacher education programs, and teacher education platforms. In chapter three, I explain the context of my study and a detailed plan of the methods of my self-study methodology. The findings from the self-study are presented in chapters four and five. Finally, in chapter six I present a discussion, implications and suggestions for future research.
CHAPTER TWO

LITERATURE REVIEW

In the literature review that follows, information is presented on learning to teach mathematics, culturally responsive teaching in elementary mathematics, and supervision as the vehicle to support culturally responsive teaching in mathematics. The section on learning to teach mathematics serves as background knowledge and information to frame this study by unpacking what knowledge is necessary to teach elementary mathematics. I will present literature on culturally responsive teaching in elementary mathematics to provide insights into what in service teachers are doing in their classrooms in order to meet the needs of their diverse students in elementary mathematics classrooms and how teacher educators support preservice teacher development. Finally, the literature on supervision will set the stage for situating my position as a field supervisor and instructor in the integrated instruction space.

Figure 3. Literature review topics
The research questions that guided the selection of topics for this literature review included:

1. In the context of the self-study, to what extent do I enact my espoused teacher education platform in the integrated instructional third space that exists at the intersection of an undergraduate elementary field experience and an undergraduate elementary mathematics methods course in relation to culturally responsive teaching? (a) What facilitators and challenges do I face as I try to navigate living out my espoused platform within this third space?

2. In the context of the self-study, how do I transform as a teacher educator while engaging in the process of framing and reframing my platform within this integrated instructional third space?

**Culturally Responsive Teaching in Elementary Mathematics**

Teaching happens in context, and is most effective when prior experiences, community settings, cultural backgrounds and ethnic identities of both teachers and students are included (Gay, 2000). Gay went on to argue that many believe education has nothing to do with culture or heritage, and that most students are taught from a Eurocentric framework, or a colorblind approach. Historically, calls were made to help at risk or minority students succeed in mathematics, since students of color have been historically underrepresented in STEM fields (Gay, 2000; National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, 2011; Sanders, 2009). While programs, such as STEM initiatives, tend to have success in improving achievement for students of color without significant amounts of multicultural content, Gay argues that those programs may be ‘tapping into other components, such as using instructional delivery strategies that are congruent with the learning styles of students…that emphasize high achievement expectations for students and use instructional
initiatives that are deliberately targeted to specific ethnic groups” (2000, p. 141). She recommended more cultural content in the school curricula, especially in mathematics and science. This task can be accomplished using what she terms culturally responsive teaching. Gay defined culturally responsive teaching “…as using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them” (2000, p. 29). According to Gay:

- culturally responsive pedagogy simultaneously develops, along with academic achievement, social consciousness and critique, cultural affirmation, competence, and exchange; community-building and personal connections; individual self-worth and abilities; and an ethic of caring…Culturally responsive teachers have unequivocal faith in the human dignity and intellectual capabilities of their students. They view learning as having intellectual, academic, personal, social, ethical, and political dimensions, all of which are developed in concert with one another. (2000, p. 43-44).

Proponents of culturally responsive teaching in mathematics want to equip students with the skills and the capacity to be critical, active participants in the mathematical world. Gay’s proposed pedagogies can help teacher educators and field supervisors to think about how to engage their preservice teachers in culturally responsive teaching in elementary mathematics classrooms.

NCTM’s *Principles to Action* (2014) outlined a vision for access and equity for students of mathematics. NCTM contended access and equity for students “requires being responsive to students’ backgrounds, experiences and knowledge when designing, implementing, and assessing the effectiveness of a mathematics program” (p. 60). Andrews, Wan Ching, Greenhough, Hughes, and Winter (2005) argued that when teachers have experiences with
students from different cultures, those experiences can help to support dispositions that view family and community activities as beneficial to teaching; which can lead to teachers thinking about new ways to approach mathematics instruction. In addition, Presmeg (1998) stated “that the ethnicity of students is a resource for mathematics teachers at all levels” (p. 318). Diversity includes more than just students from different racial backgrounds, it also includes various religious, linguistic, educational, and socioeconomic backgrounds (White, 2002). While the research presented in this chapter on preservice teachers’ beliefs is not content specific, it can be transferred into the context of elementary mathematics instruction. Too often teachers see mathematics as a culturally neutral subject. Mathematics in particular is a subject that is seen, “more than any other, that [is] considered to be value- and culture-free; hence the view of many educators that mathematics education [has] no need to take the growing diversity of student populations into account” (Presmeg, 1998, p. 317). For this reason, not viewing mathematics instruction as culture-free is important so that teachers can learn to “see mathematics teaching as a political activity rather than neutral activity, develop an awareness of the role power plays in school policies and curriculum practices, and actively seek to dismantle structures and practices that perpetuate inequities in mathematics education” (Aguirre & Zavala, 2013, p 167). Turner and Drake (2015) found the field of elementary mathematics lacks a consistent theory for understanding mathematics teacher learning in relation to children’s mathematical thinking and funds of knowledge; two major theories that teacher educators can pull from for developing preservice teachers in culturally responsive teaching in elementary mathematics are children’s mathematical thinking and funds of knowledge. These two are outlined below.
Teacher Identities and Funds of Knowledge in Mathematics

Through studying teacher dispositions and funds of knowledge in mathematics researchers have begun to uncover ways to open the world of mathematics to children of various cultural backgrounds by connecting to their prior knowledge and experiences. A study conducted with in-service teachers by Hand (2012) found that teachers’ dispositions frame their thinking and actions in the mathematics classroom. She also found that in-service teachers from the dominant culture did not have many opportunities to engage in activities that could help them reframe their views about the dominant culture. Similarly, Andrews et al. (2005) argued that teacher’s experiences with different cultures could support dispositions that view student’s cultures as beneficial for approaching mathematics instruction.

Kumar and Hamer (2013) conducted a study on preservice teachers’ attitudes and beliefs towards student diversity and the type of instructional practices they were likely to pursue. They did a cluster analysis of cross-sectional data with over 750 preservice teachers. They found that approximately 25% of preservice teachers held some stereotypic beliefs about poor and minority students, as well as discomfort with student diversity. However, after a completing a teacher education program exposing them to concepts and constructs in multicultural education, they were significantly less biased and better able to see the benefits of adapting instructional practices. In addition, other researchers have conducted studies with preservice teachers and their disposition of caring, which motivated them to think about students’ mathematical thinking, or how students learning and understand mathematics (Philipp, Thanheiser, & Clement, 2002; Philipp et al., 2007; Whipp, 2013).

The concept of “funds of knowledge” “is based on a simple premise: People are competent, they have knowledge, and their life experiences have given them that knowledge”
(Gonzalez, Moll, & Amanti, 2005, p. i). The concept of “funds of knowledge” was based their work off of Vygotsky’s (1978) well-known concept of the Zone of Proximal Development (ZOPD), which is the difference between what children can do independently, their actual development, and what children can do with the assistance of others. Gonzalez et al. used the ideas of the ZOPD to think about Vygotsky’s other work on the differences between what he called ‘everyday’ learning and ‘scientific’ learning to think of mathematical knowledge as community (practical, out-of-school, intuitive, tacit) and academic (in-school, deliberate, explicit). These compartmentalized systems of knowledge help to frame their concept of “funds of knowledge”.

A teacher-researcher Gonzalez-Angiulo (1998) used the “funds of knowledge” framework in literacy in a Spanish/English bilingual literature club (Gonzalez, Andrade, Civil, & Moll, 2005). She built her work in the literature club off of Freire’s (1970) ideas that literacy is a critical tool for understanding relationships among text, self and the world. The literature club was made up of mothers of students who attended school in an ‘at risk’ area; they were mostly immigrant women. Over time those women began to see themselves as producers of knowledge, not just consumers, through their ability to connect their experiences to the texts they were reading. From this work, it was a small leap to introduce mathematics into the arena with additional mathematics researchers, Andrade and Civil. The same content connections were made in mathematics as were in the texts. What they learned from the literature group was the women’s abilities to make connections with mathematical concepts that were sometimes foreign to the researchers, the systems of knowledge that the women possessed were based on their familiarity with practices that connected to their daily lives.
The realization that the “funds of knowledge” the women in the literature club possessed in relation to mathematics were just the beginning. Andrade and Civil then worked to understand how the funds of knowledge could be used in a meaningful way to produce new knowledge; this is where the ZOPD came into play. They realized that mathematics knowledge was embedded into people’s everyday social knowledge, but that was not enough, they had to dissemble that knowledge from the social meaning to use it to construct new meaningful mathematical knowledge. Their experiences with the mothers’ group unpacked ideas about meaning-making that “undergird effective classroom instruction: authentic engagement in joint productive activity, connecting to prior knowledge, complexity and rigor, and the dialogical emergence of instruction” (Gonzalez, Andrade, Civil, & Moll, 2005, p. 267). The group of researchers who worked on the concepts of “funds of knowledge” set forth a foundation for culturally responsive teaching in mathematics classrooms. Based on their research, an entire world of mathematics to children of various cultural backgrounds is now a possibility through connections to their prior knowledge in a way that makes sense to them, and lessons that teach students what it means to be successful and mathematically powerful. The next two sections elaborate on other concepts based off of the idea of “funds of knowledge”: using students’ knowledge bases and creating access points for students in mathematics.

**Using students’ knowledge bases.** Gutstein (2006) defines three different types of knowledge bases: community (knowledge about the surrounding society or context), classical (such as NCTM standards), and critical knowledge (such as critical consciousness). Building off the work of Gutstein, researchers have used his idea of knowledge bases to connect with the students’ prior knowledge. In order to connect with students’ prior experiences, teachers use authentic shared experiences in their mathematics classrooms.
Eglash, Gilbert, Taylor and Geier (2013) looked at an out of school STEM (Science, Technology, Engineering and Mathematics) program in an urban setting. They focused on the mathematics portion of the program and how to bridge the achievement gap in STEM through utilizing students’ vernacular and heritage cultures. Eglash et al. used both community and critical knowledge bases to connect with their students. They found that vernacular culture worked better over heritage culture to connect with their fourth through sixth grade students. Eglash et al. suggested teachers attempt to incorporate culture into mathematics classrooms by: offering students a variety of cultural access points in a lesson, taking both vernacular and heritage cultures of students seriously, and giving students opportunities to explore other cultures and identities. Along this same line of thought, Turner, Gutierrez, Simic-Muller and Diez-Palomar (2009) talked about critical mathematics for students through the use of authentic mathematics learning activities. These mathematical investigations were conducted in authentic contexts that related to students’ community knowledge base. Grounding mathematics in authentic contexts resulted in the contexts driving the mathematical activities. The authentic contexts also allowed teachers to support students’ thinking in relation to their community knowledge base about not only mathematics, but also in relation to their critical knowledge base about issues of social justice in their communities. Cross et al. (2012) found that by situating mathematics in authentic, relevant contexts, students were better able to see mathematics connected to their lives. In other words, the contexts (culture) served the mathematics, and in turn, the mathematics allowed access to new rich mathematical experiences.

To implement culturally responsive teaching in elementary classrooms, teachers have used Gutstein’s (2006) work on community knowledge bases, or what students bring to school in relation to their culture such as the student’s home life. While that focus may seem obvious in
relation to a discussion on culture, the connection is not always as obvious in relation to
discussion about elementary mathematics. Goldman and Booker (2009) looked at how parents
and students interacted with mathematics in the context of their home lives. They found that
families had many “funds of knowledge” while using mathematical problem-solving skills in
their daily tasks. However, the families did not consider those day-to-day tasks to be
mathematics. That is an interesting piece to consider for classroom teachers planning elementary
mathematics instruction. Utilizing students’ and their family’s “funds of knowledge” and
knowledge bases through learning about students’ home experiences could help to build parental
engagement in their child’s learning. Ferlazzo (2011) suggested that effective family
engagement, not just involvement, requires schools to develop relationships with the families
through communication and home visits. That type of family engagement could be beneficial for
students, as well as parents, teachers, and the community.

**Creating access points for students in mathematics.** Another way to attend to a
student’s culture, similar to utilizing students’ “funds of knowledge”, is to think about the
accessibility of mathematics for students. That accessibility can take place through high
expectations for students and differentiating instruction to meet all students’ needs. Many
elementary mathematics classrooms perpetuate a hidden curriculum that can either support or
hinder positive social development (Acar, 2012). NCTM’s *Principles to Action* points out “Too
many students are limited by the lower expectations and narrower curricula of remedial tracks
from which few ever emerge” (2014, p. 3). Therefore, it is essential that teachers think about
ways to create mathematical tasks that will help students be successful. Esmonde (2009)
conducted a review of literature on how cooperative learning groups can aid in laying the
groundwork for equity in mathematics classrooms. Cooperative learning groups offered teachers
the flexibility to choose differentiated task, as well as to give students the opportunities to be successful at their level of understanding. Another practice found to narrow the achievement gap for students of color was through the use of exposure to more diverse content (Ottmar, Konold, Berry, Grissmer, & Cameron, 2013). Parks (2010) conducted a study exploring the role that explicit and implicit questions played in encouraging mathematical thinking in an elementary mathematics classroom. She worked with a European American teacher working with ethnically and socioeconomically diverse students. Her findings indicated that implicit questioning seemed to privilege children who shared the cultural background of the teacher; while explicit questions allowed a wider variety of students’ opportunities to participate in mathematical discussions.

There are many mathematics programs available online for use for student practice in mathematics. While convenient for teachers to use, they are not always the best practice for some students. Kim and Chang (2010) found computer games were helpful for improving mathematical achievement for ELL students and males, but not with female students. However, when male students played every day their performance decreased. Ganesh and Middleton (2006) found that technology tools for ELL students were not beneficial for improving achievement due to the language barriers of the technology. The next section outlines the research used in facilitating preservice teachers’ learning of culturally responsive teaching in elementary mathematics teacher education programs.

**Preservice Teachers and CulturallyResponsive Teaching in Elementary Mathematics**

The following section examines the literature on how teacher educators can work with preservice teachers to support their learning about being culturally responsive in elementary mathematics. First, a rationale for why culturally responsive teaching with preservice teachers is
needed is presented. Next, practices on how to support preservice teachers’ learning about culturally responsive teaching in mathematics are outlined.

**Culturally Responsive Teaching and Teacher Education**

Teacher educators have the daunting task to prepare culturally responsive teachers who are willing and able to teach diverse students (Darling-Hammond, French, & Garcia-Lopez, 2002; Gay, 2002; Kumar & Hamer, 2013; Ladson-Billings, 2004; Sleeter, 2001; Sleeter, 2008; Slick, 1997a, Slick, 1997b; Villegas & Lucas, 2002). This task can be difficult because preservice teachers often enter teacher education programs having limited experiences with students from different cultural backgrounds (Bleicher, 2011; Castro, 2010; Silverman, 2010; Sleeter, 2001; Taylor & Sobel, 2001). A study conducted by Taylor and Sobel (2001) looked at preservice teachers’ beliefs about addressing students’ needs with different backgrounds and abilities from their own. Their results indicated that preservice teachers had limited interactions with people whose backgrounds and needs differed from their own, and limited knowledge of historical contributions made by persons whose backgrounds differed from the dominant US culture. However, they also found that preservice teachers wanted: to be effective teachers of all learners, to meet the needs of all learners, and to be prepared in order to meet these goals in their classrooms. Sleeter (2008) explained four issues many White preservice teachers face in relation to diversity: (1) they fail to recognize the pervasiveness of racial inequity, (2) they hold deficit views about and lower expectations for students of color, (3) they adopt a colorblind approach to teacher, denying the significance of race, and (4) they lack a sense of themselves as cultural beings. She went on to explain how teacher educators must step up to the challenge of preparing preservice teachers to work effectively in diverse mathematics classrooms.
In order to get preservice teachers to think learn how to meet the needs of their diverse students it is helpful that they have a solid foundational knowledge of what diversity means. Silverman (2010) conducted a study to find out how preservice teachers make meaning of ambiguous terms such as diversity, multiculturalism, and culture. She suggested that the ambiguity of the terms need to be explicitly taught to preservice teachers in order for them to increase their capacity to bring about equity through education. The way preservice teachers interchanged the terms diversity and race, for example, suggested an overreliance on terms such as diversity and little attention to their more impactful meanings.

Another aspect of culturally responsive teaching is supporting dialogue about students from diverse backgrounds and how best to meet their learning needs. Gutierrez (2013) states that “learners as active inquirers and participants in a problem-posing dialogue are important parts of critical mathematics education” (p. 41). Chubbuck (2010) also encouraged the use of dialogue to aid in the steps towards reflection and praxis. Dialogue allows preservice teachers the opportunities to work through their own ideas of culturally responsive teaching, which leads them to continue their career as life-long learners of teaching. Beyond dialogue, White (2002) suggests in order to challenge assumptions preservice teachers may come to a teacher education program with, provide them with experiences working with diverse students in order to consider alternative explanations for the mathematical success and failures of students. Additionally, Villegas and Lucas (2002) created a curriculum proposal for preparing culturally responsive teachers using six salient characteristics. These characteristics state that a teacher (1) is socioculturally conscious, (2) has affirming views of students from diverse backgrounds, (3) sees himself or herself as both responsible for and capable of educational change, (4) understands
how learners construct knowledge, (5) knows about the lives of his or her students, and (6) uses the knowledge about students’ lives for instructional planning (p. 21).

**Culturally Responsive Teaching and Mathematics Teacher Education**

NCTM’s (2014) *Principle to Action* has a strand to challenge teachers to think about access and equity for elementary and secondary mathematics students; however, these principles also align with best practices for preservice elementary mathematics teacher educators as well. Castro (2010) explains, “as today’s public schools become more culturally and economically diverse, the demographic divide between teachers and students deepens” (p. 198). White (2002) illustrates that a common misconception for preservice teachers is that students of color, including African American, Hispanic, and White female, and poor students are not ‘mathematically inclined’, while Asian and white male students are seen as inherently good at math, or more inclined to succeed. White calls for herself and other mathematics teacher educators to “change [her] students’ image of mathematics learners and instill in them a belief that all children can learn mathematics” (2002, p. 1). In order to teacher preservice teachers to be culturally responsive we must think about ways they can engage in culturally responsive pedagogies with their elementary mathematics students. “The ability to see mathematics in the world that surrounds and shapes us, and to recognize the power of mathematics to critically investigate and act on that world, are key components of critical perspectives on teaching and learning mathematics” (Turner, Gutierrez, Simic-Muller & Palomar, 2009, p. 137).

According to Turner et al. (2012) and the “Teachers Empowered to Advance Change in Mathematics” project (TEACH Math) “a critical aspect of learning to be an effective mathematics teacher for diverse learners is developing knowledge, dispositions, and practices that support building on children’s mathematical thinking, as well as their cultural, linguistic, and
community-based knowledge” (p. 68). They also stated the importance of teachers understanding how students’ “funds of knowledge” can support students’ learning in mathematics, especially with historically underrepresented groups. In their study they developed a trajectory for preservice teacher learning and development focused on diverse learners in the context of planning and implementation in elementary mathematics methods courses. The trajectory outlined preservice teacher learning from initial practices (attention, awareness, and eliciting), to making connections (emergent and meaningful), to incorporating multiple mathematical knowledge bases in instruction. In other words, preservice teachers must be able “attend to children’s out-of-school knowledge and experiences and interpret those experiences as supportive of student learning before one can draw upon those experiences in mathematics instruction” (2012, p. 71). Preservice teachers need to consider alternative explanations for the mathematical success and failure of students. “Critically examining the experiences in school mathematics of students from various cultural backgrounds must be a central part of the discussion of equity” (White, 2002, p. 2). White recommends that preservice teachers work in clinical experiences that include students from diverse backgrounds in order to see how all students learn mathematics, and the mathematical knowledge of various students.

The section that follows is research on practices teacher educators can engage in to facilitate preservice teacher learning about culturally responsive teaching in elementary mathematics classrooms. The first section looks at the research on preservice teachers watching or working with elementary mathematics students. The second section outlines research on tasks to use to develop preservice teachers’ thinking about culturally responsive teaching in elementary mathematics.
Watching children do mathematics. Watching children engage in mathematics can help preservice teachers link their prior knowledge and experiences to future mathematics lessons. When preservice teachers are given the opportunity to work with children in mathematics classrooms there are many nuances of learning happening in the moment that can be easily overlooked. In 2000, Crespo examined how a mathematics letter exchange with fourth grade students provided an occasion for preservice teachers to learn about students’ mathematical thinking. She found that when preservice teachers saw new and unfamiliar mathematical tasks for this allowed them to move away from their evaluative interpretations, deciding whether the student is correct of incorrect, of children’s mathematical thinking to thinking more about how the child is thinking about mathematics. That more specific analysis of children’s mathematical thinking allowed preservice teachers to analyze the students’ mathematical understanding, rather than making assumptions about what the students were capable of doing. She noted that familiar tasks for preservice teachers are more likely to yield familiar results, and the opposite of that is also true. Therefore, she concluded that when preservice teachers were able to work on unfamiliar problems they are likely to yield unfamiliar responses, thus increasing the likelihood that they inquire into students’ mathematical thinking. She challenged teacher educators to consider the careful selection and introduction of mathematical tasks to preservice teachers to ensure genuine mathematical inquiry, and to promote a respectful and inquiring orientation towards the analysis of students’ work.

Using Noddings (2003) theory of caring Philipp, Thanheiser, and Clement (2002) began to conceptualize how tapping into preservice teachers’ caring about students could help them to include caring about children’s mathematical thinking. Ambrose (2004) found that when preservice teachers are given the chance to work intimately with children in mathematics, the
experience could become a catalyst in which their beliefs about teaching and learning mathematics can change. Ambrose also noted that changes in preservice teachers’ beliefs about what children can do in mathematics is a gradual process, building on their existing beliefs rather than changing pre-existing beliefs. Son and Crespo (2005) had preservice teachers analyze students’ non-traditional strategies for division of fractions to illuminate preservice teachers’ understandings of children’s mathematical thinking. They found differences in responses depending on the preservice teacher’s beliefs and dispositions about mathematical thinking and processes. Jacobs, Lamb, and Philipp (2010) looked at the construct “professional noticing of children’s mathematical thinking” as a way to unpack those snapshot decisions preservice teachers make when working with children. The noticing included skills attending to children’s strategies, interpreting children’s understandings, and deciding how to respond based on children’s understandings, rather than deciding how to respond based on prior assumptions about students. Other researchers found the use of videos of children doing mathematics to be a helpful tool to help preservice teachers recognize student reasoning (Maher, Palius, Maher, Hmelo-Silver, & Sigley, 2014; Philipp et al., 2007; Roth McDuffie et al., 2014; Santagata & Yeh, 2014; Schack et al., 2013) found the use of video analysis to be a successful tool.

**Interviews.** Another way of allowing preservice teachers the opportunity to practice culturally responsive teaching practices while working with children in mathematics is through one on one assessment interviews (McDonough, Clarke, & Clarke, 2002; Sleep & Boerst, 2012; Son & Crespo, 2005). McDonough, Clarke, and Clarke (2002) had preservice teachers use a hand-on, interactive assessment interview while working with students in mathematics. They found the preservice teachers were more aware of the types of strategies that children use. In addition, the discussions about the interviews in the methods class allowed preservice teachers to
reflect upon appropriate classroom experiences for young learners of mathematics. Sleep and Boerst (2012) used student problem-solving interviews to scaffold preservice teacher’s understanding of children’s mathematical thinking. They found that support was differentiated based on what the preservice teachers needed in terms of growth. In an elementary mathematics methods course, Downey and Cobbs (2007) had their group of preservice teachers trained to conduct a semi-structured interview with a student from a cultural background that differed from their own. The preservice teachers transcribed their interviews and completed a guided reflection on their experience. While the interview tool allowed the preservice teachers to learn some insights about students’ needs in mathematics instruction and some of the learning needs of diverse students, using it alone was not enough to help them see past their biases and deficit thinking.

**Lesson plan development.** Lesson plans are an important piece in preservice teachers’ methods courses, especially in a content area such as mathematics where they tend to feel less comfortable. Teaching preservice teachers to lesson plan through the use of a rubric or lesson analysis tool can be helpful to promote intentional teaching discussions and critical reflection on mathematics (TEACH MATH, 2012). Aguirre, Zavala and Katanyoutanant (2012) grounded their study in the ideas of children’s mathematical thinking and cultural “funds of knowledge” to illustrate how a mathematics lesson plan tool could be used to evaluate lesson plans for culturally responsive teaching in elementary mathematics. From the lesson plan analyses, the preservice teachers were confident that they addressed important dimensions of children’s mathematical thinking, including an emphasis on analysis, discourse and student engagement. However, while there was evidence of those elements, the preservice teachers still needed additional support to fully attend to and integrate the elements into their practice. The TEACH MATH (2012) group
designed a lesson plan analysis tool to support preservice teachers thinking about children’s mathematical thinking and equity. It has six categories to think about while planning for mathematics teaching, with corresponding reflection prompts. The six categories are: cognitive demand, depth of knowledge and student understanding, mathematical discourse, power and perception, academic language support for ELL, and cultural/community-based funds of knowledge.

Nicol and Crespo (2006) conducted a study to look at how preservice teachers adapted their lesson plans from mathematics textbooks to reflect ideas of children’s mathematical thinking and “funds of knowledge.” The preservice teachers had many different approaches to using the textbooks such as adhering to the text, elaborating on the text, and creating a lesson based off of the text. The exercise resulted in varied lesson plans for preservice teachers, depending on what their experiences were, as well as in a successful challenge for preservice teachers to be creative and flexible in their use of curriculum materials while adapting them for their individual students’ needs. Garii and Rule (2009) and Leonard and Moore (2014) conducted studies to see how well preservice teachers could design lesson plans in mathematics that integrated social justice in the academic content and an issue of social justice concern. Garii and Rule used a social justice conference for the preservice teachers to disseminate their lesson plans. Four out of the ten elementary lessons and fourteen out of the sixteen secondary lesson plans approached the academic content through a social justice lens. These integrations were incomplete and ultimately either focused on an issue of social justice concern or academic content, but not both. The academic content in two of the elementary lessons were not adequately developed enough to be considered content lessons or social justice lessons. The preservice teachers in Leonard and Moore’s study understood how to incorporate social justice
principles into their microteaching lessons; however, they still needed support to develop their abilities to think about social justice issues in the greater context of the community.

Garii and Appova (2013) studied the use of lesson planning as a vehicle for teaching preservice teachers to plan for culturally responsive teaching. They used curricular materials to help preservice teachers incorporate social justice into mathematics and develop their understanding of social justice practices and mathematics teaching. They found that elementary preservice teachers had trouble articulating their understandings of social justice, its role in mathematics education, and its meaning in mathematics classrooms. The preservice teachers were unable to provide explicit and relevant examples of social justice teaching in mathematics, nor were they able to incorporate social justice into a mathematics lesson.

**Multicultural texts.** Leonard, Moore, and Brooks (2013) used multicultural children’s literature as a context for teaching mathematics for cultural relevance in an elementary mathematics methods course. They found that 89% of their preservice teachers chose mathematically peripheral or mathematically robust texts, meaning the mathematics focus of the text was minor or involved; however only 28% of them chose multicultural texts that were culturally contextual. Choosing a text that was both mathematically robust and culturally contextual was a challenge for preservice teachers. Four out of the eighteen preservice teachers were able to integrate multicultural texts with mathematics tasks and use them to facilitate learning with pairs or individual students. They recommended helping preservice teachers understand how their backgrounds and culture influence their behaviors and teaching practices, and to help them broaden their view of the nature of mathematics. Leonard and Moore (2014) used literature circles in their mathematics methods course to prompt discussions of social justice with preservice teachers. They found that preservice teachers promoted their own ideas about
social justice from engaging in the readings of the literature circles. They suggested mathematics methods instructors include presentations from community members and scholars who work closely with the community to promote preservice teachers to think about how they can incorporate ideas of teaching for social justice into their future mathematics classrooms.

This section looked at literature on learning to teach mathematics. It helped to serve as background knowledge to frame this study by unpacking what knowledge is necessary to teach elementary mathematics. In addition, literature on culturally responsive teaching in elementary mathematics was presented to provide insights into what in service teachers are doing in their classrooms in order to meet the needs of their diverse students in elementary mathematics classrooms and what teacher educators are doing to develop preservice teachers. The following section unpacks how supervision can be used as a vehicle to support culturally responsive teaching in elementary mathematics. Literature on frameworks for supervision, supervision with preservice teachers, and culturally responsive supervision will be addressed.

**Supervision: The Vehicle to Support Culturally Responsive Teaching in Mathematics**

Supervision has a long-standing history in schools in relation to both in-service and preservice teachers. There is an overlap in many of the practices in both contexts; however, the overall goal of this section is to think about field supervision with preservice teachers. Unfortunately, there are a lack of conceptual frameworks focused specifically on preservice teacher field supervision (Burns, Jacobs, & Yendol-Hoppey, 2016). Therefore, it is beneficial to think about supervision and its roots within schools with in-service teachers as basis to understanding the literature on preservice teacher supervision. Sergiovanni and Starratt describe the purpose of supervision “is to help increase the opportunity and the capacity of schools to contribute more effectively to students’ academic success” (2002, p. 6). Sergiovanni and Starratt
see the moral actions of supervision as possible through instructional capacity and instructional quality. Along the same line, Nolan and Hoover define teacher supervision as “an organizational function concerned with promoting teacher growth, leading to improvement in teaching performance and greater student learning. Supervision is not concerned with making global judgments concerning the teacher’s competence and performance” (2011, p. 6). Glickman, Gordon, and Ross-Gordon define supervision as “assistance for the enhancement of teaching and learning” (2014, p. 9). They see the goal of supervision to be centered on developmental aspects of teachers. Nolan and Hoover state that the focus of supervision should be improvement of performance, and it can be on one class or one type of teaching situation over time. They concluded that the best way to improve the performance of teachers was to focus on one or two factors at a time. They stated that a narrow focus of supervision allowed for specific components of a teacher’s practice to improve. The commonality among definitions of supervision is improving teacher and student learning through the use of a shared vision or goal, not about evaluation. They go on to argue that this dual role can be problematic because teachers can be threatened by an unsatisfactory rating of an evaluator; thus inhibiting the evaluator’s role to go beyond evaluation into growth and improvement of practice.

Glickman et al. (2014) and Sergiovanni and Starratt (2002) call for collegial supervision that shifts away from the historical view of controlling teachers through the use of supervision. They believe a common vision among a group of teachers, administrators, and other collegial members enables teachers to work collaboratively through the process of school improvement. As with the work of Guskey (2002) on teacher education and preservice teacher learning, supervision should be seen as a process, not a position. Others described that as supervision as a function rather than a role (Nolan & Hoover, 2011). When developing a collegial vision of
supervision Glickman et al. illustrated the need for shared decision making. When all stakeholders were involved in making decisions the likelihood of their implementation increases. This is important to think about when working with preservice teachers as well.

As with the work of Guskey (2002) on teacher education and preservice teacher learning, supervision should be seen as a process, not a position. Others described that as supervision as a function rather than a role (Nolan & Hoover, 2011). The word function is used by Glickman et al. (2014) opposed to the word role because they believed that within school systems every professional have the capability and responsibility to contribute to the function of supervision, rather than one person taking on the role of supervisor. Glickman et al. also outlined prerequisites for successful supervision in schools: knowledge, interpersonal skills, and technical skills, which will be discussed next.

**Knowledge**

Glickman et al. (2014) stated the knowledge of supervisors must include an understanding of what teachers and their schools can be, in contrast to what teachers and schools typically are. In addition, supervisors also needed to understand how the knowledge of adult learning and teacher development. This knowledge would allow a supervisor to differentiate their supervision when working with a variety of teachers. This type of knowledge could help a supervisor to uncover and breakdown how schools are typically run, and how to improve their daily operations.

**Interpersonal Skills**

The interpersonal skills outlined by Glickman et al. (2014) include skillful and effective behaviors that a supervisor engages in while participating in supervision when working with teachers on improving their instruction. The interpersonal skills helped supervisors to build
relationships and trust with teacher, and promote productive discussions about improving instruction. Their derived supervisory behaviors included: listening, clarifying, encouraging, reflecting, presenting, problem solving, negotiating, directing, standardizing, and reinforcing. When working with a teacher a supervisor could use these behaviors to help teachers move towards instructional decisions; these decisions can be made individually by the teacher or collectively with any particular number of stakeholders, including the supervisor. The shared behaviors and decision making could be thought of as a continuum of support for the teacher with listening, a behavior with maximum teacher responsibility and minimum supervisor responsibility on one end of the spectrum, to reinforcing, a behavior with minimum teacher responsibility and maximum supervisor responsibility, and each previously listed behavior respectively in between. For example, a teacher may need support with questioning. To engage in the behavior of listening the supervisor would simply listen to the teacher talk through his or her ideas about improving questioning, offering no solution or suggestions. To continue to think about supervision behaviors on this continuum, they explained that the listening side of the continuum is nondirective in nature, it is all up to the teacher. Towards the middle of the spectrum was problem solving, which is collaborative in nature, so perhaps the teacher and supervisor work together to brainstorm resources for different types of questioning techniques or talk through strategies for developing questions ahead of time. Finally, on the other end of the spectrum, was standardizing and reinforcing which are directive in nature. This would be where the supervisor would come with suggested information about questioning techniques and direct the teacher with an assigned plan for the improvement of questioning. In order to implement these interpersonal behavioral skills a supervisor must know him or herself well to ensure they are being perceived as they are intending to. The supervisor must also know where the teacher is
developmentally, which leads to differentiated supervision for the teacher. This knowledge about oneself and about teachers can be uncovered using a supervisory platform.

**Technical Skills**

The technical skills Glickman, Gordon, and Ross-Gordon (2014) outline in their supervision framework include the supervisory skills needed to work with teachers to assess, plan, observe, and evaluate instructional improvement within a school setting. They offer suggestions for instructional improvement, and ultimately student learning, that include assessing and organizing teachers’ usage of time, organizational needs, and observation schedules.

**Supervision Tasks**

Glickman, Gordon, and Ross-Gordon (2014) outlined technical tasks supervisors can use while engaging in supervision to assist in the improvement of instruction for teachers. The tasks related to improve instruction include: direct assistance (one-on-one feedback with teachers), group development (instructional problem-solving meetings among teachers), professional development (providing learning opportunities with teachers), curriculum development (providing changes in content and instructional material), and action research (providing teachers with ways to evaluate their own teaching). Finally, they discussed tasks that utilize the technical tasks and cultural tasks of supervision. These cultural tasks included: facilitating change, addressing diversity, and building community.

**A Framework for Preservice Teacher Supervision**

There is not yet a clear framework for preservice teacher supervision. Grossman, Hammerness, and McDonald (2009) described what preservice teachers should begin to enact in teacher education programs as high-leverage practices. After conducting a meta-analysis of the literature on preservice teacher supervision, Burns and Jacobs, (in press) were able to build from
Grossman et al.’s term high-leverage practice to uncover more nuanced tasks and practices of preservice teacher supervision. Through their analysis of the literature they concluded there were two separate definitions to consider when thinking about preservice teacher supervision, one for supervision and one for the supervisor. They defined preservice teacher supervision as “the enactment of tasks and practices aimed at developing the PST’s improvement of practice” and the definition of preservice teacher supervisors “became defined as individuals who enact the function of PST supervision” (p. 11). They uncovered five tasks and eleven practices as follows. The first preservice teacher supervision task was Targeted Assistance that consists of the practices of: providing focused instructional feedback, and fostering critical reflection. The practices under this task targeted supervisory practices that focused on specific aspects of practice pertaining to preservice teachers’ teaching. The second task was Individual Support which had two practices under it as well: providing challenge and support in order to promote learning and change with preservice teachers’ emotional needs, and helping preservice teachers cope with stress of learning to teach in a clinical context. The third task was Collaboration and Community. Under this task were the practices of developing quality placements, maintaining triad relationships among the preservice teacher, school-based teacher educator, and the university supervisor, and creating learner-centered preservice teacher communities. The fourth task was Curriculum Support. Within this task were the practices of fostering theory to practice connections, and strengthening curriculum planning. The fifth task was Research for Innovation, which consisted of engaging in inquiry or self-study, and innovating to enhance supervision.

Nolan and Hoover (2011) stated that the ultimate goal of the supervision of preservice teachers is to empower them to take what they have learned in their field experience to assume great responsibility for solving classroom dilemmas and making their own informed classroom
based decisions. They discussed the importance of thinking about supervision as a reflective practice with preservice teachers “by modeling effective teaching, providing scaffolding or developmentally appropriate feedback and support when necessary, fostering a climate conducive to inquiry and reflection” (2011, p. 218). Lee (2011) also found the importance of modeling, feedback, instruction, and questioning within the supervision process. That reflective practice, or “inquiry stance” can be connected with the work of Cochran-Smith and Lytle (1999a) conceptualizing teacher’s knowledge for practice, and also to Sergiovanni and Starratt’s (2002) use of supervision to encourage reflective practice. The tools they outlined for engaging in supervision included the use of a pre-observation conference, post-observation conference, structured video analysis, reflective electronic portfolios, and discussion groups to build professional learning communities. The underlying platform, or stance, of a supervisor helped guide the use of these tools for supervision.

**Platforms in Supervision to Uncover Beliefs**

Beliefs about teaching and learning heavily influence supervisors, many of who are former teachers (Bates, Drits, & Ramirez, 2011; Bullock, 2012; Glickman, Gordon, & Ross-Gordon, 2014; Nolan & Hoover, 2011; Sergiovanni & Starratt, 2002). These beliefs can be exposed and understood by supervisors through the process of writing an educational platform. “Every educator, no matter what role he or she plays, operates from a set of values and convictions about the fundamental purposes of education and how those purposes should be translated into the teaching and learning process” (Nolan & Hoover, 2011, p. 24). Table Two was created by taking questions or prompts suggested by Glickman et al. (2014), Nolan and Hoover (2011), Sergiovanni and Starratt (2002), and Jacobs and Casciola (2015) to outline questions that supervisors could consider using when writing their teacher education platform.
Sergiovanni and Starratt (2002) described the general elements of an educational platform as: the aims of education, views of knowledge, social significance of student’s learning, the image of the learner, the image of the curriculum, the image of the teacher, the preferred pedagogy, the preferred school climate. In addition to those elements, supervisors should also include: the purpose or goal of supervision, and the preferred process of supervision. Nolan and Hoover stated:

A teacher’s espoused platform includes key aspects such as the teacher’s views on the goals of education and the curriculum, expectations for the students as a class and as individuals, preferred pedagogy, preferred school climate and theories about what factors most impact student learning. The platform stems from personal history, formal education and actual classroom experience. (2011, p. 25)

Glickman et al. (2014) explained that a supervisory platform should include: a definition of instructional supervision, the purpose of supervision, who should supervise and who should be supervised, and what knowledges, skills, attitudes, and values are possessed by successful supervisors.

Glickman et al. defined the platform as a “floor of beliefs, opinions, values, and attitudes that provides a foundation for practice” (2014, p. 70). The platform drives teachers and supervisors thinking and practice, supports the actions of teachers and supervisors, and justifies the decisions made. Sergiovanni and Starratt stated, “unless teachers and supervisors uncover their platforms, they will not establish a base of mutual understanding that is necessary to ground their collaborative efforts” (2002, p. 70). Bates, Drits, and Ramirez (2011) found when working with preservice teachers the more explicit they were about their platform or ‘stance’ the better preservice teachers were able to understand the expectations held for them. Bates et al. also
discussed the awareness of the ways of their stance influenced their practice with preservice teaches, and that stances develop over time and are heavily influenced by an individual’s philosophy. Finally, they argued that the more explicit and consistent supervisors were about their stance; the better the preservice teachers understood expectations held for them.

Table 2

Supervision Platforms: Questions for Supervisors to Consider.

<table>
<thead>
<tr>
<th>Questions</th>
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<tbody>
<tr>
<td>Why did I enter the teaching profession?</td>
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<tr>
<td>What are my beliefs about knowledge and how it is constructed?</td>
</tr>
<tr>
<td>What do I believe about teaching and how students learn? What are the goals of teaching?</td>
</tr>
<tr>
<td>What is my preferred school climate, including leaders and administrators?</td>
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<tr>
<td>What are my beliefs about supervision and evaluation? What are the goals of supervision?</td>
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<tr>
<td>Who am I culturally? What influences my identity?</td>
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<tr>
<td>Where do I experience privilege? Marginalization?</td>
</tr>
<tr>
<td>How does my identity influence my beliefs about supervision?</td>
</tr>
<tr>
<td>What do I believe are the best practices to support teachers’ understanding of equity?</td>
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Jacobs and Casciola (2015) advocated for uncovering one’s platform in relation to a social justice lens. They argued that issues of social justice are connected to one’s platform because they are connected to values, and experiences. The uncomfortable process includes asking questions such as:
Who am I culturally (i.e., race, class, gender, etc.)? What are the most influential aspects of my identity? Where do I experience privilege? Marginalization? How does my identity influence my beliefs about supervision? What do I believe are the best practices to support teachers understanding of equity? (2015, p. 8)

Jacobs and Casciola went on to argue that additional readings and conversations with critical friends may need to take place in order to work through these uncomfortable conversations and to critically reflect. The use of a social justice lens in one’s platform allows teachers and supervisors to think about learning for all children, promote equitable interactions between supervisors and teachers (Jacobs & Casciola). The goal of the platform is about unpacking teachers’ and supervisors’ belief systems and thought processes. “Supervisors can encourage teachers to articulate their belief system by conducting a series of conversations about practices with those teachers” (Nolan & Hoover, 2011, p. 26). These conversations could be used as a source dialogue for pre and post conferences with teachers, as well as to build relationships and trust among stakeholders. If teachers and supervisors’ platforms do not align, and they are never uncovered, there is a potential for conflict in the relationship affecting professional learning and growth.

**Evaluation in Supervision**

Nolan and Hoover stated “teacher evaluation is an organizational function designed to make comprehensive judgments concerning teacher performance and competence for the purposes of personnel decisions such as tenure and continuing employment” (2011, p. 5). The rationale for evaluation in supervision was “to protect children from harm through incompetent, immoral, or unprofessional teacher behavior” (2011, p. 7). They went on to say that schools can separate evaluation from in-service teacher supervision by using different people, different times,
and different procedures. Nolan and Hoover concluded that the optimal way to handle the separation of evaluation and supervision is by using different people with two different functions where the processes remain completely separate. Evaluations could be distinguished as formative or summative evaluations. A formative evaluation was to describe things that happened in a classroom and its intention is to improve a teacher, or assessment for learning (Parker & Volante, 2009). Sergiovanni and Starratt (2002) used a similar definition of summative evaluation as Glickman et al., which stated it is an “externally imposed, uniformly applied measure, intended to judge all teachers on similar criteria to determine their worthiness, merit, and competence as employees” (2014, p. 200). Summative evaluations could also be thought of as assessments of learning (Parker & Volante). Nolan and Hoover described the need for evaluation to be broad in scope and should include what a teacher contributes to the school, communicating with parents, and a teacher’s work toward continuous professional development. They also called for teacher evaluation to include observations of the “entire spectrum of classes that he or she teaches” (2011, p. 8).

When moving into the space of preservice teacher supervision, Nolan and Hoover (2011) outlined the historical struggle with supervision as a means of evaluation for preservice teachers. They argued that for in-service teacher supervision “the process for judging competence (evaluation) [should be] clearly differentiated from processes for promoting growth (supervision)” (2011, p. 13). They argued that the optimal way to handle the separation of evaluation and supervision is by using different people with two different functions where the processes remain completely separate. However, with preservice teacher supervision that was not an option, the supervisor also functioned as the evaluator. This brought about a tension with navigating the function of the preservice teacher supervisor, especially since preservice teachers
were asked to take risks in their field experience classrooms all while dealing with looming thoughts of evaluation by both their collaborating teacher and university field experience supervisor.

**Themes in the Research on Preservice Teacher Supervision**

The following section discusses themes in the literature on preservice teacher supervision. While reading the research it became evident that there are many tensions supervisors face in their function working with preservice teachers. There are tensions with the process of supervision, the relationships among the stakeholders, and with the dichotomous, but unavoidable, function of supervisor and evaluator of preservice teachers.

**Tensions in transitioning to the role of a field supervisor.** There are numerous tensions field supervisors experience from their transition as new graduate assistants into the role of supervisor through tenured faculty with years of supervisory experience. For example, Slick (1997a) conducted a case study on a new graduate assistant, Meg, in her role as a new field supervisor from a classroom teacher. Meg encountered tensions from accepting her function change to navigating her loyalties between the public school and university stakeholders. A self-study conducted by Bullock (2012) revealed tensions between his intended practice and his enacted practice with his preservice teachers. He concluded that the process of learning to teach preservice teachers involved re-conceptualizing his identity from a successful teacher to a teacher of teachers, and that the epistemological barriers between theory and practice needed to be examined critically in a safe and supportive context.

**Tensions with platform dissonance.** A self-study by Trout (2008) described the tensions she felt as a field supervisor working with one preservice teacher. In the short semester timeframe, she tried to move the preservice teacher’s learning along faster and more directly by
taking control of the relationship. She found it difficult to navigate the ethical dilemma of wanting to stick with her platform of the ethic of caring (Noddings, 2003), while at the same time helping her preservice teacher grow as a new teacher. In the end, the ethical dilemmas proved to be a fertile ground for growth for her as a field supervisor through the reflective and cyclical nature of self-study.

**Tensions with pedagogical practices.** Bullock and Christou (2009) struggled with their preservice teachers’ insatiable desire for the practical strategies at the expense of the theoretical. Through the use of self-study, they came up with the notion of a “radical middle” as a way of thinking about the relationship between theory and practice. “Radical in the sense of being contrary to the pervasive assumptions of thinking about teacher education in terms of theory-into-practice, middle from recognition of our experience that theory and practice are embedded in, and necessarily inform, each other” (2009, p. 76). They found that they had a shared belief in listening to preservice teachers. They also realized that the distinction between theory and practice is arbitrary, unproductive and in itself is the pinnacle of theory. They suggested interrogating ones’ own assumptions about theory to practice in teacher education is a critical first step in unpacking ideas about theory to practice connections with preservice teachers.

**Tensions feeling like the outsider.** There have been many researchers who have struggled with the tension of feeling like an outsider (Basmadjian, 2011; Cuenca, Schmeichel, Butler, Dinkelman, and Nichols Jr., 2011; Slick, 1997a, Slick, 1997b). Cuenca et al. (2011) navigated tensions of feeling like an outsider by creating a “third space” for supervisors. The concept of a third space allowed stakeholders to resolve issues and tensions that arise when working between two distinct spaces such as the university and school settings by building a bridge to navigate across spaces. They conceptualized the “third space” in the form of a bi-
weekly “breakout” session within the structured preservice teacher seminar. This session gave field supervisors additional time to meet with their preservice teachers and discuss issues of theory and practice. Other researchers over the years have looked into using additional “spaces” to bring together practitioner and academic knowledge in new ways (Cochran-Smith & Lytle, 1999a; Wood & Turner, 2014; Zeichner, 2010). Cuenca et al. (2011) found that the use of the “third space” gave field supervisors access to new conversations, refined the focus of observations, and cultivated deeper relationships. While the use of the “third space” was successful in many ways new tensions arose with how to use the extra time with preservice teachers, what was considered most important to discuss during the extra time, and how closely should the topics of the extra time be related to the preservice teachers’ seminar. Wood and Turner (2014) looked at the “third space” in relation to creating assignments that bridged the mathematics methods course and field experience by working with collaborating teachers who hosted preservice teachers. They found the “third space” was complex for the university supervisor while work with the collaborating teachers.

**Tensions navigating the function of supervisor versus evaluator.** There is a long standing dilemma of field supervisors of preservice teachers; do they serve the role of supervisor or of evaluator? If a function of preservice teacher supervision is empowerment it seems unlikely that the role of evaluator doesn’t quite fit. Trout (2008) struggled with her platform for supervision, which included many ideas of Noddings’ (2003) ethics of care, when it came time to evaluating a struggling preservice teacher. She wrestled with how to approach the evaluation process with the preservice teacher, and wondered if she was too lenient with him when he could have benefitted from stricter and more direct consequences. Researchers of preservice teacher supervision also found that supervisors of preservice teachers often struggle with the title of their
role: supervisors, counselor, faculty advisor, which one fits best (Basmadjian, 2011; Lee, 2011; Parker & Volante, 2009).

Parker and Volante (2009) and Basmadjian (2011) explored the tensions they experienced while completing evaluations for preservice teachers. Parker and Volante found that the tensions they experienced brought them closer to the core of the problem they were having with assessing their preservice teachers. They found their role as evaluator conflicted with their beliefs about formative assessment and that they focused on criteria they could directly observe and avoided criteria that they could not immediately assess. Basmadjian discussed that positive feedback and reinforcement could help to boost the self-esteem of his preservice teachers, as well as to build trust. The use of positive feedback helped to alleviate the threat of the impact evaluations had on preservice teachers. Ultimately both researchers found that preservice teachers wanted authentic evaluations where the preservice teachers could feel ownership of their evaluation.

**Tensions between supervisor and collaborating teacher.** Fernandez and Erbilgin (2009) conducted a study analyzing the different approaches field supervisors and cooperating teachers used in the supervision of preservice teachers. They found that the field supervisors tended to use open-ended questions to get at preservice teachers’ thinking, in relation to mathematical content and pedagogy, while the cooperating teachers used a more evaluative approach. They noted some important aspects of supervision in their work, first, the fact that their field supervisors had a course about supervision, which guided them towards the less evaluative method of supervision. Second, the considerably larger amounts of time collaborating teachers spend with preservice teachers. The disconnect between field supervisors and collaborating teacher supervisory styles in the study raised a lot of interesting questions for
future research and the coherence of support given to preservice teachers in their field experiences.

There were many tensions found in the literature on supervisors working with preservice teachers; however, supporting new supervisors, and engaging in self-reflection could mediate many of the tensions. One of the ways supervisors engaged in self-reflection was through the use of self-study. Burns, Jacobs, and Yendol-Hoppey (2016) noted that most of the literature on preservice teacher supervision discusses observation and feedback tasks used; when in reality supervisors also engage in community building, building relationships, etc. They also agreed that reflective practices, through the use of self-study, or inquiry were a way to enhance the field of preservice teacher supervision.

Culturally Responsive Supervision

In order to develop ways to lessen achievement gaps, and gaps in students’ opportunities to learn, supervisory practices need to address diversity. One of the underlying purposes of supervision is to improve the performance of all students (Gay, 2000). “Since there is a gap between the achievement of students from racial and ethnic minorities and European Americans, supervision that is culturally responsive and gender sensitive is needed” (Jacobs, 2006, p. 5). Jacobs (2006) built off of Gay’s (1998) call for the commitment of supervisors to engage in culturally responsive supervision by modeling cultural responsiveness, assessing instructional materials for gender and cultural equity, examining video recordings of teachers at work, and providing supplemental readings on culture and ethnicities. Jacobs (2006) stated in order to increase student achievement, supervisors need to understand achievement patterns, which leads to practices of culturally responsive supervision and ultimately the identification of inequitable
practices. This call to field supervisors of preservice teachers is glossed over in the literature, with only few attending to the bold task of culturally responsive supervision.

There is a growing awareness of the need for culturally responsive supervision with preservice teachers. “Too many educators are unaware, unknowing, and unappreciative of how culture, ethnicity, and gender affect instructional and learning behaviors, or unskilled in how to apply cultural diversity in teaching” (Gay, 2000, p. 1217). This practice does not negate the traditional modes and strategies of supervision; it “places them in the broader context of culture and language” (Jacobs, 2006, p. 27). There is a disconnect between lack of dialogue in the research about culturally responsive supervision, and an abundance of opportunities for conversations to occur.

According to Bowers and Flinders, when a supervisor is able to engage in culturally responsive supervision they are able to provide preservice with a “third-party vantage point that may help them recognize how language and cultural patterns that they take for granted (and thus are not aware of) influence the learning environment of the classroom” (1991, p. 7). The second practice they discussed that is central to culturally responsive supervision is for supervisors to help preservice teachers “clarify and adapt professional judgments in a way that takes cultural difference into account” (1991, p. 7). In order for culturally responsive supervision to take place they discussed the necessity for supervisors to engage in learning about their own embedded cultural values and beliefs; again a part of the platform mentioned earlier. Jacobs and Casciola (2015) advocated for uncovering one’s platform in relation to a social justice lens. They argued that issues of social justice are connected to one’s platform because they are connected to values, and experiences. Jacobs and Casciola went on to argue that additional readings and conversations with critical friends may need to take place in order to work through these
uncomfortable conversations and to critically reflect. The use of a social justice lens in one’s platform allows teachers and supervisors to think about learning for all children, promote equitable interactions between supervisors and teachers. Once a supervisor is able to uncover his or her own cultural patterns of belief, they can then begin to help preservice teachers look for these patterns within their field experience classrooms through lesson planning and implementation.

Bowers and Flinders (1991) discussed the implications a supervisor's’ personal beliefs and values can have on the task of working in field experience classrooms with preservice teachers. This connects with other researchers’ suggestions of uncovering one's platform (Bates, Drits, & Ramirez, 2011; Bullock, 2012; Glickman, Gordon, & Ross-Gordon, 2014; Nolan & Hoover, 2011; Sergiovanni & Starratt, 2002). Taking the time to write out your platform and sharing it with others allows for a more open and trustful relationship. This type of relationship is necessary, especially for a supervisor working with preservice teachers. It is clear from the literature that uncovering a teacher education platform is vital to all aspects of supervision. It is a way to help bring to the forefront deeply seeded knowledge, dispositions, skills, and beliefs about one’s own practice. The open conversations that can result after explicitly uncovering your platform can be the building block of a fruitful supervisory relationship.

Lee (2011) conducted a self-study in the context of preservice teacher supervision and teaching for social justice. As a Korean international doctoral student she was able to analyze her practice in relation to her socio-cultural perspective on teaching and learning. She found that strategies such as modeling, giving feedback, instruction, and questioning helped her preservice teachers to think about teaching for social justice. She noted that it was important to create a social justice community with her preservice teachers and to engage in dialogue about issues of
social justice. The relationships within the triad were built on trust and did not always operate smoothly. However, through the use of self-study she was able to develop a critical eye about her supervisory approaches through the use of reflecting on her practice. Finally, she noted that the feedback she gave to her preservice teachers were mostly centered around issues of classroom management and curriculum, and in relation to social justice her conversations were abundant on issues of gender, holidays, race, class, and the language of the elementary school students.

Anderson and Stillman (2013) conducted a review of student teaching as a contribution to preservice teachers’ development in relation to culturally responsive teaching. They found that the emphasis on culture, context, and diversity within the literature is viewed as simplistic or one-dimensional. The treatment of context within the field placement classroom was found to be minimal at best, and reinforced deficit thinking at worst. In addition, while the outcomes of preservice teachers’ beliefs were often illuminated throughout the literature, the incoming beliefs of preservice teachers were often glossed over. The process of teasing out preservice teachers incoming beliefs and values and how they apply to and impact their students in their field experiences classrooms often falls on the field supervisors. That evidence reinforces the need for the proposed self-study.

Summary

The research on culturally responsive teaching in elementary mathematics education is a fairly new line of research, especially when you consider the strands of preservice teachers and critical mathematics at the elementary level. While there are many researchers in the field beginning to explore these areas, there are still gaps in the research. The majority of the research conducted in the area of culturally responsive teaching and preservice teachers in elementary
mathematics has been on a task or tool used with preservice teachers in their coursework. To add to this research, future studies could focus on the processes and dialogues used in the coursework of preservice teachers. There is also a gap in the research on elementary mathematics and preservice teachers in their field experiences, in relation to culturally responsive teaching, especially in a clinically rich teacher education program. This study focused on understanding to what extent I enacted my espoused platform, in relation to culturally responsive teaching and mathematics knowledge for teaching, in the integrated instructional third space of an elementary mathematics field experience classrooms and mathematics methods course. The next chapter discusses the context of my study, and details of the methodology I used to conduct the self-study.
CHAPTER THREE

METHODOLOGY

The previous chapter focused on the literature about learning to teach mathematics, culturally responsive teaching in elementary mathematics, and supervision as the vehicle to support culturally responsive teaching in mathematics. In this self-study I was interested to what extent I enacted my espoused teacher education platform, in relation to culturally responsive teaching and mathematics knowledge for teaching, in an integrated instructional third space of an elementary mathematics field experience and an elementary mathematics methods course. I also was interested in the types of facilitators and challenges I faced while enacting my platform. Finally, I wanted to find out how I transformed as a teacher educator while engaging in this process of framing and reframing my platform within this integrated instructional third space.

This chapter outlines the research design for this qualitative self-study. Self-study was an appropriate research method to investigate my research questions. According to Samaras (2011), self-study is a way to examine ones’ own teaching systematically, while focusing on teaching purposes, as well as how, and if the knowledge, dispositions, and beliefs are enacted within teaching practice. The process of self-study allows for personal, professional, and programmatic renewal. Loughran explained, “there is no one way, or correct way, of doing self-study. Rather, how a self-study might be done depends on what is sought to be better understood” (2007, p. 15). Therefore, the methodological choices described in this chapter will demonstrate the alignment of this self-study’s rationale, data collection, data analysis, and other facets for the purpose of exploring the following research questions.
Research Questions

1. In the context of the self-study, to what extent do I enact my espoused teacher education platform in the integrated instructional third space that exists at the intersection of an undergraduate elementary field experience and an undergraduate elementary mathematics methods course in relation to culturally responsive teaching? (a) What facilitators and challenges do I face as I try to navigate living out my espoused platform within this third space?

2. In the context of the self-study, how do I transform as a teacher educator while engaging in the process of framing and reframing my platform within this integrated instructional third space?

Theoretical Perspective

The theoretical framework underpinning my work is constructivist theory. Denzin and Lincoln stated that the “constructivist paradigm assumes a relativist ontology (there are multiple realities), a subjectivist epistemology (knower and respondent co-create understandings), and a naturalistic (in a natural world) set of methodological procedures” (2011, p. 13). This epistemology looks at learning through a lens that meaning is not discovered, but constructed. In addition, meaning is built out of and off of the world around us. In constructivism researchers arrive at “relative” truths or facts” (Lincoln & Guba, 1985). The ontology of constructivism is connected to the epistemology because what is considered real is what can be constructed within a person’s realm. Therefore, reality depends on a person’s present and past experiences, and no two people have exactly the same reality.

Constructivism aligns with this self-study because according to Ham and Kane the self-study methodology is derived “from the iterative and repeated self-critical analysis of that
experience in a conscious attempt to ‘know’ or understand it” (2004, p. 126). This iterative critical analysis embodies the constructivist theoretical frame; therefore, self-study not only assisted in understanding the research questions, but it also aligned with the theory for how constructionists think, believe, and understand the construction of knowledge. Guba and Lincoln (1994) stated that for “constructivists, inquiry is either value free or it is not” (p. 116). For the case of self-study LaBoskey (2004) explained that work in self-study is moral and value-laden due to the moral, ethical, and political purposes of self-study.

**Self-Study Design**

Self-study as a research methodology for teacher education emerged from at least four developments within educational research: naturalistic and qualitative research methods into education, the Reconceptualist movement in curriculum studies, the growing involvement of international researcher in teacher education with diverse traditions such as the humanities, and finally action research in its many variations (Bullough & Pinnegar, 2001). Those influences came together in the 1980’s from teacher educator researchers who felt like outsiders in their interests in research, and they began to come together at conferences (Bullough and Pinnegar, 2001). “Jack Whitehead and Pam Lomax in England, Jeff Northfield and John Loughran in Australia, Tom Russell and Ardra Cole in Canada, the Arizona Group composed of former graduate students who met in Arizona, and Gary Knowles, among many others” found each another (Bullough & Pinnegar, 2001, p. 14). They were mostly young female scholars and experienced teachers who were committed to the improvement of teacher education and schooling, but they also found struggles with the pathway to tenure. They asked different types of questions that inspired their imaginations to think about teacher educators’ improvement of their own practice, and the small but growing movement of self-study in teacher education.
evolved from there (Bullough & Pinnegar, 2011). Self-study in teacher education gained more
popularity in 1992 with the emergence of the Self-Study of Teacher Education Practices, or S-
STEP, special interest group of the American Educational Research Association (AERA)
(Bullough & Pinnegar, 2001). The S-STEP group acts as a forum for teacher educators who seek
to make contributions related to the theory and practice of self-study research design and practice
(Bullough & Pinnegar, 2001; Samaras & Freese, 2009). The group has held a conference every
two years at the Queen’s University International Study Centre at Herstmonceux Castle, U.K.
since 1996. Their intentions are to move the field forward through the use of self-study and its
many contributions to researching teacher education practices. In order to move the field of
teacher education forward Hamilton and Pinnegar “propose that teacher educators crease new
possibilities for teacher education through self-study” (2000, p. 239). Through the use of self-
study teacher educators can engage in framing and reframing one’s own practice. “As teacher
educators engaged in the study of our practice, we would ‘walk our talk’ or demonstrate our
integrity by bringing together our beliefs and our actions (Hamilton & Pinnegar, 2000, p. 239).

Within systematic study and documentation methods of self-study, teacher educators can
be free to utilize a variety of appropriate research methods to provide the clearest and most
complex characterization of practices, and evidence of preservice teacher growth and
development in response to those practices. The research questions of self-study researchers
“arise from concern about and interest in the interaction of the self-as-teacher educator, in
context, over time, with others” (Bullough & Pinnegar, 2001, p.15). The purposes of self-study
are interpretative and involve meaning making, rather than being explanatory (Craig, 2009).
Loughran (2004) outlined some considerations for conducting a self-study; I used many of these
considerations in the planning process of this self-study; they are as follows:
1. Make content explicit
2. Illustrate a commitment to checking data and interpretations with others
3. The difficulty for individuals is challenging interpretations of their own experiences.
4. Colleagues are more likely to frame an experience in new ways
5. Valuable learning outcomes are more likely if self-study is a shared task, students are crucial as participants and mirrors for information, feedback, and advice.
6. Self-confidence is necessary. Those engaging in self-study need to be comfortable with a sense of vulnerability and dissonance.
7. The research focus alters, develops, shifts, and changes in response to shifts in teaching.
8. Reflection is important but relies on the individual
9. Successes tend to be glossed over and out shadowed by dilemmas, tensions, and disappointments. Self-study can help manage the dilemma rather than search for the correct response since its intention is to explore or shed light.
10. The audience is crucial.

Self-study offered a methodology that was flexible for studying my growth as a teacher educator as I uncovered my platform, and studied the alignment of my platform with my practice (Bullough & Pinnegar, 2011). Finally, part of planning for and conducting a self-study involved knowing one’s audience for the study (Samaras and Freese, 2009). For my self-study, the audience went beyond my own practice, and myself, and also included the critical friends I spoke with. The audience also included teacher educators who are interested in: culturally responsive teaching, elementary mathematics, and field supervision within clinically rich contexts. Based on the information provided about the purpose of the study and the opportunity self-study
presented to explore and understand the research questions, self-study was a well-fit methodology.

**Participant**

Since this is a self-study I was the one participant. I have a variety of personal and professional experiences that helped influence and cultivate my interest in the topic of this self-study.

**Personal experiences.** I grew up as a first generation American; my father was born and raised in Argentina and immigrated to the United States at the age of 18. I was born in Illinois and moved to Florida when I was two years old. I grew up hearing stories about how my father was marginalized as a German immigrant in Argentina, and how those experiences impacted his personal and educational life. I believe these experiences have given me a unique perspective and empathy for students from various cultural backgrounds. Reflecting on my own privilege I can see how I was tracked through school from a very early age. I grew up in a white middle class household and I went to the same elementary school for kindergarten through fifth grade. After elementary school, I was tracked into a middle school magnet program for mathematics and science, and I graduated from an international baccalaureate high school. My undergraduate degree is in business economics, but after leaving college I quickly realized that I wanted to go back to school to become a teacher. I received a Masters of Art in Teaching from a large research one university. As a Masters student I helped conduct research on a project and was intrigued about the idea of going back to school eventually for a Ph.D. in elementary education, but I knew I wanted to teach for a few years first. I did not have many opportunities to see how students from other socioeconomic backgrounds grew up, and there was not a lot of diversity within my schools. This gave me a sheltered view of the world, in education particularly, until I
went to graduate school. While I was empathetic to others, I did not see structural inequities within our education system. I had a very narrow view of people from diverse backgrounds, and was challenged to think about many uncomfortable things. I can see now that I did not have a deficit view of students, but I did have a colorblind perspective because I did not want to feel racist. In addition, I did not see students and educational structures from more than my own perspective. My experiences growing up have influenced my open-mindedness; however, my more recent experience in graduate school has taught me how to question the world around me.

**Professional experiences as an elementary school teacher.** My professional experiences have impacted my interest in this topic as well. As an elementary school teacher I struggled with the way elementary mathematics was taught at my school and how students and even teachers struggled with the mathematics. I worked with fourth grade students who could not delineate the values of numbers using place value concepts and was struck by the lack of interest my students had in doing mathematics. When I moved to teach kindergarten, my students were much more excited about mathematics and had a passion I was able to feed off. The excitement of the kindergarten students confused me because I was used to students being intimidated by mathematics, it made me wonder if we somehow teach students to dislike mathematics through our curriculum and pedagogical choices.

**Professional experiences as a graduate assistant.** My experiences as a doctoral student and candidate researching both elementary mathematics education and culturally responsive teaching have strengthened my interest and passion for the topic as well. Specifically, my teaching assignments at the university as a field supervisor early on in my doctoral career were quite influential. I had experiences teaching almost all of the courses available for elementary education majors including: classroom management and instructional planning, creative
experiences for elementary students, and each level of internship field supervision. More recently I taught the two elementary mathematics methods courses the university offers. In the first mathematics methods course, preservice teachers learned about the principles and standards NCTM puts out for mathematics teachers, one of these strands is on access and equity. The two semesters in which I conducted this self-study (See Table Three) I worked with the same group of preservice teachers I have worked with previously in their level one, one day a week field experience, Mathematics Methods 1 course, and level two, one day a week field experience. We laid a foundation for culturally responsive teaching in all of the field experience seminars and the first mathematics methods course leading up to this semester. Outlined below is an overview from the first mathematics methods course about how I integrated discussions and tasks to address culturally responsive teaching in elementary mathematics. Also outline below is how topics of culture were integrated into the prior field experiences.

**Table 3**

**Mathematics methods one course outline of cultural tasks**

<table>
<thead>
<tr>
<th>Week</th>
<th>Task</th>
<th>Method of Task Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week One</td>
<td>When they felt mathematically powerful, and general education histories</td>
<td>Individual writing and group sharing</td>
</tr>
<tr>
<td>Week Two</td>
<td>Mathematical self: personal experiences in math and how they made them feel. Problem Solving for All Problem #1 in class</td>
<td>Individual writing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Group work</td>
</tr>
<tr>
<td>Week Three</td>
<td>Describe beliefs about mathematics</td>
<td>Individual writing</td>
</tr>
<tr>
<td>Week Four</td>
<td>What is Culture? Identify personal culture Reading Aguirre et al. (2012) article</td>
<td>Group discussion and individual writing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Individual reading and reflection whole group</td>
</tr>
<tr>
<td></td>
<td>Textbook chapter on equity</td>
<td>Group discussions</td>
</tr>
</tbody>
</table>
During week one the preservice teachers and I worked in small groups to discuss a time when they felt mathematically powerful as well as shared their general education histories. First, they wrote individually about a time they felt mathematically powerful, then they discussed in their groups patterns across the individual members. We came back together as a whole group and they shared what they discussed in their small groups. At the end of class, on their own, they wrote about their education histories.

In week two the preservice teachers wrote individually about their mathematical selves. Specifically, they wrote about their personal experiences with mathematics and how those experiences made them feel. Next, in small groups the preservice teachers worked together to transform a problem solving problem they brought to class. They thought and reflected about a specific student in their field experience classroom to alter the problem to meet that student’s specific needs or interests.

In week three, the preservice teachers wrote about their beliefs about mathematics. During week four we discussed the various aspects of culture as a whole group. Individually they wrote about their own personal culture using a series of aspects of culture to help guide their thinking. In class we read an article by Aguirre, et al. (2012) about making connections to practice. The article discusses how to create problem solving problems using students’ funds of knowledge. After reading the article individually we discussed, whole group, about the article
and how it applied to our work. At the end of this class they all wrote individual reflections about the Aguirre et al. article.

In week five we focused our discussion on technology and equity, which aligned with the chapter from mathematics textbook. In a whole group we discussed how mathematics is not necessarily a universal language, as well as how students from different cultures learn mathematics in an elementary classroom. At the end of week six the preservice teachers independently wrote a reflection about one student from their mathematics field experience classroom, then they explained about their student as well as why they chose their student. The second problem solving task was due during week eight. The preservice teachers worked in pairs for this task. They either modified an already written problem solving problem or created their own problem solving problem. Then they wrote the problem in such a way that it reflected the needs or interests of their specific student. They also wrote a rationale for how the problem met the needs of their student.

At the end of the week 11 class the preservice teachers wrote and reflected individually about who participates in their field experience mathematics classroom. During week 13 the third and final problem solving for all problem was due. The preservice teachers worked individually to create or modify a problem solving problem for an individual student in their field experience classroom. In addition, as they did before, they wrote a rationale for why that problem solving problem met the needs or interests of their particular student. In week 14 we discussed the idea of colorblindness and how it applied to an elementary mathematics classroom. We had a group discussion about colorblindness and then they wrote individual reflections at the end of class.
<table>
<thead>
<tr>
<th>Field Experience</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level One</td>
<td>Diversity Case Study</td>
</tr>
<tr>
<td>Level One</td>
<td>Classroom Data Packet</td>
</tr>
<tr>
<td>Level One</td>
<td>Inquiry into an Individual Student</td>
</tr>
<tr>
<td>Level Two</td>
<td>Diversity Case Study</td>
</tr>
<tr>
<td>Level Two</td>
<td>Inquiry into an Individual Student</td>
</tr>
<tr>
<td>Alternative Field Experience</td>
<td>Culture readings and reflections</td>
</tr>
</tbody>
</table>

Culture was explored in the level one, one day a week field experience with preservice teachers through tasks and discussions in seminar. Over the course of the semester we read diversity case studies from Gorski and Pothini’s (2014) book *Case studies on diversity and social justice education* and the preservice teacher wrote reflections after each case study. At the end of the semester they put all of their reflections into a word cloud in order to look across all of their reflections and then they wrote a summative reflection on the diversity case studies. The preservice teachers also collected classroom data on all of their students, which lead to an inquiry into an individual student. For each observation cycle, the preservice teachers wrote about how they could meet the needs of their diverse students in each lesson plan; we also discussed this in our pre and post conferences.

In the level two, one day a week, field experience we continued to use Gorski and Pothini’s (2014) book on diversity case studies over the course of the semester. The preservice teachers continued their inquiries into the same individual student and expanded their data.
collection to include conversations and interviews with personnel at the school other than their collaborating teachers. During their alternative field experience over the summer, I was not their course instructor; however, they engaged in reflections about diversity and read articles surrounding ideas of culture and how culture influences students in their classrooms.

**Context**

For the fall semester in 2015 and the spring semester in 2016 I was a graduate assistant as a doctoral candidate in the position of mathematics methods course instructor and field supervisor. During this timeframe I began engaging in qualitative self-study research to better understand the extent to which I enacted my espoused teacher education platform, in relation to culturally responsive teaching and mathematics knowledge for teaching, in an integrated instructional third space of an elementary mathematics field experience and an elementary mathematics methods course. During the spring 2016 semester I served as a graduate assistant and was a doctoral candidate in the position of final internship field supervisor with the same group of preservice teachers whom I worked with in the fall 2015 semester. However, I only supervised 11 out of the 16 preservice teachers who stayed at the same rural elementary school. The context of the study, including my instructional positions, the preservice teachers, and various colleagues I worked with over the course of the semester were naturally occurring as part of my graduate assistantship with the university where I was working on my degree. The contexts included: the teacher education program, the mathematics methods course, the elementary level three field experience, and the elementary final internship field experience.

**Teacher education program.** The university is located in the southeastern part of the United States in a large and culturally diverse county. The teacher education program where I worked was an award-winning program committed to preparing teachers for diverse learners.
The supportive stance of the teacher education program allowed me to utilize what my preservice teachers had already learned about culturally responsive teaching and focus specifically on the content, elementary mathematics. This context influenced my self-study due to the fact that the preservice teachers I worked with already had some background knowledge on culturally responsive teaching and working with diverse students. The county in which the partnership schools are located has a diverse student body with 36.2% white, 21.3% black, 33.0% Hispanic, 3.7% Asian, 0.2% American Indian, and 5.5% two or more races. There are approximately 15,000 students whose primary language is other than English. The district has earned a grade of “A” or “B” since the 2005-2006 school year (Florida Department of Education School Accountability Report, n.d.).

The elementary education program within the university is the largest program within the department of teaching and learning and within the college of education. Specifically, the elementary education cohort program has over 300 preservice teachers enrolled at any given time progressing through a five-semester sequence (See Table 5). In this program, the preservice teachers simultaneously enroll in coursework and field experiences each semester at one of 20 selected partnership schools. Each cohort is comprised of two schools with approximately 15 preservice teachers at each school, for a total of 30 preservice teachers per cohort. Two supervisors work with each group of 15 preservice teachers for the first four semesters of their field experience work. Whenever possible, the supervisors are also assigned a course to teach within the same cohort.
Table 5

Preservice teacher course sequence.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Semester 3</th>
<th>Semester 4</th>
<th>Semester 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>One day a week field experience</td>
<td>One day a week field experience</td>
<td>Alternative summer field experience</td>
<td>Two day a week field experience</td>
<td>Final five day a week field experience</td>
</tr>
</tbody>
</table>

In their first semester in the elementary education cohort program, preservice teachers take various coursework and are in the field one day a week in their partnership school. During the second semester they enroll in their first mathematics methods course and are at their partnership school one day a week with the same collaborating teacher and field supervisor as the first semester. In the third semester they engage in an alternative field experience outside of a school setting, this takes place during the summer semester. The fall semester of their second year and the spring semester of their second year were the contexts for this self-study. The preservice teachers enrolled in their second mathematics methods course and were in their field experience two back-to-back days a week during the first semester of data collection. In the fourth semester, the first semester of data collection for this self-study, the preservice teachers were placed with a new collaborating teacher, if they were in a primary classroom (kindergarten, first, or second grade) for the one day a week field experience they are placed in an intermediate classroom (third, fourth, or fifth grade) and vice versa. In the fifth and final semester, the second semester of data collection for this self-study, the majority of preservice teachers stayed with their semester four collaborating teacher, unless the preservice teacher moved schools, or the collaborating teacher was not qualified to host a final intern preservice teacher. This study took
place in both the fourth and fifth semesters, see Table five above. For the fifth and final semester the preservice teachers had a choice to stay in their partnership school, or change to a different school for their final, five-day a week field experience. Over the course of the five semester sequence preservice teachers spend approximately 1000 hours in the field.

The elementary school. The Title One elementary school, where I supervised my preservice teachers, had approximately 600 students and about 90% of students are on free and reduced lunch. In addition, the school had a large population of ELL students and a large population of transient students. The school was located in a rural farming area. The majority of students were Hispanic (62.2%), while there were minority 31.3% white, 2.8% black, 1.0% Asian, .2% American Indian, and 2.5% two or more races. Over the last ten years the school never dropped below a “C” grade.

Mathematics Methods 1. In the elementary teacher education program there are two mathematics methods courses. Mathematics Methods 1 is taken during the preservice teachers’ second semester and Mathematics Methods 2 is taken during their fourth semester. The first mathematics methods course laid a foundation for mathematical thinking and what it means to do mathematics. We engaged in tasks and discussions about pedagogical practices for teaching with the mathematics standards, problem solving, planning, assessment, teaching with equity, teaching with technology. We also looked at elementary mathematics content including: number sense, operation meaning, mastering facts and computation strategies for addition, subtraction, multiplication and division, place value, algebraic thinking, fraction concepts and fraction computation. The major tasks in the course were creating problem solving problems with an individual student in mind, linking research to practice article readings, videotaping mini lessons
of themselves engaging with the first three standards for mathematical practice, and two exams on content and pedagogy.

**Mathematics Methods 2.** In order to enroll in the second mathematics methods course, preservice teachers needed to successfully complete and pass all of the previous coursework, including the first mathematics methods course. The second mathematics methods course focused on content and pedagogies in proportional reasoning and geometry. There were also reviews woven throughout the second mathematics methods course from the first course. During the first semester of data collection, this self-study took place in the Mathematics Methods 2 course.

In the Mathematics Methods 2 course the preservice teachers were required to write a differentiated lesson plan with their elementary mathematics field experience classroom students in mind. While it was not required for them to teach the lesson, I suggested that they teach this lesson and have it count towards their second observation for the field experience course. Due to the fact that I had served as their mathematics methods instructor in the past, my preservice teachers usually asked me to observe them teaching mathematics; therefore, I encouraged them to teach a mathematics lesson for one of their two observations. In their partnership school field experience classroom, the preservice teachers were in either a departmentalized classroom, where they taught both mathematics and science lessons, or language arts lessons, or in a self-contained classroom where they taught all content areas. The preservice teachers that did not teach mathematics every day were encouraged to teach a small group, or one on one, in another preservice teachers’ classroom, or in the classroom where they spent all of last years’ time in their field experience. The official course description from the university syllabus was as follows:
This course is required in the undergraduate programs in Elementary Education. The course continues the development of knowledge and skills necessary to prepare students to assume roles as teachers of mathematics in the elementary schools. The National Council of Teachers of Mathematics (NCTM) in its Guidelines recommends such a course for Preparing Teachers. In order to enroll in this course, the preservice teachers have to pass all of their previous coursework within the College of Education, including the first elementary mathematics methods course (Appendix A).

The textbook used for the course is Elementary School Mathematics by Van de Walle, Karp, & Bay-Williams (2012). The purpose of the course was to continue to the development of knowledge and skills of preservice teachers that were necessary for them to assume roles as teachers of mathematics in the elementary schools. A mathematics methods course like this is recommended by NCTM in order to prepare new teachers for elementary mathematics classrooms. All of the course objectives are listed in Appendix A. Some of the tasks included in the course were written lesson plans, reflections, micro teaching sessions, readings, and linking research to mathematics teaching. The microteachings and lesson plan writing involved preservice teachers in thinking about how to create and implement mathematical tasks to reach all of their diverse learners. Additional readings outside the required textbook also focused on culturally responsive teaching and mathematics, as well as analyzing lesson plans for instances of equity. These naturally occurring course tasks were used to help answer my research questions; though not all of the tasks were used. The official syllabus is provided in Appendix A.

**Field experiences.** The preservice teachers I worked with while engaging in this self-study were enrolled in the level 3 field experience, a two day a week field experience in their...
final year of their education program. This level 3 field experience served as the context for the first semester of data collection of the self-study. The level three two day a week field experience took place in the fall of the preservice teachers’ senior year. In this experience preservice teachers were expected to teach something each day they are in the field. The official description of the level 3 field experience was as follows:

This intensive, inquiry-driven internship experience is designed to complement foundational course work expected in the Undergraduate Elementary Program. The integration of course and field experience allows the Undergraduate Teacher Candidates to make critical course to field connections. These students will spend two full days per week in a supervised internship experience in classroom settings in a public school. The classroom experiences are supplemented by a weekly seminar meeting in which relevant topics are discussed (Appendix B).

There were two textbooks used in the seminar, Dana and Yendol-Hoppey’s (2009) The Reflective Educator’s Guide to Classroom Research: Learning to Teach and Teaching to Learn Through Practitioner Inquiry and Gorski and Pothini’s (2013) Case Studies on Diversity and Social Justice Education. In addition, several supplemental readings were assigned over the course of the semester in relation to culturally responsive teaching. These readings varied depending on the knowledge and experiences of the preservice teachers in the course. The tasks from the field experience course included weekly reflection on a blog, readings, written and implemented two day connected lesson plans, formal observations by the university supervisor and collaborating elementary school teacher, peer observations, and an inquiry project which looked into a content area. These tasks were used purposefully to inform this research study, but
were not extra assignments for the participants of this study. The official syllabus for this course is provided in Appendix B.

The final internship field experience took place in the spring semester of the preservice teachers’ senior year. During this field experience the preservice teachers were expected to teach every day and slowly take over all subject area planning and implementing over the course of the semester. The official description of the final internship field experience was as follows:

This course is designed to support a one semester full-day internship in a public elementary school. The Undergraduate Teacher Candidate will demonstrate his or her ability to teach as described by the Florida Accomplished Practices for Pre-professionals as well as his or her readiness to assume the full span of job responsibilities that are expected of a teacher. Through inquiry, pre-service teachers will focus on their professional development during final internship through purposeful goal setting and data collection and analysis (Appendix C).

The tasks from the final internship field experience course included formal observations by the university supervisor and collaborating elementary school teacher, a mid-term evaluation, a Florida Accomplished Practices portfolio, an inquiry project which looked into a content area, extending on the previous semesters’ work, and a presentation at an inquiry conference. These tasks were used purposefully to inform this research study, but were not extra assignments for the participants of this study. The official syllabus for this course is provided in Appendix C.

Data Sources

The following section outlines the data sources that I collected in order to understand how I enacted my platform as I worked in this integrated instructional third space, as well as what facilitators and barriers I encountered during my enactment. Finally, I collected data to
find out how I transformed as a teacher educator while engaging in this process of framing and reframing my platform within this integrated instructional third space. Table Six shows how the data relate to my research questions.

**Table 6**

**Research questions and data sources.**

<table>
<thead>
<tr>
<th>Questions</th>
<th>Data Sources</th>
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| 1. In the context of the self-study, to what extent do I enact my espoused teacher education platform in the integrated instructional third space that exists at the intersection of an undergraduate elementary field experience and an undergraduate elementary mathematics methods course in relation to culturally responsive teaching? (a) What facilitators and challenges do I face as I try to navigate living out my espoused platform within this third space? | Interviews to uncover my platform  
Teacher Education Platform  
Researcher’s Journal  
Embedded Reflection on Researcher’s Journal  
Field notes and observational data from pre and post conferences with preservice teachers, and observation tools  
Documents and Artifacts (i.e. lesson plans, course assignments, preservice teachers’ work) |
| 2. In the context of the self-study, how do I transform as a teacher educator while engaging in the process of framing and reframing my platform within this integrated instructional third space? | Teacher Education Platform  
Researcher’s Journal  
Field notes and observational data from pre and post conferences with preservice teachers, and observation tools  
Documents and Artifacts (i.e. lesson plans, course assignments, preservice teachers’ work)  
Embedded Reflection on Researcher’s Journal |

**Semi-Structured Interviews to Uncover My Platform**

In order to begin the process to articulate my platform, one of my critical friends interviewed me using Seidman’s (1998) structure for in-depth phenomenological interviewing. Seidman’s phenomenological three interview process aims to get at the nature or essence of a
lived experience. The first interview uncovers the participant’s life history, the second focuses on the details of the experiences of the participant, and the third and final interview asks the participant to reflect on the meaning of his or her experiences (Seidman, 1998). This interview process was completed within a week’s time and aligned with my purposes to allow me to further understand my platform in the integrated instructional third space in relation to culturally responsive teaching, elementary mathematics instruction, and elementary mathematics supervision. Each of the three interviews were audio recorded and transcribed.

The first interview focused on my life history. Van Manen (1990) suggested giving opened ended prompts to help participants produce a detailed lived-experience when engaging in reflective writing. I used his suggestions as a guide for interview questions to uncover my own lived experiences in order to uncover my platform and the possible origins of this platform. My colleague interviewed me and asked about my life up until the time I became a field supervisor and instructor, going back as far as possible (Seidman, 1998). The lived-experience narrative data from the first interview was intended to help me gain access to my own personal experience with the integrated instructional third spaces I had worked in at the university.

Following Seidman’s (1998) guidelines, my second interview concentrated on my experiences within the realm of instruction, field supervision, culturally responsive teaching, and elementary mathematics. This second interview helped me dig deeper into my experiences and beliefs that contributed to my teacher education platform. I attempted to uncover relationships within my experiences as an instructor and field supervisor, including but not limited to my work with preservice teachers, collaborating teachers, administration at the field experience schools, faculty at the university and the wider community. The interviewer also asked me to detail a typical day of my life at work (Seidman, 1998). In addition, my colleague asked for stories
about my experiences in order to gather more details about my life as an instructor in this integrated instructional third space within the teacher education program. Per Seidman’s interview recommendation, in the third and final interview my critical friend asked me to reflect on the meaning of my experiences as an instructor and field supervisor. This interview attempted to get at the intellectual and emotional connections between my work and life (Seidman, 1998). I used open-ended questions to connect this final interview to what was discussed in the first two. In addition, my critical friend asked me what culturally responsive mathematics meant to me and what meaning I had made about it. After the three interviews were completed and transcribed I used the transcriptions to write my teacher education platform.

**Teacher Education Platform**

The data from the interviews (See Appendix D) allowed me to begin to think about how to write my teacher education platform. Sergiovanni and Starratt (2002) describe the general elements of an educational platform in relation to in-service teachers in a school setting are: the aims of education, views of knowledge, social significance of student’s learning, the image of the learner, the image of the curriculum, the image of the teacher, the preferred pedagogy, the preferred school climate. In addition to these elements of the platform, Sergiovanni and Starratt suggest supervisors also include: the purpose or goal of supervision, and the preferred process of supervision. Glickman, Gordon, and Ross-Gordon (2014) explain that a supervisory platform should include: a definition of instructional supervision, the purpose of supervision, who should supervise and who should be supervised, and what knowledge, skills, attitudes, and values are possessed by successful supervisors.

**Process of writing first platform.** Before the beginning of my first semester of data collection I had a critical friend interview me using Seidman’s (1998) structure for in-depth
phenomenological interviewing. These three semi-structured interviews helped to uncover my beliefs and experiences about teaching. After these three interviews, I wrote my initial teaching platform (See Appendix E). I used the questions and prompts, as seen in Table Two, by Glickman et al. (2014), Nolan and Hoover (2011), Sergiovanni and Starratt (2002), and Jacobs and Casciola (2015) to guide my thinking for the initial platform writing for teacher education. I also kept in mind the interviews that helped me to uncover my beliefs and experiences about teaching. I went through each of the questions in Table Two and answered them according to my thoughts and belief about teacher education.

While the questions from Table Two guided me to begin the process of platform writing, the first iteration of my platform included broad philosophical views of teaching. I simply answered the questions and added thoughts about my beliefs connected to teaching and learning, but I did not specifically highlight teacher education, elementary mathematics, or culturally responsive teaching, which is the context of my self-study.

Process of writing second platform. After I wrote my initial platform, I spent each week attempting to live out my platform and reflecting on what I thought my platform entailed, for a total of 30 weeks. While writing in my researcher’s journal I would consciously attempt to think about my teacher education platform, whether it matched with what I had initially written or not, and to reflect on how my platform was manifesting itself in my teaching. This reflective writing process allowed me to think deeply about the nuances of what my platform entailed and what I wanted it to become. I unpacked how the reflections in my researcher’s journal allowed me to think further about the reframing of my platform in the second iteration. As I went through this process it was clear there were pieces missing from my first platform that I was attempting to live out, yet had not written about in my platform, as I went through the process of living out, my
beliefs and values each week in comparison to what I had written. This realization allowed me to engage in the reflective conversations with colleagues and then the reflective writing process about my first platform, including thinking about what was missing, what a good foundation for the next iteration could be, and what I could cut.

Before I wrote the second iteration of my platform (See Appendix F), I read my initial platform deeply to think through why I wrote what I wrote. Next, I analyzed the transcripts of the interviews and wove in quotes from my interviews into my first platform. Then I wrote a specific reflection on the first iteration of my platform. After I wrote the reflection on my platform I went back to the interviews I conducted with my critical friend and analyzed my platform against the interviews. I looked at each piece of my first platform and matched it with pieces from all three interviews. I color-coded my interview so I could see where each connection came from. I copied and pasted pieces of my interviews that matched thoughts and statements from my platform to see where my experience influenced the origins of my first platform I also looked for any mismatches between my experiences and my platform. My first platform was quite generic which wasn’t conducive for mismatches to be identified. After I reflected on my first platform and the snippets from the interviews I began to write my second platform. As I wrote my second platform I tried to keep in mind the first platform, the interview pieces, and conversations I had with my committee in order to construct a more detailed and focused second platform.

**Process of writing third platform.** The second iteration of my platform went well beyond the generic and philosophical nature of the first platform I wrote; however, it was missing some specific aims and routines of practice for the facilitation of culturally responsive teaching and elementary mathematics with my preservice teachers in an integrated instructional
third space. I included more practices related to both teacher education and culturally responsive teaching, which was a goal after reflecting on my first platform. I also included many aspects of preservice teacher support such as collaboration and communication among the triad, constructivist learning and its complement to culturally responsive teaching, and community and relationship building all in the integrated instructional third space, yet there were still pieces missing.

After speaking with my major professor about analyzing my first and second platforms we discussed the missing pieces from my second platform; in these types of conversations she served as an expert in teacher education for me as a critical friend. In general terms we spoke about how the second platform did not have action based pieces, such as routines of practice, to help conceptualize what my beliefs look like while enacting my platform. I also needed to think further about the aims I deemed important for teacher education, elementary mathematics, and culturally responsive teaching in an integrated instructional third space. After analyzing my data and writing my findings I constructed my third and final platform (See Appendix G) as a culmination of my learning from the self-study.

Field Notes and Observation Data

I collected field notes within the field experience and methods course. Part of my work in the field with my preservice teachers included taking field notes during the elementary mathematics lessons taught by my preservice teachers, and during their pre and post conferences over two semesters. I intended to use field notes to help me document my enactment and to prompt my reflections in my researcher’s journal. Creswell (2013) states that field notes can be used to generate theory through their use in coding and categorizing. Field notes can be full conversations or brief notations to be elaborated on at a later time and are an essential part of
undertaking qualitative research that involves observations or interview type data (Emerson, Fretz, & Shaw, 2011). In addition to the field notes, I audio recorded our conversations during pre and post conferences when the preservice teachers taught a mathematics lesson for their observation. These audio recordings helped me to uncover anything I missed in the field notes during the pre and post conferences. Depending on what we discussed in our pre conference, I observed the preservice teacher using a variety of observation tools. Nolan and Hoover offer a variety of ways to explore “ways in which supervisors systematically encourage continuous reflection and inquiry into teaching through data collection, data interpretation and conferencing (2011, p. 30). They go on to state that during the observation the supervisor collects “nonjudgmental, descriptive information” (2011, p. 30). The ultimate goal of the supervisor during observations is to help the preservice teacher to learn to become self-directing (Nolan and Hoover, 2011). The nonjudgmental data collected during observations allowed for preservice teachers to reflect on their teaching, as well as to create a trusting environment that was less likely to lead to defensive behaviors by the observed.

**Researcher’s Journal and Embedded Reflection on Researcher’s Journal**

In order to engage in the reflective practices surrounding self-study I kept a researcher’s journal. In this journal I noted my thoughts and reflections on what I enacted in both the mathematics methods course and in the field experience with my preservice teachers. I also recorded any feelings I had about how I was enacting my platform, in reference to framing my planning and/or instruction or instances of reframing. The researcher journal allowed me the space to open up about my teaching practices in both contexts and helped me to explore my vulnerabilities as a teacher educator. For example, I began by writing out the main tasks or activities I planned for each course, and I described what I intended the preservice teachers to get
out of the activity. Then after engaging in the task or activity in the course I reflected about my implementation of the task, what preservice teachers seemed to understand in relation to the activity (including documents and artifacts from their engagement in the activity), if it went according to how I planned it, and whether or not it aligned with my platform. I also proposed changes for future implementations of the task or activity if I were to repeat it again, and suggested ways it could have more closely aligned with my platform, if it did not (See Appendix H for an example).

I shared my researcher’s journal with my critical friends over the course of the self-study. These conversations sometimes served as a beginning point for new reflection, and sometimes they were a catalyst for changes in my practice. For example, I shared a weekly reflection with one of my critical friends and she suggested I plan for culturally responsive conversations in my pre- and post- conference conversations with my preservice teachers with a lens of sociocultural consciousness. After our conversation and her suggestion to help push me further in my practice I was able to engage in deeper and more meaningful conversations with my preservice teachers. Some of the conversations with my critical friends were suggestions, and sometimes they reminded me of my goals for teaching and helped me to refocus on my practice. Each time I would have a conversation with my critical friends I would reflect about our conversations separately or within the researcher’s journal document. This document then served as data for me to analyze not only weekly, but also as a single document of data at the completion of my data collection. Each week I was able to see how I enacted my platform and the navigation through my thoughts and experiences while I taught and supervised. I was able to use the data in my researcher’s journal to frame and reframe my platform when appropriate, based on how I enacted
my platform, the feedback I get from my preservice teachers, and reflections on my own practice.

Another addition to the researcher’s journal occurred after a conversation with one of my critical friends. It was suggested that I began to write embedded reflections and thoughts on my existing journal entries. The purpose of these embedded reflections was to deepen my reflections about culturally responsive teaching and mathematics knowledge for teaching. The embedded reflections were focused and systematic to further my understanding of the connection between my platform and the facilitation of my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. The embedded reflections on the first semester of my researcher’s journal were completed for each entry. These additions added another layer of deeper reflection, as well as more detailed evidence of my thought process in relation to my practices. See Table Seven for the types of critical friend interactions.

**Table 7**

**Critical friend interactions.**

<table>
<thead>
<tr>
<th></th>
<th>Critical friend A</th>
<th>Critical friend B</th>
<th>Critical friend C</th>
<th>Critical friend D</th>
<th>Critical friend E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone Conversation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Texting</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Skype</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meeting in person</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Over the duration of the self-study I had five different critical friends. Critical friend A began my self-study journey with me and conducted the phenomenological interviews. We met bimonthly for the first semester, several meetings took place in person, but on the weeks we could not meet in person we spoke over the phone or conducted a Skype phone call. Critical friend A also texted me and checked in on my progress during the second semester of data.
collection. Critical friend A was a subject matter expert in both elementary mathematics and field supervision. She read my first semester of researcher’s journal reflections and left notes for me to think about during my enactment. For example, we had a conversation about the mathematics content additions to my mathematics methods course in the online program I used. She asked me how I used this program to help facilitate my preservice teachers’ learning about mathematics knowledge for teaching.

Critical friend B and I met every week for two months during the second semester in a writing group; she was a subject matter expert in preservice teacher education. We would meet at a local coffee place and I would bounce ideas off of her while I pieced together my findings. For example, as one part of my data analysis I created a Venn diagram of my findings in relation to what I was enacting in my mathematics methods course and my field supervision course. I documented the instances of mathematics knowledge for teaching, culturally responsive teaching, and supervision practices in both courses and where they overlapped. My critical friend B analyzed this Venn diagram with me and helped me to tease out what I enacted in each of these spaces and why. Ultimately, this conversation led to my second set of findings about the facilitators and barriers to my enactment throughout my self-study. Additionally, she helped me to clarify the wording of my findings and gave me general feedback on the structure of my findings.

Critical friend C and I met monthly for the first semester of data collection and bimonthly for the remainder of my self-study, our meetings were in person, on the phone, texting, and Skype phone calls; she was a subject matter expert in elementary education, field supervision, and culturally responsive teaching. She advised me on my teaching practices in relation to culturally responsive teaching, helped me navigate my data, read through all of my findings, and
served as a sounding board for the entire process of the self-study. For example, early on in my self-study we would talk about my personal goals for teaching and for documenting my enactment. In one conversation we had she suggested to me that I listen to all of my post conference audio recordings and listen for missed opportunities in my enactment, and then to write about my missed opportunities in my researcher’s journal. This practice allowed me to pinpoint specific instances in my practice when I either enacted, or missed an opportunity to enact my platform. Additionally, she pushed me to think about how I could hold more serious conversations with my preservice teachers about questioning societal issues and what we can do about it. Through our shared analysis of my data I uncovered my first semester of enactment to be more surface level, in relation to culturally responsive teaching and mathematics knowledge for teaching. This led to me changing my practice to include planning out pre- and post-conference questions with my preservice teachers using the TEACH Math resources.

Finally, I met with critical friends D and E a few times over the duration of the self-study. Critical friend D was a subject matter expert in elementary mathematics and culturally responsive teaching, and critical friend E was a subject matter expert in elementary education and field supervision. These critical friends helped me to better articulate my findings and gave my feedback on my study as a whole. For example, during a meeting with critical friend D we spoke about framing my findings around my enactment of facilitating preservice teacher learning about culturally responsive teaching and mathematics knowledge for teaching, rather than framing my findings around my own enactment of culturally responsive teaching and mathematics knowledge for teaching. In addition, during a conversation with critical friend E I was able to reframe my findings holistically rather than separating them by semester. This integration of data analysis from the year, rather than by semester, allowed me to under the
routines of practice I enacted, as well as the facilitators, barriers, and transformations of my enactment.

**Documents and Artifacts**

Over the course of the semester I collected various naturally occurring documents and artifacts from my own planning and implementation of instruction such as my lesson plans, notes from observations on my own behaviors and actions, observational tools I filled out, activities planned for the methods course, etc. I also reflected on my behavioral interactions with my preservice teachers’ in the field experience and mathematics methods course in order to reflect on how I responded to them, how they made me think and reflect on my own practice, and whether I changed anything in my practice because of them. I was interested to see where evidence of culturally responsive teaching showed up in any of these documents and artifacts. By interpreting this data, I gained a more in-depth understanding of how my teaching compared or contrasted with my platform.

**Data Analysis**

Each week I reflected on the previous week’s instructional activities and implementation from both the mathematics methods course and the supervision seminar, including any observations that occurred weekly in relation to my platform. I used multiple sources of information in order to provide a better description of each instructional week (Creswell, 2013).
I recorded my thoughts and experiences in my researcher’s journal; this was an ongoing simultaneous source of data analysis and data collection. This information helped to inform my critical friend conversations that occurred weekly. After reflecting and analyzing my researcher’s journal I wrote down poignant thoughts and questions to discuss with my critical friends. I also included any other audio recordings collected for the week from preservice teacher observation pre or post conferences, and field notes from any observations. The use of multiple data points allowed me to provide thick, rich descriptions of each week of instruction and reflection (Gall, Gall, & Borg, 2007).

Initially, I analyzed the first semester of my researcher’s journal separate from my embedded reflection using an electronic data analysis program using Saldaña’s (2008) provisional coding method. The provisional coding method begins with establishing a predetermined list of codes to start the data analysis. According to Saldaña, the codes can be developed from anticipated responses to data collection informed by previously researched literature, or the study’s conceptual framework. I used the latter to inform my initial list of
codes. Saldaña states that provisional codes “can be revised, modified, deleted, or expanded to include new codes” (2008, p. 144). Crewel (2013) suggests beginning the provisional code list with five to six codes and expands to no more than 25 to 30 categories that will eventually collapse into five to six major themes. Then, I analyzed the second semester of my researcher’s journal using the same provisional coding method and codes, see Figure five for an outline of the data analysis framework. What follows is an outline of the literature from my conceptual framework informing my initial list of provisional codes. Finally, the codes will be presented (See Table 8).

![Figure 5. Model for the analysis of my platform enactment](image)

Using the work of Villegas and Lucas (2002) I began using a set of provisional codes based off of their curriculum proposal for preparing culturally responsive teachers using six salient characteristics. These characteristics state that a teacher (1) is socioculturally conscious, (2) has affirming views of students from diverse backgrounds, (3) sees himself or herself as both...
responsible for and capable of educational change, (4) understands how learners construct
knowledge, (5) knows about the lives of his or her students, and (6) uses the knowledge about
students’ lives for instructional planning. For each of these characteristics I had a code as
follows in Table 8.

I continued my list of provisional codes with the work of Shulman (1986) and Ball,
Thames, and Phelps (2008), as seen in Figure five under the third column, mathematics
knowledge for teaching. Shulman talks about teacher knowledge being comprised of content
knowledge, curriculum knowledge, and pedagogical content knowledge. He defines content
knowledge as “the amount and organization of knowledge per se in the mind of the teacher”
(1986, p. 9). In mathematics, this knowledge is what a teacher knows about mathematical
content before becoming a teacher. Curriculum knowledge according to Shulman is
“represented by the full range of programs designed for the teaching of particular subjects and
topics at a given level” (1986, p. 10). Finally, pedagogical content knowledge includes “the
ways of representing and formulating the subject that make it comprehensible to others…[it] also
includes an understanding of what makes the learning of specific topics easy or difficult: the
conceptions and preconceptions” (Shulman, 1986, p. 9).

I used Ball, Thames, and Phelps’ (2008) work to further define my provisional codes.
Ball et al. divide content knowledge into “common content knowledge”, knowledge for teachers
and non-teachers alike, and “specialized content knowledge”. Furthermore, they divide
pedagogical content knowledge into “knowledge of content and students” and “knowledge of
content and teaching”. They define “specialized content knowledge” as “the mathematical
knowledge and skill unique to teaching…[it] is mathematical knowledge not typically needed for
purposes other than teaching” (2008, p. 400). Pedagogical content knowledge has two
subcategories as well. Using the work of Ball et al. (2008) this knowledge is broken down into “knowledge of content and students” and “knowledge of content and teaching”. The difference between these two types of knowledge is that “knowledge of content and students” focuses on anticipating successes and misconceptions of students, while “knowledge of content and teaching” involves the knowledge needed to make instructional decisions. For each of these components of mathematical teacher knowledge I had a code as seen in Table eight.

Finally, the last piece informing my provisional codes is the work of Jacobs and Burns’ (in press) supervision tasks and practices. The first preservice teacher supervision task they defined is Targeted Assistance, which consists of the practices of: providing focused instructional feedback, and fostering critical reflection. The practices under this task target supervisory practices that focus on specific aspects of practice pertaining to preservice teachers’ teaching. The second task is Individual Support which has two practices under it as well: providing challenge and support in order to promote learning and change with preservice teachers’ emotional needs, and helping preservice teachers cope with stress of learning to teach in a clinical context. The third task is Collaboration and Community. Under this task are the practices of developing quality placements, maintaining triad relationships among the preservice teacher, school-based teacher educator, and the university supervisor, and creating learner-centered preservice teacher communities. The fourth task is Curriculum Support. Within this task are the practices of fostering theory to practice connections, and strengthening curriculum planning. The fifth task is Research for Innovation, which consists of engaging in inquiry or self-study, and innovating to enhance supervision.
### Table 8

**Provisional codes for data analysis**

<table>
<thead>
<tr>
<th>Concept from Conceptual Framework</th>
<th>Definition of concepts</th>
<th>Provisional Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Villegas and Lucas’ Six Strands</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socioculturally Consciousness</td>
<td>There are multiple ways of perceiving reality and that these ways are influenced by one’s location in the social order</td>
<td>Awareness of own identity (i.e. class race, language, ethnicity, gender, etc.) Reflection on self in relation to identity Awareness of intern’s identity Power structure Social inequities Connections between school and society</td>
</tr>
<tr>
<td>An affirming attitude toward students from culturally diverse backgrounds</td>
<td>Seeing resources of learning in all students rather than viewing differences as problems to overcome</td>
<td>All students are capable of learning High expectations for students Rigorous curricula Building on individual and cultural resources of students.</td>
</tr>
<tr>
<td>Commitment and Skills to Act as Agents of Change</td>
<td>Teachers are moral actors whose job is to facilitate the growth and development of other human beings.</td>
<td>Having all students’ best interests at heart Increasing access to learning for all students Challenge prevailing perceptions that differences among students are problems. Belief that schools can be sites for social transformation</td>
</tr>
<tr>
<td>Constructivist Views of Learning</td>
<td>Grounded in constructivist views of learning, learning is a process by which students generate meaning in response to new ideas and experiences they encounter in school.</td>
<td>Prior knowledge and beliefs Background knowledge brought by student Personal and cultural experiences Questioning techniques to interpret and analyze information Monitor student learning and understanding</td>
</tr>
<tr>
<td>Learning about Students</td>
<td>Teachers much know not only the subject matter they teach but also their students</td>
<td>Knowledge of student’s experiences (i.e. family life, hobbies, favorite activities, etc.) Past learning experiences of students</td>
</tr>
<tr>
<td>Culturally Responsive Teaching Practices</td>
<td>Teachers use what they know about their students to given them access to learning.</td>
<td>Involving all students in the construction of knowledge Building on students’ personal and cultural strengths Examine curriculum from multiple perspectives Varied assessment practices that promote learning An inclusive classroom culture.</td>
</tr>
<tr>
<td><strong>Mathematical Teacher Knowledge</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common content knowledge</td>
<td>Knowledge for teachers and non-teachers alike</td>
<td>General math content</td>
</tr>
<tr>
<td>Specialized content knowledge</td>
<td>Knowledge for teachers</td>
<td>Math content for teaching Student misconceptions</td>
</tr>
<tr>
<td>Instances of knowledge about curricula</td>
<td>Knowledge of curriculum</td>
<td>Student success with math content</td>
</tr>
</tbody>
</table>
### Table 8 (Continued)

<table>
<thead>
<tr>
<th>Concept from Conceptual Framework</th>
<th>Definition of concepts</th>
<th>Provisional Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instances of knowledge of content and students</td>
<td>Focuses on anticipating successes and misconceptions of students</td>
<td>Student misconceptions</td>
</tr>
<tr>
<td>Instances of knowledge of content and teaching</td>
<td>Knowledge needed to make instructional decisions</td>
<td>Student success with math content</td>
</tr>
<tr>
<td>Preservice Teacher Supervisor Tasks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Targeted Assistance</td>
<td>Practices that offer targeted support that focuses on specific aspects of preservice teachers’ practice</td>
<td>Routines that provide preservice teachers with feedback on their teaching practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Routines that promote preservice teacher reflection on the impact of their actions as well as socio-political and historical context</td>
</tr>
<tr>
<td>Individual Support</td>
<td>Practices that support the psychological and emotional demands of learning in the clinical context</td>
<td>Routines that balance the need to promote learning and change with the PSTs’ emotional needs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Routines that help PSTs socio-emotional adjustment when learning to teach in a clinical context.</td>
</tr>
<tr>
<td>Collaboration and Community</td>
<td>Practices that cultivate the learning environment through establishing, building, maintaining, and renewing relationships</td>
<td>Routines that identify appropriate schools and school-based teacher educators who will assume partial responsibility for the growth and development of the PST.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Routines that attend to and foster learning among the preservice teacher, school-based teacher educator, and the university supervisor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Routines aimed at the organizing and re-organizing groups of PSTs into learning communities.</td>
</tr>
<tr>
<td>Curriculum Support</td>
<td>Practices that facilitate the negotiation of a teacher preparation curriculum that reflects shared understandings of meaningful, relevant and coherent PreK-12 curriculum</td>
<td>Routines that move away from isolated theoretical and practical learning.</td>
</tr>
<tr>
<td>Research for Innovation</td>
<td>Practices to engage in individual and collaborative efforts to study and/or change curriculum/instruction in order to enhance teaching and learning</td>
<td>Routines that develop PSTs’ understanding of instructional planning and situate planning within a larger curricular context.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Routines that involve intentional and systematic examination of one’s practice through a cycle of posing questions, collecting and analyzing data, and generating claims.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Routines that explore new models and methods to enhance supervisors’ roles and practices.</td>
</tr>
</tbody>
</table>
I used the provisional codes in an electronic data analysis program (HyperResearch) reading and coding each semester of data separately at first, line by line. Then, I coded a separate data file of the embedded reflections on my researcher’s journal line by line. As I read each line of data I tagged it with one or more code in the electronic data analysis program. After the data was tagged I could then sort the data by each type of code either as separate documents, or as one holistic document.

Once the data was coded using the electronic data analysis program, I began to record commonalities among my data. I used the sorting function in the data analysis program to sort my data based on all of the codes separately to see which codes overlapped. I met with a critical friend to talk through and reanalyze my initial commonalities and the overlaps in my codes and then began to outline my findings. From these initial findings, critical friend conversations, and reframing of the interpretations of the data I began to uncover themes that emerged. I went back to my research questions to ensure I understood the connection to my platform of teacher education, how I enacted out my platform, and ultimately how I transformed as a teacher educator (Creswell, 2013). “Themes in qualitative research (also called categories) are broad units of information that consist of several codes aggregated to form a common idea” (Creswell, 2013, p. 186). As the themes began to emerge, I used additional documentation methods, electronic and paper/pencil, to record instances, situations, experiences, and quotes that fit within each particular theme. For example, I created a running list of the supervision tasks and their associated practices and I wrote down which codes from mathematics knowledge for teaching and culturally responsive teaching fell under each supervision task, see Appendix I for examples. I also went back to my raw data and picked out quotes, snippets of lesson plans, or pieces from my observation notes to match with my findings. The analysis allowed me to explore and shed
light on the data collected and to reflect on and reframe the thematic understandings that occurred.

Once I narrowed in on potential themes I began to flesh out my findings with my data. I initially wrote my findings by semester. The initial set of findings was centered on the supervision tasks and how I connected mathematics knowledge for teaching and culturally responsive teaching in the facilitation of my preservice teachers’ learning. After I wrote these findings I analyzed them as a whole for commonalities among the practices and other themes that may emerge. This layer of analysis allowed me to see that each overlap of supervision, mathematics, and culture lie a set of specific practices I was using as I enacted my platform. Furthermore, I found that when I wrote my initial findings by semester, I wrote about facilitators and barriers to my enactment, as well as transformations in my practice.

From here, I put together a list of routines of practice that I found I was engaging in during the facilitation of my preservice teachers’ learning about mathematics knowledge for teaching and culturally responsive teaching. Then, I went back to the data and coded it with the characteristics of the routines of practice in mind. As I read the data again I began to uncover that there were more specific ways I enacted my supervision under the routines of practice, these
were the specific pedagogies. Next, I wrote the routines of practice with their accompanying pedagogies I used in either the mathematics methods course or in the field experience. I connected each routine of practice with the supervision tasks and practices and the mathematics knowledge for teaching components that I used throughout my enactment.

Once the routines of practice were underway I focused on the facilitators and barriers in my enactment as well as places where I found transformation through the enactment of my platform. During the analyses of my data I saw relationships played a key role in my facilitation of my preservice teachers’ learning; however, my ability to connect with the collaborating teachers tended to be a barrier. In addition, I found I sometimes did not have the knowledge or comfort level to hold certain types of conversations with my preservice teachers to facilitate their learning about culturally responsive teaching and mathematics knowledge for teaching. While writing the facilitators and barriers findings I engaged in an additional layer of analysis after writing the first draft. I found subthemes within the first draft, which led to the heading, and subheadings within the chapter. In addition, I found patterns of the types of culturally responsive teaching practices that were embedded within the facilitators and challenges I had when I facilitated, which led to the subthemes presented.

As my final set of findings began to take shape I shared them and the accompany data with multiple critical friends to check if the data matched what I found. For example, when writing up the facilitators and barriers section of findings, one critical friend agreed with the organization of my findings when I shared the collaborating teachers section being separate from the preservice teacher section. We had a conversation surrounding my data and I provided my critical friend with multiple examples from my data, including quotes from my researcher’s journal, field notes indicating nuances among my relationships with both the preservice teachers
and the collaborating teachers. Furthermore, another critical friend conversation led to the idea to create subthemes with more specific foci under the challenges I had facilitating different types of conversations. Through this process I wrote two chapters of findings, chapter four and chapter five, on the routines of practice and the facilitators and barriers to my platform enactment, respectively. Within each findings chapter is embedded evidence of my platforms as well as my transformations as a teacher educator throughout this process.

**Trustworthiness**

As the vehicle of qualitative self-study research, a researcher must consider the validity of his or her research. This is especially important since self-study involves the researcher as producer and analyzer of the data collected. Validity in qualitative research is especially difficult to define since it usually refers to the degree to which a study reflects the research topic it is trying to measure (Feldman, 2003). While early research using self-study was considered literary, reflective or professional development work, it has since become a genre “that generates knowledge and understanding that is to be shared and used by, others [therefore] the validity issue resurfaces” (Feldman, 2003, p. 27). Consequently, the researcher must put into place certain techniques to establish validity and trustworthiness in self-study. Bullough and Pinnegar argue that self-study “invites the reader into the research process by asking that interpretations be checked, that themes be critically scrutinized, and that the ‘so what’ question be vigorously pressed” (2001, p. 20). In 2003 Feldman published a response to Bullough and Pinnegar’s article adding to their guidelines to include issues of validity and trustworthiness to self-study methodology. He states that while self-study is used to understand and change who teacher educators are, “we need to do more than represent our findings; we must demonstrate how we constructed the representations” (2003, p. 27).
Using Feldman’s (2003) guidelines, building off of the work of Bullough and Pinnegar (2001) this self-study employed the following to ensure the study is valid and trustworthy:

1. Provide clear and detailed descriptions of how data is collected, explicitly stating what is data and what may not be considered data.

2. Provide clear and detailed descriptions of how the representations for the data are constructed, the transformations from data to understandings need to be explicit.

3. Extend triangulation beyond multiple sources of data to include multiple explorations of multiple ways to represent the same self-study. Inevitably one data set can have many representations, therefore it is important to show why one representation has been chosen over others. Multiple representations that support and challenge one another add to the reasons to believe and trust the self-study.

4. Provide evidence of the value of the changes in the ways of the teacher educator. If the self-study results in a change in the researcher’s way of being a teacher educator, evidence of its value should be presented.

I provided clear detailed descriptions of how my data was collected as well as how the data was constructed. Additionally, I used multiple sources of data and checked my data with multiple critical friends in order to ensure the findings were representative of the data. Finally, in chapter six, I provide evidence of the value the self-study brought to me as a teacher educator.

To increase the trustworthiness of my study I employed the use of critical friends. Guba and Lincoln (1994) state:

The variable and personal (instrumental) nature of social constructions suggests that individual constructions can be elicited and refined only through interaction between and among investigator and respondents. These varying constructions are interpreted using
conventional hermeneutical techniques, and are compared and contrasted through a dialectical interchange (p. 111)

According to Samaras a critical friend is “a trusted person who asks provocative questions, provides data to be examined through another lens, and offers a critique of a person’s work as a friend” (2011, p. 75). I had multiple critical friends who I met with weekly either in person, or via Skype to discuss my self-study. These critical friends included colleagues and mentors who also had backgrounds in elementary education and/or elementary mathematics. I took anecdotal field notes on each of my weekly sessions to keep track of the topics we discussed. We had discussions around ideas I wrote about in my researcher’s journal, documents and artifacts I collected, reflections about my platform, and any issues or concerns that arose throughout the self-study. Samaras and Freese argue that self-study is not done in isolation, “but rather requires collaboration for building new understandings through dialogue and validation of findings” (2009, p. 5). The openness and vulnerability of self-study lead to the reframing and conceptualizing of the role of the researcher (Samaras and Freese, 2009).

Summary

Since there is limited research on understanding to what extent espoused platforms are enacted in an integrated instructional third space I aimed to add to the literature in teacher education, field supervision, and culturally responsive teaching in elementary mathematics. In addition, I was interested in the professional growth self-study allowed by studying what facilitators and challenges I faced during my enactment as well as my understanding of how I transformed as a teacher educator throughout this process with my preservice teachers in this integrated instructional third space.
Through collecting naturally occurring data, systematically documenting my thoughts and reflections in a researcher’s journal, and meeting weekly with various critical friends I hoped to gain insight and a deeper understanding of how I lived my platform and what transformations I made as a teacher educator because of this process. I wrote my platform, kept a researcher’s journal, reflected on my researcher’s journal, had a critical friend interview me, collected naturally occurring data in relation to preservice teacher observations, and documents and artifacts over the course of two semesters. I analyzed this data employing provisional codes in order to uncover core meanings of my platform, my researcher’s journal, interview transcriptions, embedded reflections on my researcher’s journal, observational data, and documents and artifacts. To establish trustworthiness and validity explicit data collection and analysis procedures were utilized.
CHAPTER FOUR
ROUTINES OF PRACTICE

This chapter will address both of my research questions, (1) In the context of the self-study, to what extent do I enact my espoused teacher education platform in the integrated instructional third space that exists at the intersection of an undergraduate elementary field experience and an undergraduate elementary mathematics methods course in relation to culturally responsive teaching and mathematics? (a) What facilitators and challenges do I face as I try to enact my espoused platform within this third space?; (2) In the context of the self-study, how do I transform as a teacher educator while engaging in the process of framing and reframing my platform within this integrated instructional third space? As described in chapter three I developed an integrated framework that included connections to teacher education, mathematical knowledge for teaching, and culturally responsive teaching make sense of my data. In chapter three I also presented the processes for framing and reframing my platform over the duration of the self-study through enactment, reflection, and conversations with my critical friends. In this chapter I will present the specific routines of practice I uncovered that helped me to enact all of the aspects of my platform: supervision practices, culturally responsive teaching, and mathematics knowledge for teaching.

Uncovering Routines of Practice to Facilitate Mathematical Knowledge for Teaching and Culturally Responsive Teaching

In the section that follows I will outline the routines of practice I used while attempting to enact my platform in order to help foster mathematical knowledge for teaching and culturally
responsive teaching with my preservice teachers in the integrated instructional third space.

Grossman, Hammerness, and McDonald (2009) use the term high-leverage practices to describe what preservice teachers should begin to enact in teacher education programs. Stemming from this work, Burns and Jacobs (in press) use the term routines of practice to help name practices that actualize larger tasks.

**Table 9**

**Routines of practice**

<table>
<thead>
<tr>
<th>Routine of Practice</th>
<th>Supervisor practices (Burns and Jacobs, in press)</th>
<th>MKT Connections (Ball, Thames and Phelps, 2008)</th>
<th>Six Salient Cultural Strands (Villegas and Lucas, 2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Probing Questions</strong></td>
<td>Questions that allowed me to prompt preservice teachers to think more deeply about culturally responsive teaching and mathematics knowledge for teaching.</td>
<td>Knowledge of content and teaching</td>
<td>Commitment and skills to act as agents of change</td>
</tr>
<tr>
<td></td>
<td>Fostering critical reflection</td>
<td>Specialized content knowledge</td>
<td>An affirming attitude toward students from culturally diverse backgrounds</td>
</tr>
<tr>
<td></td>
<td>Helping preservice teachers cope with stress</td>
<td></td>
<td>Constructivist views of learning</td>
</tr>
<tr>
<td><strong>Utilizing Personal Connections</strong></td>
<td>Using the knowledge of my preservice teachers to foster their construction of knowledge about how their experiences could potentially influence their teaching practice in relation to mathematics and culturally responsive teaching</td>
<td>Fostering critical reflection</td>
<td>Culturally responsive teaching practices</td>
</tr>
<tr>
<td></td>
<td>Fostering critical reflection</td>
<td>Knowledge about content and teaching</td>
<td>Sociocultural consciousness</td>
</tr>
<tr>
<td><strong>Offering Suggestions</strong></td>
<td>Providing direct advice or ideas to my preservice teachers in relation to their mathematical knowledge for teaching and culturally responsive teaching</td>
<td>Knowledge about content and teaching</td>
<td>Constructivist views of learning</td>
</tr>
<tr>
<td></td>
<td>Targeted instructional feedback</td>
<td>Knowledge about content and teaching</td>
<td>Culturally responsive teaching practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knowledge about content and students</td>
<td></td>
</tr>
<tr>
<td><strong>Modeling</strong></td>
<td>Explicitly demonstrating teaching practices for or with my preservice teachers in relation to their mathematical knowledge for teaching and culturally responsive teaching</td>
<td>Fostering critical reflection</td>
<td>Culturally responsive teaching practices</td>
</tr>
<tr>
<td><strong>Routine of Practice</strong></td>
<td>Supervisor practices (Burns and Jacobs, in press)</td>
<td>MKT Connections (Ball, Thames and Phelps, 2008)</td>
<td>Six Salient Cultural Strands (Villegas and Lucas, 2002)</td>
</tr>
<tr>
<td></td>
<td>Balancing challenge and support</td>
<td>Common content knowledge</td>
<td>Commitment and skills to act as agents of change</td>
</tr>
<tr>
<td></td>
<td>Strengthening curriculum planning</td>
<td>Specialized content knowledge</td>
<td>Constructivist views of learning</td>
</tr>
<tr>
<td><strong>Targeted Activities</strong></td>
<td>Explicitly planned activities for my preservice teachers to engage them in reflection about both their mathematical knowledge for teaching and culturally responsive teaching</td>
<td>Common content knowledge</td>
<td>Culturally responsive teaching practices</td>
</tr>
<tr>
<td></td>
<td>Helping preservice teachers cope with stress</td>
<td>Specialized content knowledge</td>
<td>Commitment and skills to act as agents of change</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Constructivist views of learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Culturally responsive teaching practices</td>
</tr>
</tbody>
</table>
Each of these routines of practice will be presented and then evidence of their enactment will be supported with data. Table nine shows each routine of practice in relation to the three components of my platform: supervision, mathematics knowledge for teaching, and culturally responsive teaching. The rows indicate the routine of practice that I enacted, while the columns indicate why I enacted it in relation to my platform. The routines of practice I found include: probing questions, utilizing personal connections, offering suggestions, modeling, and targeted activities.

Figure 7 shows the specific pedagogies I found in my self-study that allowed me to engage in each of the routines of practice. As I present each routine of practice I will discuss the specific pedagogies I used and provide evidence of their enactment.

I define these routines of practice as the actions teacher educators can take in order to facilitate preservice teacher learning about culturally responsive teaching and mathematics knowledge for teaching. These actions are broad categories of practices that can encompass a variety of pedagogical practices. I define the specific pedagogies as the activities I planned and implemented in either the mathematics methods course or the field experience. The specific pedagogies are listed under each routine of practice in Figure 7.
Probing questions. The routine of practice of probing questions occurred when I attempted to help foster my preservice teachers’ thinking, and prompt them to construct their own knowledge about elementary mathematics and culturally responsive teaching. In this section I will discuss how the routine of practice of probing questions connects to my platform, then I will provide examples of how I enacted probing questions with my preservice teacher in order to facilitate their learning.

Connections to my platform. This routine of practice aligns with my platform in relation to facilitating constructivist learning. In my platform I wrote, “Probing questions assist teacher educators to prompt preservice teachers to reflect more deeply about a topic” (Platform three). Specifically, I used the routine of practice of probing questions to engage my preservice teachers in the supervision practices of fostering critical reflection and helping preservice teachers cope with stress, as well as facilitating their learning of mathematical knowledge of content and teaching and specialized content knowledge. In addition, I used probing question to address the cultural strands of culturally responsive teaching practices, developing an affirming
attitude toward students from culturally diverse backgrounds, and fostering a commitment and skills to act as agents of change.

Throughout the duration of the self-study I did not feel confident in my ability to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching through probing questions. Over time I learned that to build my confidence in using probing questions I needed to specifically plan the questions I wanted to ask. In one particular instance a catalyst for transforming my thinking about the need to plan for probing questions occurred after a conversation with one of my critical friends. After I met with my critical friend I reflected on a pre and post conference observation cycle and the conversation that occurred after we met:

I was able to reframe my purpose of the pre and post conference with a culturally responsive lens. She [my critical friend] is awesome at asking the right questions and sometimes I feel lost, I lose the words and the purpose of engaging preservice teachers with culturally responsive teaching…their [the preservice teachers’] frustrations and struggles seem to trump conversation and I have to remember to fight the culturally responsive teaching topics back into the conversation, not to lose them because it is quicker or easier to do. (Researcher’s Journal, October 9, 2015)

From that point forward in my self-study I focused more on purposeful planning in relation to the questions I used to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics. After I realized the impact of purposeful planning I included it in my reframed platform three stating, “To promote a constructivist and reflective learning environment teacher educators need to facilitate learning through purposeful planning and implementation of activities, readings, and conversations” (Platform Three).
**Examples of enactment.** In this section I will discuss specific examples of how I used probing questions to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics. I will then provide the specific pedagogies and activities I used in order to enact the routine of practice of using probing questions.

In one instance I used probing questions to foster mathematical knowledge for content and teaching and to foster the cultural strand of commitment and skills to act as agents of change in my mathematics methods course. While conducting a whole group discussion about the use of manipulatives in elementary mathematics classrooms we used geoboards to compose and decompose shapes (Researcher’s Journal, October 19, 2015). I asked “them [preservice teachers] to think about how the manipulative helps students think about the shapes, what level of thinking the manipulative may address, and how they could use the manipulatives in their classrooms” (Researcher’s Journal, October 19, 2015). The discussion began with the preservice teachers talking about the logistics of having their students use the manipulatives as tools and not toys (Researcher’s Journal, October 19, 2015). I noticed that after I redirected their discussion through the use of probing questions the redirection “prompted them [preservice teachers] to talk about decomposing and recomposing shapes into other shapes so the students could see what the shapes were made up of and how it connected to area and perimeter” (Researcher’s Journal, October 19, 2015). As a routine of practice, probing questions allowed me to foster a discussion about making mathematical instructional decisions, specifically my preservice teachers’ knowledge of content and teaching.

Additionally, this probing question allowed me to foster my preservice teachers’ knowledge of culturally responsive teaching by allowing them to think about how this use of manipulatives connected to their field experience classrooms. We spoke about how
manipulatives can help all students have access to the learning of mathematics (Researcher’s Journal, October 19, 2015). In particular, in the discussion that followed this probing question, one preservice teacher brought up a particular issue about using manipulatives in her field experience classrooms. She stated, “how the county gives them all of the lessons, which is nice but not as flexible for her to be able to put her own spin on the problems or activities surrounding a particular content” (Researcher’s Journal, October 19, 2015). We went on to discuss “what level of thinking the manipulative (for decomposing and recomposing shapes) may address and how they could use it in their classrooms” (Researcher’s Journal, October 19, 2015). The levels of thinking for manipulative use helped to strengthen their mathematics knowledge for teaching in relation to their specialized content knowledge. This example showed how the use of probing questions during a simple discussion in the mathematics methods course about manipulatives led to a deeper discussion about the nuances of their own mathematical knowledge of content and teaching as well as help my preservice teachers see themselves as both responsible for and capable of educational change in their internship classrooms by doing what they know is best for their students through manipulatives use in their field experience classrooms.

In another example I used probing questions to further a class discussion about the preservice teachers’ mathematics curriculum knowledge and the cultural strand of working as agents of change. I asked one particular preservice teacher during the mathematics methods course:

how she can incorporate the needs of her students. She responded by saying she was thinking about changing the names in the already written problems to the names of students in her class, but she wasn’t sure if she could because they were preprinted problems from the county. (Researcher’s Journal, October 25, 2015)
The probing questions throughout this discussion led into a conversation about how my preservice teachers can help work as agents of educational change by using mathematical practices that increase access to learning for all students; whether the practices are written in the county lesson plans or not. In this same discussion we talked about how constricting the county curriculum can be, especially if their collaborating teachers did not want to deviate from the curriculum to allow students access to mathematical learning through the use of manipulatives, when it was not explicitly stated in the curriculum to use manipulatives with the lesson (Researcher’s Journal, October 25, 2015).

The socio-political context of the elementary classrooms where the preservice teachers worked seemed to have restrictions on both manipulative use and incorporating the standards for mathematical practice in the preservice teachers’ minds. While they did not always have control over the lesson plans during their field experiences, probing questions during our discussions allowed me to start discussions about how and when they could begin to advocate for their students.

In another instance I used probing questions during an observation cycle to foster my preservice teachers’ mathematical specialized content knowledge and affirming views of students. During a pre-conference I helped one of my preservice teachers plan a mathematics lesson as she seemed to struggle with the specialized content knowledge and curriculum knowledge for her lesson (Researcher’s Journal, April 6, 2016). Our conversation began because “she was hesitant about her lesson… she was not sure how to teach her students doubles and halves in multiplication” (Researcher’s Journal, April 7, 2016). She had the common mathematical content knowledge to know how to double and half in multiplication herself; however, she was lacking culturally responsive teaching knowledge of how to increase access to
learning for all her students with the topic, or specialized content knowledge. Throughout the pre-conference I asked probing questions to help her construct her own specialized content knowledge (Researcher’s Journal, April 6, 2016). I asked her questions about her students’ background knowledge and how that may affect the students’ learning of doubling and halving (Researcher’s Journal, April 6, 2016). When we discussed her students’ background knowledge about multiplication; I reflected that, “I asked her to think about these things (her students’ background knowledge on multiplication) because I wanted her to think about including all of her students to make sure all of their needs were being met, not just the students who know their multiplication facts” (Researcher’s Journal, April 7, 2016). I used probing questions to help her think more deeply about why her students’ multiplication background knowledge could impact their learning, and if they did have the background knowledge for multiplication how looking for patterns in the already written out number facts could benefit their mathematical learning. I attempted to support her development of an affirming attitude toward students from culturally diverse backgrounds. I wanted this preservice teacher to realize the funds of knowledge and assets her students possessed and a lack of background knowledge about this concept was not a problem to overcome; it was an opportunity to engage them with the mathematics in a different way. In order to accomplish this aim, we co-constructed a lesson for her students where they could use multiplication facts, with the solutions, to look for patterns when numbers are doubled and halved (Researcher’s Journal, April 6, 2016). During our post conference, “She said she noticed a huge difference in her students during the lesson. She said one student who never participates or seems to know what is going on was making conjectures about the numbers and participating in the conversation” (Researcher’s Journal, April 9, 2016). Through the use of probing questions, I helped to foster critical reflection about mathematics and culturally
responsive teaching in the pre and post conference for this preservice teacher in relation to her specialized content knowledge as well as address the cultural strand of an affirming attitude toward students from culturally diverse backgrounds.

Additionally, I used probing questions to foster my preservice teachers’ specialized content knowledge in mathematics, their knowledge about culturally responsive teaching practices, as well as their knowledge about varied assessment practices that promote learning. In a post-conference with one of my preservice teachers we spoke about one of her students who struggled with regrouping (Researcher’s Journal, September 29, 2015). After I observed her mathematics lesson, I noticed one of her elementary students did not have background knowledge of place value. During the post-conference I attempted to use the routine of practice of probing questions to prompt her thinking about the elementary student’s mathematical knowledge, “I asked her what she thought he may lack in terms of mathematical content and she went on about what the student was doing during the lesson. So I posed the question again and she did not answer” (Researcher’s Journal, September 30, 2015). I attempted to challenge her to think about how the student’s background knowledge could impact the construction of knowledge by engaging in the use of probing questions; however, she was unsure of how to respond while I used the probing questions. I brought up an example from her lesson when a student “was confusing the number 408 with the number 480” and could not tell the difference between the two numbers (Researcher’s Journal, September 30, 2015). She did not respond to my questions or my suggestions about her student’s mathematical knowledge so I shifted the conversation to open a discussion using a probing question about “how responsive that (using their background knowledge for planning instruction) is for students if they are not ready for the content because they are heavily lacking in the background knowledge” (Researcher’s Journal,
September 30, 2015). We went on to talk about using that particular student’s individual work to assess what he knew and did not know about mathematics, place value in this case. I wanted her to think about the culturally responsive teaching practice of varied assessment practices that promote learning. For this preservice teacher the probing questions did not immediately prompt reflective thinking; however, the subsequent conversation allowed for a deeper conversation about culturally responsive teaching in mathematics.

**Specific Pedagogies.** I enacted the routine of practice of probing questions through whole group discussions in the mathematics methods course, as well as during the observation cycle in the field experience. Probing questions allowed me to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching during both pre conferences and post conference conversations. Additionally, the routine of practice of probing questions aligned with my platform of facilitating preservice teacher learning in a constructivist manner.

**Utilizing personal connections.** I engaged in the routine of practice of utilizing personal connections when I helped foster my preservice teachers construct knowledge about how their experiences could potentially influence their teaching practice in relation to elementary mathematics and culturally responsive teaching. While utilizing personal connections, I fostered critical reflection in order to elicit ideas of mathematics knowledge of content and teaching, as well as to foster culturally responsive teaching through the cultural strands of sociocultural consciousness and commitment and skills to act as agents of change.

**Connections to my platform.** The routine of practice of utilizing personal connections aligned with my platform, even as it transformed through the framing and reframing process. Early on in my platform I wrote briefly about utilizing personal connections, “If preservice
teachers can relate to the material being taught they are more likely to understand it, and apply it.” (Platform Two). I needed to build relationships in order to find ways to relate the material to my preservice teachers. Relationships led to trust, building personal connections, and ultimately the ability to utilize the personal connections to facilitate preservice teachers’ learning.

Relationship building was a part of each iteration of my platform. In the first iteration of my platform I wrote, “I also believe that teaching is relational, it is about building and maintaining genuine trusting relationships with students” (Platform One). The second platform expanded on this belief, “All stakeholders, instructors, supervisors, preservice teachers, and collaborating teachers, should be involved in building relationships among and between the third space, in order to further elementary student learning” (Platform Two). Finally, in the last iteration of my platform I used specific language to target my beliefs about relationships and using personal connections from the relationships to foster and facilitate preservice teacher learning:

When the goal of preservice teacher learning is rooted in culturally responsive teaching and mathematics, foundational relationships are needed among the triad in order to support preservice teacher learning. Relationship building is necessary in order to learn about the preservice teachers’ and collaborating teachers’ lives and past learning experiences. This knowledge can then be used to facilitate new learning about how to implement culturally responsive teaching and mathematics knowledge for teaching in elementary classrooms. (Platform Three)

**Examples of enactment.** In this section I will outline specific examples of how I utilized personal connections to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics. I will then provide the specific pedagogies and activities I used in order to enact this routine of practice. One example of utilizing personal connections occurred in
the field experience during a pre-conference with one of my preservice teachers. I attempted to utilize my personal knowledge about the preservice teacher in order to foster his knowledge of content and teaching and knowledge of culturally responsive teaching. Particularly in relation to culturally responsive teaching, we reflected on elements of student identity and how to use student identity to plan for mathematics instruction (Researcher’s Journal November 8, 2015). While we engaged in a discussion about planning his lesson:

I asked him to think about super heroes and damsels in distress in movies and what they look like. Knowing he is Filipino… I asked him if those people look like him. He seemed to get the point that it can be hard to relate to something or to feel connected to something when it seems to be all about, “other people” and not them. (Researcher’s Journal, November 9, 2015)

This quote shows how I used the routine of practice of utilizing personal connections with the preservice teacher in order to get him to think about why it is important for students to see representations of their identity reflected in the mathematics curriculum. In order to engage in this type of discussion I utilized my own knowledge about the preservice teacher to foster sociocultural consciousness by reflecting on his own identity. In addition, I fostered his construction of knowledge about his position as an agent of change. I wanted him to see that he had opportunities to connect with his own students in mathematics by purposefully planning for instruction in a way that included his students’ identities, which falls under the cultural characteristic of affirming views of his students (Researcher’s Journal, November 9, 2015). In order to get him to think more specifically about his planning, I asked him about a worksheet he was using in his lesson (Researcher’s Journal, November 9, 2015). I “asked him whether or not the drawing of the student on the worksheet looked like the students in his class. He agreed it
did look like the majority of his students” (Researcher’s Journal, November 9, 2015). This led to a discussion about how he could use his knowledge of content and teaching to make mathematical instructional decisions, and how in making connections with his students it was a way to help increase their interest and in turn potentially lead to greater student success in mathematics (Researcher’s Journal, November 9, 2015). Our discussion impacted his teaching because when it came time to teach the lesson he instructed his students to create their own stories about addition and subtraction (Observation notes, November 9, 2015). I found during his lesson, “one girl wrote about cupcakes, another wrote about cars, and the third wrote about dirty socks. It was a way to include the students’ experiences and interests while also engaging in the math” (Researcher’s Journal, November 9, 2015).

Another example of utilizing personal connections with my preservice teachers occurred in the mathematics methods course. I asked each preservice teacher to bring in a manipulative of their choice that they could relate to (Mathematics Methods Lesson Plan, September 21, 2015). During this lesson on nonstandard units of measure for area “we used their nonstandard manipulative (that they brought to class) for an activity where they found the area of their desk, their math book, their computer, their cell phone, and one random object of their choice” (Researcher’s Journal, September 21, 2015). I wanted them to have a connection with the item they used while measuring. After the activity we discussed as a class “how these types of references can be culturally responsive to their students because they tap into personal references and/or experiences” (Embedded Reflection on Researcher’s Journal, November 28, 2015). I helped to foster critical reflection about the mathematical activity we did in class in relation to culturally responsive teaching practices by modeling an activity that utilized their own personal connections. I engaged my preservice teachers in the cultural strand of culturally responsive
teaching practices through involving all the preservice teachers in the construction of knowledge: they lived the experience of manipulative use, it, they constructed their mathematical knowledge about nonstandard units of measure for area, and then we debriefed how their personal connections helped them to think about the mathematics.

Additionally, in the mathematics methods course, I utilized personal connections to engage the preservice teachers in thinking about their knowledge of content and teaching and sociocultural consciousness through a lesson on data analysis and statistics. We first discussed data analysis and statistics from the point of view of a mathematics content area in the mathematics methods course (Mathematics Methods Lesson Plan, November 9, 2015). In the discussion the preservice teachers “were able to make a lot of connections to themselves and to the interests of their students. They seemed to display a lot of knowledge about what they thought their students would like” (Researcher’s Journal November 9, 2015). Through this lesson I attempted to emulate Gutstein’s (2006) work using mathematics for social justice through a data analysis activity while utilizing my preservice teachers’ personal experiences from their internship elementary schools to think about the data that was provided; comparing their personal knowledge and experiences to the data (Researcher’s Journal, November 10, 2015). For the activity I displayed various data points from our county on the screen including demographic information and testing data. This data talk activity was one of the more powerful pieces in the semester to promote the development of sociocultural consciousness with my preservice teachers. One of the more powerful pieces of conversation that came from the data was when the preservice teachers “brought up the idea that the resource teachers and resources in general are not abundant for languages other than English or Spanish” despite the fact that our county has a high population of Vietnamese and Haitian speaking students (Researcher’s
Journal, November 16, 2015). I reflected on how powerful this activity was for the preservice teachers because they used their personal experiences from what they knew about the county and their elementary students and compared it to numerical data about student performance (Researcher’s Journal November 16, 2015).

**Specific Pedagogies.** I enacted the routine of practice of utilizing personal connections through pre conference conversations with my preservice teachers in the field experience. I also used hands on mathematics activities and whole group discussions in the mathematics methods course to utilize personal connections I had with my preservice teachers. Utilizing personal connections allowed me to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching by using the knowledge I gained about my preservice teachers through building relationships with them. This practice of building relationships and relating material to my preservice teachers aligned with my platform as well.

**Offering suggestions.** I also uncovered the routine of practice of offering suggestions within my self-study data. I define offering suggestions as providing direct advice or ideas to preservice teachers in relation to their mathematical knowledge for teaching and culturally responsive teaching. I found that I engaged in the routine of practice of offering suggestions to my preservice teachers more often than any other routine of practice. Through the use of offering suggestions, I fostered my preservice teachers’ mathematical knowledge of content and students to help them uncover the successes and misconceptions of their students. I also fostered their mathematical knowledge of content and teaching in order to help them uncover the knowledge needed to make instructional decisions. This routine of practice aligned with the supervision practice of targeted instructional feedback as well. I offered suggestions to promote
PST learning about culturally responsive teaching in relation to the cultural strand of constructivist learning and culturally responsive practices.

**Connections to my platform.** This routine of practice conflicted somewhat with my platform as I believe learning occurs best in a constructivist environment, rather than one where suggestions are offered. For example, in the first iteration of my platform I wrote, “As a teacher my job is to support and facilitate learning” (Platform One). Additionally, in my second platform I wrote, “My philosophy of teaching is grounded in constructivism because I believe that preservice teachers learn best by making sense of the content when using their own experiences as a foundation for new learning” (Platform Two). Nevertheless, in the following section I will show how offering suggestions allowed me to facilitate preservice teacher learning in relation to culturally responsive teaching and mathematics knowledge for teaching.

**Examples of enactment.** In this section I will give specific examples of how I offered suggestions to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics. I will then provide the specific pedagogies and activities I used in order to enact this routine of practice. One instance of offering suggestions occurred in the field experience during a post-conference with one of my preservice teachers when we spoke about her students’ understanding of two-dimensional shapes, particularly the differences between squares and rectangles. This particular preservice teacher did not seem confident in how learners constructed knowledge, or how to use the knowledge about students’ lives for instructional planning for her lesson on two-dimensional shapes. During our pre-conference we brainstormed ideas about how she could incorporate her students’ lives and experiences into her lesson in order to be more culturally responsive with her students (Researcher’s Journal, September 24, 2015). We spoke about how she could use shapes that her students are familiar with in order to
connect to their lives. I suggested that she ask the elementary students to find two-dimensional shapes around the room, or to engage the elementary students in a discussion about what two-dimensional shapes they see in their homes (Researcher’s Journal, September 24, 2015). I engaged in the routine of practice of offering suggestions to my preservice teacher to foster her thinking about culturally responsive teaching and how she could use her students’ lives and experiences in relation to two-dimensional shapes. Through offering suggestions, I addressed the knowledge of content and students as well as knowledge of content and teaching. Even though I offered suggestions during our pre-conference she did not utilize these suggestions while teaching the lesson. For example, during the lesson she did not take the time to discuss with her students where they see shapes naturally occurring in their lives; I noted, “It was hard for the students to describe the difference between a square and a rectangle” by the end of her lesson; which was her objective for the day (Observational Notes, September 23, 2015). During the post-conference I offered additional suggestions about how to use “more hands on examples that related to the students… They didn’t have a tangible rectangle to look at and touch and compare to a square and that is difficult to describe the difference” (Embedded Reflection on Researcher’s Journal, November 28, 2015). From the conversation in our pre-conference it seemed as though she had a grasp on the knowledge of content and students as well as knowledge of content and teaching; however, it was not clear from her enacted lesson that she addressed her students’ misconceptions about the difference between rectangles and squares (Researcher’s Journal, September 25, 2015). I hoped that through offering suggestions she would adjust her strategies from her lesson plan as discussed in the pre-conference. Yet the enacted lesson plan did not exhibit these suggestions.
In another pre-conference with a different preservice teacher we discussed how she would use a video clip to review the concepts of greater than and less than. To engage her students in the new content of the equal sign she planned to engage her students in an equal sign song, and a spill and sort game to engage her students with whether or not two quantities were equal. Her lesson plan showed that she used knowledge about students’ lives for instructional planning, and that she knew how her students constructed knowledge through the use of a video, a song, and a game (Observation Notes, September 30, 2015). However, the mismatch in the planning and implementation of her lesson led to a conversation where I offered suggestions about her lesson. “We talked about how the students did not seem to have to background knowledge on greater than and less than like she thought they would” (Researcher’s Journal, September 30, 2015). During the post-conference she spoke about her students’ confusion during her video review of greater than and less than, something she did not at all expect. “I suggested that she could have made her own PowerPoint slide at the end to give some better examples that would not be as confusing for students” (Researcher’s Journal, September 30, 2015). I used this routine of practice to show her that a tailored review could better target her students’ experiences, interests, and background knowledge. The example problems from the video were confusing to the students because the format was unfamiliar to the students, and included examples of objects that they were not familiar with (Observation Notes, September 30, 2015). She assumed the students knew about greater than and less than; however, she did not anticipate that students were going to be confused with using alternative vocabulary for the same concept (Researcher’s Journal, October 2, 2015).

Another instance of offering suggestions occurred during a post conference with a preservice teacher. “She immediately thought it [the teaching of her lesson] was rough and
started to break down in tears. I posed just one question about how she thought it went and I paused for her to answer and she started to cry” (Researcher’s Journal, October 14, 2015). During her lesson she had some students who were off task and not getting along with each other, which hindered their access to learning (Observation Notes, October 14, 2015). I suggested to her the idea that off task behavior can sometimes impact the learning environment in relation to increasing access to learning for her students; I attempted to help her see herself as both responsible for and capable of educational change through engaging all of her students (Researcher’s Journal, October 16, 2015). I went on to suggest that when students are not engaged in a lesson they miss out on both the content and process of the mathematics, which could lead to inequities of learning (Researcher’s Journal, October 16, 2015). While her common content knowledge about the number 10 was strong, her curriculum knowledge was not as strong, leading to a decrease in student learning because of a lack of student engagement in her lesson. She mentioned that she had difficulties planning her lessons because she followed what her collaborating teacher was doing and did not have the opportunities to think through the planning on her own. “We talked about how she could recreate some of her own worksheets, to comply with her collaborating teacher, but also ones that would be more beneficial for the students” (Researcher’s Journal, October 14, 2015). We spoke about using examples in her recreated worksheets to help increase access to learning for all of her students. For example, I suggested to the preservice teacher that she could use her students’ personal experiences and interests in worksheets to connect with her students and further engage them in the mathematical learning (Researcher’s Journal, October 14, 2015).

**Specific Pedagogies.** I enacted the routine of practice of offering suggestions during pre-conference and post conference conversations with my preservice teachers in the field
experience. Offering suggestions allowed me to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching by guiding their critical reflections during the observation cycle. The routine of practice of offering suggestions did not align with my platform beliefs about facilitating preservice teacher learning using a constructivist environment.

**Modeling.** Modeling surfaced as another routine of practice in my supervision. I defined modeling as explicitly demonstrating teaching practices for or with my preservice teachers in relation to their mathematical knowledge for teaching and culturally responsive teaching. I used modeling in order to engage in the supervision practices of balancing challenge and support, fostering theory to practice connections, and strengthening curriculum planning (Burns & Jacobs, in press). Within the integrated instructional third space I also helped foster my preservice teachers’ learning about culturally responsive teaching practices and the cultural strand of constructivist learning (Villegas & Lucas, 2002).

**Connections to my platform.** Although modeling did not appear in my platform, I strongly believe this routine of practice allowed me as a teacher educator to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching in a constructivist manner. My goal from the beginning of the semester for the group of preservice teachers in my mathematics methods course was to help foster theory to practice connections in order to be responsive to their needs as learners, as well as to help them increase their specialized content knowledge so that they could see connections about how to engage in culturally responsive practices with their elementary students. In my second platform I noted that teacher educators, “should be aware of the third space between the university and
field in order to help preservice teachers make connections among and between spaces” (Second Platform).

**Examples of enactment.** In this section I will discuss specific examples of how I used modeling to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics. I will then provide the specific pedagogies and activities I used in order to enact this routine of practice. In order to reach my previously stated goal to foster theory to practice connections, I often engaged in modeling with my preservice teachers. For example, I planned and modeled a lesson that centered around a review of fractions for the first day of the mathematics methods course because I knew that was a content area where my preservice teachers struggled (Lesson Plan, August 30, 2015). After the first day of the mathematics methods course I reflected on this goal and my progress:

I wanted to try and show the preservice teachers what station teaching could look like in their elementary math classrooms. I think sometimes I haven’t always made my teaching practices match those that they would use in their classrooms so I wanted to model that, but also be explicit and intentional while implementing the stations. I tried to explain to them how I got them into groups, why I did it that way and then showed them another way to do it. I also debriefed with them after the stations to see what they liked and didn’t like about them, what I thought of them, and ways we could improve the station teaching. I wanted to model the process of my thinking and my planning with them through meta cognitive thinking. (Researcher’s Journal, August 31, 2015)

In the previous example I used what I knew about my preservice teachers’ mathematical knowledge of fractions as well as my own specialized content knowledge to engage them in station teaching activities. I explicitly modeled for them how I setup and planned for the fraction
instruction for the day through the station teaching. I also facilitated a group discussion about my intentions of the station teaching and fostered a discussion about the theory to practice connections in relation to how they could create stations in their classrooms (Researcher’s Journal, August 31, 2015). We also talked about how they could use what they knew about their students’ lives, interests, and experiences to plan their stations (Lesson Plan, August 31, 2015). I intended this discussion to facilitate learning about specialized content knowledge. I wanted them to think about their students’ lives and experiences when setting up stations in their classrooms so that they could think about what culturally responsive practices could look like with their elementary students in their field experience classrooms. For example, in one of the stations I asked the preservice teachers to discuss and debrief the language involved in teaching fractions and why their elementary students may struggle (Lesson Plan, August 31, 2015). Additionally, in another station I had them practice writing a mini lesson and asked them to include how they could address their diverse students’ needs with their mini lesson plan (Lesson Plan, August 31, 2015).

A foundational knowledge of fractions was not the only mathematical content knowledge my preservice teachers struggled with. The lack of common content knowledge made it much more difficult for them to think about the specialized content knowledge they should use when planning mathematics instruction for their students. An example of this occurred when I modeled my instructional decisions with my preservice teachers in order to support their learning. Before one particular lesson in the mathematics methods course I discussed the common content knowledge that they needed, and that I thought they might need to practice, before beginning an activity on measurement estimation. I knew the activity would be challenging because I asked the preservice teachers to use metric units (Researcher’s Journal,
September 21, 2015). Furthermore, I discussed with them how I made my instructional
decisions in order to model how I used my knowledge about them in order to create the lesson. I
reflected on my planning process saying, “I again tried to plan and implement lessons that were
relevant and helpful…I was thinking about their beginning of the year goals and I wanted to see
if I could address their concerns” (Researcher’s Journal, September 14, 2015). During the
activity I allowed them to use reference materials in order to help engage them in constructivist
views of learning. I reflected:

I chose to continue with this activity, and not skip it, because I wanted to make them feel
a little uncomfortable. The measurements that they were supposed to estimate were in
metric units (meters, kilograms, milliliters, and degrees). I told them they could use their
cell phone as a reference, but that they could not use a ruler or measuring tool.
(Researcher’s Journal, September 21, 2015).

Through the use of modeling mathematics activities, I balanced challenge and support for
the preservice teachers in their mathematics knowledge for teaching with both their common
content knowledge and their specialized content knowledge as well as engaged them in
constructivist views of learning. While the activity challenged them, it also supported them
because I was able to create a safe environment for them as learners, the culturally responsive
characteristic of using the knowledge of students’ lives for my own instructional planning. In
addition, I modeled my instructional decision with my preservice teachers each step of the way
while engaging in these types of activities to model the process of how I used their knowledge
and experiences for planning. We then discussed how they could use a similar way to plan for
their students in their field experience classrooms.
I also engaged in modeling in order to help strengthen my preservice teachers’ curriculum planning while using their specialized content knowledge and constructivist views of learning in the mathematics methods course. During one class I:

Shared a trade book on measurement, Inch by Inch, by Leo Lionni. I found the video of someone reading the book on YouTube and played it for them. I explained that videos of books can be great free resources for them, especially for math. (Researcher’s Journal, September 14, 2015)

I wanted to show my preservice teachers that strengthening their curriculum planning in mathematics did not mean they had to go out of their way to spend a lot of money or gather endless resources; strengthening curriculum planning could be done by making connections with their students and allowing them opportunities to construct their own knowledge by integrating literature into their lessons. I explained to them that giving their students a context for learning in the form of a trade book could help their students make personal and cultural connections to the mathematics and help them to construct new knowledge (Researcher’s Journal, September 14, 2015).

Another example of modeling occurred when I illuminated the pacing of my lesson plan. I knew that some of my preservice teachers were struggling with the pacing of their lessons in their field experience classrooms therefore, during one mathematics methods class I posted the timing of each portion of my lesson “and explained to them my thinking about why I put them (the time estimates for each portion of the lesson) there and how they can be useful for planning” (Researcher’s Journal, September 14, 2015). The routine of practice of modeling allowed me to foster the strengthening of curriculum planning through broadening my preservice teachers’
specialized content knowledge as well as helping them to understand how learners construct knowledge.

**Specific Pedagogies.** I enacted the routine of practice of modeling by implementing hands on mathematics lessons with my preservice teachers in the mathematics methods course. I also used meta-cognition while teaching the mathematics methods course to model various practices for my preservice teachers. The routine of practice of modeling aligned with my platform beliefs of constructivist learning.

**Targeted activities.** I found that I used targeted activities as a routine of practice when I explicitly planned activities for my preservice teachers that would engage them in thinking about both their mathematical knowledge for teaching and culturally responsive teaching. Through this routine of practice, I helped my preservice teachers cope with the stress of using their common content knowledge and specialized content knowledge. At the same time, I helped them with constructivist views of learning and culturally responsive teaching practices.

**Connections to my platform.** The routine of practice of targeted activities mirrors the beliefs in my platform. In my first platform I began to write about the routine of practice of targeted activities in a general fashion. I wrote, “I believe knowledge is constructed through our experiences, and building on our prior experiences” (Platform One). The experiences I refer to in my platform are connected to the practice of planning targeted activities to engage preservice teachers in coursework that allows them to construct their knowledge, as well as to build off of their prior experiences. Additionally, I wrote in my second platform, “Preservice teacher support from instructors should include being responsive to their needs as learners through differentiated instruction, as well as being culturally responsive to their needs” (Platform Two). I believe part of differentiating instruction includes planned purposefully targeted activities to engage
preservice teachers in tasks that address mathematics knowledge for teaching as well as culturally responsive teaching.

**Examples of enactment.** In this section I will give specific examples of how I used targeted activities to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics. I will then provide the specific pedagogies and activities I used in order to enact this routine of practice. First, I found that I used targeted activities when I attempted to help my preservice teachers cope with stress, in the mathematics methods course, in relation to their common content knowledge. I was able to do this by setting up Khan Academy as an online resource to help them build their mathematical content knowledge. I reflected on the use of Khan Academy as:

> A good place for them to practice their content on their own without having to waste a lot of class time. Also, they can do it at their own pace and they don’t have to worry about the pressure of answering a question in class if they don’t understand the content.

(Researcher’s Journal, September 7, 2015)

Building content knowledge is typically necessary in the mathematics methods courses I teach because the preservice teachers either lack confidence in the mathematics content they know, or they simply never learned the content to begin with.

This lack of content knowledge carried into the field experience as well. My preservice teachers’ lack of common content knowledge in mathematics had the potential to impact their specialized content knowledge as well as how they implemented their mathematics lessons in their field experience classrooms. For example, during a pre-conference with a preservice teacher:
I asked her if she was ok with the content and she said she was much better this week than last week on decimals…Apparently last week they were working on decimals and she referred to her students who she knew would know the answers and let them explain it until her collaborating teacher jumped in at one point during the lesson because she was unsure of how to explain something. (Researcher’s Journal, September 16, 2015)

In addition to using Khan Academy I also set up in class readings for my preservice teachers to help facilitate their learning and critical reflection of culturally responsive teaching and mathematics knowledge for teaching. I purposefully selected a variety of in class readings in order to create opportunities to facilitate discussions about their field experience classrooms, connecting their mathematical knowledge for teaching as well as their knowledge of culturally responsive teaching each week. One reading from the course mathematics textbook led to a discussion about their specialized content knowledge, as well as critically reflecting on their personal experiences about teaching area and perimeter. For example, I reflected that:

They did a great job thinking through the main ideas of the section and built off of each other’s work to discuss the important pieces of teaching area and perimeter. They also made some connections to their field experience classrooms with students and how they learn or confuse the topics of area and perimeter. (Researcher’s Journal, September 21, 2015)

From that discussion we also talked about “involving their students’ families into a measurement unit…they discussed things like measuring stuff in their house, talking about measurements of family members, sending home a mini project, measure their families, etc.” (Researcher’s Journal, September 21, 2015). In this instance the in class readings, helped foster my preservice teachers’ learning about their specialized content knowledge in relation to area
and perimeter, as well as how to involve all students in the construction of knowledge and using knowledge about students’ lives for instructional planning. The in class reading allowed them an opportunity to construct their own knowledge about teaching area and perimeter through the subsequent discussion about their own personal teaching experiences.

The other major targeted activity I used to foster mathematical knowledge of teaching and culturally responsive teaching was the micro teaching lesson plans. In this activity the preservice teachers had to develop their own lesson plans based upon their own knowledge of their field experience classroom students; in the assignment I included prompts about both their mathematics knowledge for teaching and their knowledge of culturally responsive practices with their students, such as building on students’ personal and cultural strengths and using a variety of assessment practices that promote learning (Lesson Plan, August 31, 2015). The purpose of the activity was to get them to think about how they could use the knowledge about their students to incorporate culturally responsive teaching practices into their micro teach lessons. I reflected on a facilitated group discussion of one of their micro teach lessons stating:

One of the major takeaways for them was talking to other students in the class who were in the same grade level they are in now, but last semester. So they were able to use each other’s experiences and work together to think through issues of timing, or questions to ask, or whether or not the content was appropriate. (Researcher’s Journal, September 14, 2015)

Facilitating preservice teachers’ learning in relation to specialized content knowledge was invaluable for them since they were in a new grade level. It helped orient the preservice teachers to think about how to better plan their mathematics instruction for their students. Overall, the micro teach lesson plans allowed them to use their own personal experiences as teachers in order
to think about how to plan and utilize culturally responsive teaching practices in their mathematics lessons. In this particular instance of working with the micro teach lesson plans they were able to help one another learn about how students in various grade levels construct mathematical knowledge. In another iteration of the micro teach lesson plans I facilitated a discussion about the importance of including students in the process of creating formulas in mathematics (Researcher’s Journal, September 28, 2015). The preservice teachers also brainstormed ideas to better include all of their students in their mathematics classrooms. This addressed the cultural strand of involving all students in the construction of knowledge.

**Specific Pedagogies.** I enacted the routine of practice of targeted activities by implementing online supplemental mathematics content lessons with my preservice teachers in the mathematics methods course. Additionally, I used in class readings and micro teach lessons in the mathematics methods course to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. The routine of practice of targeted activities aligned with my platform beliefs by creating experiences for and with my preservice teachers.

**Chapter Summary**

This chapter addressed both my research questions, (1) In the context of the self-study, to what extent do I enact my espoused teacher education platform in the integrated instructional third space that exists at the intersection of an undergraduate elementary field experience and an undergraduate elementary mathematics methods course in relation to culturally responsive teaching and mathematics? (a) What facilitators and challenges do I face as I try to enact my espoused platform within this third space?; (2) In the context of the self-study, how do I transform as a teacher educator while engaging in the process of framing and reframing my
platform within this integrated instructional third space? I shared the specific routines of practice I uncovered that helped me to enact all of the aspects of my platform: supervision practices, culturally responsive teaching, and mathematics knowledge for teaching. I also outlined how each routine of practice connected to my platform and the specific pedagogies I used to help foster the routines of practice. In the next chapter I will discuss facilitators and barriers I encountered while enacting my platform with my preservice teachers in the integrated instructional space.
CHAPTER FIVE

FACILITATORS AND BARRIERS

This chapter will address both my research questions, (1) In the context of the self-study, to what extent do I enact my espoused teacher education platform in the integrated instructional third space that exists at the intersection of an undergraduate elementary field experience and an undergraduate elementary mathematics methods course in relation to culturally responsive teaching and mathematics? (a) What facilitators and challenges do I face as I try to enact my espoused platform within this third space?; (2) In the context of the self-study, how do I transform as a teacher educator while engaging in the process of framing and reframing my platform within this integrated instructional third space? Throughout the process of enacting my platform over the course of the self-study there were facilitators and barriers while working with my preservice teachers in the integrated instructional space. My role within the context of the integrated instructional third space influenced how I facilitated culturally responsive teaching and elementary mathematics knowledge for teaching and it also played a role as a challenge to my enactment. In this chapter I will discuss how relationships with preservice teachers and relationships with collaborating teachers were key to facilitating preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. Additionally, I will present how I struggled to enact my platform in relation to facilitating difficult conversations with my preservice teachers about culturally responsive teaching and mathematics knowledge for teaching. Specifically, I will discuss challenges in facilitating theory to practice connections, promoting sociocultural consciousness, and promoting an affirming attitude towards diverse
students with my preservice teacher. Finally, I will present concluding thoughts and themes on the three iterations of my platform

**Building Relationships**

Building relationships became a way to gain the trust of my preservice teachers and the triad within the integrated instructional third space. Relationships allowed me to facilitate deeper conversations about culturally responsive teaching and mathematics knowledge for teaching. Particularly, this included relationships with preservice teachers, collaborating teachers, and elementary students. As seen in Figure eight, in this section I will discuss the enactment of my platform in regards to how building relationships allowed me to gain trust and in turn hold deeper conversations with all of the stakeholders.

**Figure 8. Building relationships findings**

Each iteration of my platform contained statements about relationships. In my first platform I wrote, “I also believe that teaching is relational, it is about building and maintaining genuine trusting relationships with students” (Platform One). I further expanded on the nature of
relationships in my second platform, “All stakeholders, instructors, supervisors, preservice
teachers, and collaborating teachers should be involved in building relationships among and
between the third space, in order to further elementary student learning” (Platform Two). My
final platform highlights the purpose relationships play in teacher education in order to facilitate
preservice teacher learning in relation to culturally response teaching and mathematics
knowledge for teaching. I wrote, “Relationship building leads to trust among the triad, which is
necessary to conduct and to facilitate difficult conversations about culturally responsive teaching
and mathematics knowledge for teaching. Uncomfortable conversations are difficult to facilitate
without trusting relationships in place” (Platform Three). The relationships I built with my
preservice teachers allowed me to learn more about my preservice teachers’ personal experiences
and past learning experiences. In addition, the relationships I built with my preservice teachers
helped to build trust between us. The new knowledge I gained through building relationships
and the trust I built allowed me to explore more difficult conversations with my preservice
teachers about culturally responsive teaching and mathematics knowledge for teaching.

**Relationships with preservice teachers.** My role as a teacher educator within the
context of the integrated instructional space impacted my ability to form deeper relationships
with my preservice teachers. In this section I will discuss the findings about maintaining and
building relationships with my preservice teachers. I will discuss the number of preservice
teachers I worked with, building a relationship with a new preservice teacher, and relationships
with the preservice teachers’ elementary students.

**Relationships built in varying contexts.** I found that I was able to form different
relationships with my preservice teachers depending on whether I taught them in only the
mathematics methods course, or if I taught them in the mathematics methods course and the field
experience. For example, in my mathematics methods course I had a larger number of preservice teachers. I noticed the larger number of preservice teachers, as well as the amount of hours spent together each week impacted the amount of knowledge I had about my preservice teacher’s lives and identities. I reflected on the mismatch between my beliefs about the importance of building relationships with my preservice teachers and the enactment of this belief:

To give them the support they need and answer their individual questions and concerns it is hard when you have 31 students and you only have so much time to sit with them. I do not think I do a very good job with trying to talk to all of the students. (Researcher’s Journal, October 26, 2015)

This was evident to the group I did not supervise as well. One preservice teacher stated in the mid semester survey “said she thought I favored my intern students over the other group” (Researcher’s Journal, October 26, 2015). This comment took me by surprise. I reflected that it was “hard to cope with because I feel like I treat them all the same; however, I do not have great relationships with the other group since we do not have seminars together and I only see them once a week” Researcher’s Journal, October 26, 2015). In relation to mathematics knowledge for teaching and culturally responsive teaching I noticed I fostered my preservice teachers’ common content knowledge in mathematics; however, my enactment did not align with my beliefs to build personal relationships with all of my preservice teachers. It found it difficult to use the group of preservice teachers’ experiences, whom I did not have in the field experience. My own lack of knowledge about their experiences made it difficult for me to foster conversations about both their specialized content knowledge as well as specific pedagogies for culturally responsive teaching (Researcher’s Journal, October 28, 2015). The comments on the
mid semester survey made it clear to me that my relationships with my preservice teachers whom I supervised in the field were much deeper than the group I did not supervise. Even more so was the realization that these deeper relationships were evident to the other group. When I read the comment in the mid semester survey, I was crushed that I came off that way. No matter what I thought I was doing with my preservice teachers to try and make them feel included, some of them clearly did not, and that was hard to digest (Researcher’s Journal, October 28, 2015).

When I built and maintained relationships with my preservice teachers I found that I more closely followed the goals and beliefs in my platform: to build relationships with my preservice teachers, to foster my preservice teachers’ construction of knowledge, to use that knowledge to plan for instruction, to understand their knowledge of content and students, and to utilize targeted instructional feedback with my preservice teachers in their field experience classrooms.

Building foundational relationships. The impact of enacting my philosophy of building relationships was clear when I had a new preservice teacher join the cohort. This was an eye opening experience because it allowed me to think about how I began to build foundational relationships with my preservice teachers when we first met. I reflected on our first observation cycle together:

She is a new intern who was added to my cohort this semester and I have never observed her before. I wanted to make sure to make her feel comfortable with me and know that the observation was not an evaluation but a chance for feedback and growth. I told her what I had told all of my interns previously about the process for feedback and that I wanted her to lead the conversations for our pre and post conferences. I also let her know that she is only graded on her timeliness of turning in her lesson plan and reflection and
not her teaching because I didn’t think it was fair to grade them when they are still learning, it should be more risk free. (Researcher’s Journal, September 30, 2015)

I reflected further on my attempts to build a relationship with this preservice teacher, “This is one of the ways I try to build relationships with my interns. I want them to trust me and to know I have their best interest at heart” (Embedded Reflection on Researchers Journal, November 30, 2015). I found it necessary to “try and make it as low stress as possible” in order to allow difficult conversations to happen throughout our time together (Researchers Journal, September 30, 2015). During this pre-conference I also tried to get to know her better so that I could begin to “pull in her past learning experiences…to connect with what she [was] currently struggling with” (Embedded Reflection on Researcher’s Journal, November 30, 2015). These examples show my thought processes as I was starting to build a foundational relationship with a new preservice teacher.

Before I established a relationship with this preservice teacher I did not feel comfortable holding meaningful conversations about culturally responsive teaching. For example, the first time we sat down together one on one to discuss her teaching I reflected that, “I felt a little weird digging into the culturally responsive teaching conversations here because she [was] new and I didn’t want to overwhelm her” (Embedded Reflection on Researcher’s Journal, December 2, 2015). I went on to wonder “if that was better or if it was better to set the expectations early so she knew that was what is expected of her, how much scaffolding was needed” (Embedded Reflection on Researcher’s Journal, December 2, 2015). The lack of an established relationship with my preservice teacher hindered my ability to facilitate culturally responsive teaching and mathematics knowledge for teaching with my preservice teacher. In my mind I had decided that it was too stressful for this new preservice teacher to think beyond the stress of the observation to
the components of culturally responsive teaching in mathematics for her students. I did not give her the chance to react to my facilitation of culturally responsive teaching and mathematics, because I already assumed she would be stressed out about it; perhaps she would have welcomed an additional aspect of coaching, but I did not give her that chance.

**Building relationships with preservice teachers’ elementary students.** I found I not only needed to build relationships with my preservice teachers, but also needed to know about the preservice teachers’ elementary students in order to promote mathematics knowledge for teaching and culturally responsive teaching. I built stronger relationships with the preservice teachers whom I supervised, because I spent more time with them in the elementary classroom. I reflected that, “it is easier for me to talk to the group I see in the field also because I know the contexts in which they teach; I know their collaborating teachers and their students generally” (Researcher’s Journal, October 26, 2015). I went on to reflect that I could better foster conversations about culturally responsive teaching and mathematics knowledge for teaching because I could “pull from my own experiences to think about how to relate particular topics to them based on the things they have done in their classrooms” (Researcher’s Journal, October 26, 2015). Additionally, I tried to use what I knew about their classrooms and their students to further facilitate their learning. However, I struggled to develop the same deep relationships with the preservice teachers I only taught in the mathematics methods course. The lack of deep relationships hindered my ability to fully enact the beliefs of my platform. I also found there was a misalignment in what I believed about getting to know the preservice teachers’ elementary students in their field experience classrooms and my enactment. In my platform I wrote, “relationships should be built with the elementary students in order to better facilitate preservice teacher learning about culturally responsive teaching;” however, I did not always make an effort
to get to know my preservice teachers’ elementary students (Platform Three). There were too many preservice teachers and there was not enough time to get to know all of the preservice teachers as well as their respective elementary students within the confines of my workweek.

**Relationships with the collaborating teachers.** I felt the relationships with the collaborating teachers could have been a more integral part of fostering my preservice teachers’ learning about mathematics knowledge for teaching and culturally responsive teaching; however, my enactment did not always match my platform as I attempted to utilize the collaborating teachers to facilitate my preservice teachers’ learning. In this section I will discuss the connections of building relationships with the collaborating teachers to my platform. I will also outline the examples of the types of struggles I encountered in my self-study when attempting to build and use relationships with the collaborating teachers: lesson planning, professional development, perceived power struggles, and fostering preservice teachers’ knowledge.

**Connections to my platform.** I found I wrote about relationships with collaborating teachers in my platform. For example, the earliest iteration of my platform hinted at relationships with the triad, “I believe that supervision is a tango of sorts, there is a give and take between all stakeholders” (Platform One). I elaborated on this idea in the second iteration of my platform stating, “All stakeholders, instructors, supervisors, preservice teachers, and collaborating teachers, should be involved in building relationships among and between the third space, in order to further elementary student learning” (Platform Two). In this section a mismatch of my beliefs from my platform and my enactment will be discussed.

**Examples of relationships with the collaborating teachers.** One area where I struggled with promoting relations with the collaborating teachers happened when I did not use the collaborating teachers’ expertise or knowledge of their classroom community and individual
students. This knowledge could have helped to develop culturally responsive teaching characteristics in my preservice teachers in relation to elementary mathematics, which does not align with my platform. Early on in the self-study I used language in my reflections about the collaborating teachers as if they were outsiders and not a part of the triad. For example, I reflected, “I think there is a delicate balance between following what their [the preservice teachers’] collaborating teachers do and incorporating culturally responsive teaching” (Researcher’s Journal, September 16, 2015). However, at the same time I also saw the value they brought for facilitating the preservice teachers’ learning through reflections like this, “the information from her collaborating teacher who sees her teaching far more often than I do is invaluable” (Researcher’s Journal, September 18, 2015). I also noticed the difference in how I built relationships between the group I supervised and the group I only had in the mathematics methods course. I reflected, “I guess it is easier for me to talk to the group I see in the field also because I know the contexts in which they teach. I know their collaborating teachers and their students generally” (Researcher’s Journal, October, 26, 2015).

**Lesson planning.** It wasn’t until later on in the self-study, when I only had preservice teachers in the field, that I began to notice the powerful potential of the triad, not just the dyad, in facilitating my preservice teachers’ learning. In one example my preservice teacher planned to use a new activity for her mathematics lesson that her collaborating teacher did not use. I reflected:

This made me think about the influence of the collaborating teacher on their lesson planning and implementation. It is instrumental to have them on board with this process and I certainly don’t do a fabulous job engaging the collaborating teachers in the
That reflection was a catalyst for change in my thinking about the triad and how helpful the collaborating teachers could be in facilitating the preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. I reflected on the integral knowledge my collaborating teachers had that I could have used to help facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. I reflected, “I did not use the collaborating teachers enough to help build the knowledge of my preservice teachers. They could be the bridge to help the time factor that I have as a supervisor” (Researcher’s Journal, April 9, 2016). My goal was to ensure my preservice teachers could learn and grow in a safe environment of support; however, I only used my own knowledge about my preservice teachers and their elementary students to help facilitate their learning. Through the reflections and platform writing I reframed and better articulated my beliefs about the importance of all members of the triad in facilitating preservice teacher learning in relation to culturally responsive teaching and mathematics knowledge for teaching.

**Professional development.** I realized that I could have spent more time working with my collaborating teachers and supporting their professional development to help support my preservice teachers, especially in relation to culturally responsive teaching and mathematics. In my third platform I wrote, “Teacher educators should also work with collaborating teachers and partnership schools to engage in collaborative professional development” (Platform Three). However, I found that I held frequent impromptu check-in meetings with the collaborating teachers while supervising my preservice teachers, but not mathematics or culturally responsive
teaching related conversations or professional development. I further reflected on the value professional development could have had with my collaborating teachers:

I think having collaborating teachers who are trained and well versed in culturally responsive teaching could be more helpful than me as a supervisor. Even though I have had these preservice teachers for a long time and I taught their methods courses I still think there is something missing. They could be the bridge to help gap the time factor that I have as a supervisor. (Researcher’s Journal, April 14, 2016)

**Perceived power struggle.** Despite the impromptu meetings I held with my collaborating teachers, which sometimes included the preservice teacher, I still noticed a perceived power struggle between my preservice teachers and their collaborating teachers (Researcher’s Journal, March 4, 2016). For example, during a post conference with one of my preservice teachers we discussed some different methods of promoting discussion in her classroom, “she said she liked the ideas, and hadn’t thought about doing them before because her collaborating teaching doesn’t use them” (Researcher’s Journal, March 15, 2016). I reflected about:

The influence of the collaborating teacher on their lesson planning and implementation. It is instrumental to have them on board with this process and I certainly don’t do a fabulous job engaging the collaborating teachers in conversations about culturally responsive teaching in general, let alone for math. (Researcher’s Journal, March 15, 2016)

I also noticed the “tensions with authority and how much the preservice teachers can do to take over the classroom” (Researcher’s Journal, October 14, 2015). The preservice teachers’ were concerned about “how much [they thought] their collaborating teachers were going to allow them to do” (Researcher’s Journal, October 28, 2015). It was hard for the preservice teachers to
imagine being in the classroom five days a week; however, I should have done a better job of mitigating their fears with a whole group meeting including the collaborating teachers, or individual triad meetings with each preservice teacher and his or her collaborating teacher (Researcher’s Journal, October 28, 2015). I felt as though I did not have close enough relationships with my preservice teachers’ collaborating teachers, which made it difficult to navigate these types of conversations. I knew all of their collaborating teachers and had worked with them for several years before this self-study; however, I do not think I leveraged our relationships to the full extent I could have to the benefit of my preservice teachers.

**Fostering preservice teacher knowledge.** Finally, I found the collaborating teachers could have been an invaluable piece of the triad to help foster mathematical knowledge for teaching and culturally responsive teaching via their knowledge about the preservice teachers’ elementary students, since I did not know the students personally. While I attempted to give my preservice teachers suggestions in the field experience, I did not know if the suggestions I offered were particularly helpful since I did not know enough about their elementary students to help them plan for their instruction. For example, I had one preservice teacher who was working in the field experience with a small, but rowdy group of students for one of her lessons:

> I gave her some advice on what she could do with her student who does not sit well, such as allowing her to stand behind her chair, even on the computer since that is where she seems to have trouble, reading on the computer. (Researcher’s Journal, October 28, 2015)

I did not have enough information about my preservice teacher’s students in order to help her plan for her instruction. My intention was to give her a suggestion to help her plan for engaging all of her students in her lesson; however, I was not sure if this was or could have been an
effective practice for her student since I did not know her students well enough. In another instance I noted:

- It is much more difficult as a supervisor to advise on a lesson plan when I do not know the students as well as they do. I wonder if having a collaborating teacher well trained in culturally responsive teaching would be better suited for creating agents of change out of preservice teachers. (Researcher’s Journal, April 9, 2016)

Beyond simply wanting more time with my preservice teachers to help foster their growth in the integrated instructional third space in relation to culturally responsive teaching and elementary mathematics, I questioned my use of the triad relationships with my preservice teachers:

- Even though I have had these preservice teachers for a long time and I taught their methods courses I still think there is something missing. I did not use the triad enough to help build the knowledge of my preservice teachers. They could be the bridge to help gap the time factor that I have as a supervisor. (Researcher’s Journal, April 11, 2016)

I could see the value of their expertise, yet I did not take advantage of their help in developing my preservice teachers. I noted their knowledge about students to help my preservice teachers grow in planning for culturally responsive elementary mathematics lessons, but failed to utilize their expertise.

Before the self-study I was aware of the role of the collaborating teachers in the process of developing my preservice teachers’ pedagogical knowledge. However, it was not until well into the self-study that I realized the value of the collaborating teachers’ knowledge to help develop my preservice teachers’ mathematical knowledge for teaching in relation to culturally responsive teaching.
Facilitating Conversations

During the self-study I found my enactment did not always align with my platform when I facilitated conversations with my preservice teachers in relation to culturally responsive teaching and mathematics knowledge for teaching. After analyzing my researcher’s journals and conference notes, I found that sometimes I struggled with promoting critical reflection with my preservice teachers during our conversations. I tended to be too direct in the conversations with my preservice teachers, which hindered their own constructivist learning about culturally responsive teaching and mathematics. I was my own barrier through my lack of knowledge and experience with fostering these ideas with my preservice teachers. As seen in Figure nine, in this section I will discuss my challenges in promoting critical reflection with my preservice teachers. Specifically challenges I encountered in relation to theory to practice connections, sociocultural consciousness and having an affirming attitude towards students from diverse backgrounds.

Figure 9. Challenges findings
Challenges promoting critical reflection. Looking back at my researcher’s journal, field notes, and coaching conversations I found that when I attempted to promote critical reflection the routines of practice I used did not always align with my platform. According to Burns and Jacobs (in press) fostering critical reflection involves routines of practice that promote preservice teacher reflection on the impact of their actions as well as the larger socio-political and historical context. I was somewhat unsure about how to have these conversations and sometimes felt uncomfortable asking the tough questions; even though it is what I believed was necessary to help my preservice teachers construct their own knowledge about culturally responsive teaching and mathematics. My platforms illuminated strong beliefs in constructivist learning through supervision with preservice teachers including statements such as, “I believe knowledge is constructed through our experiences, and building on prior experiences” (Platform One). As well as:

My philosophy of teaching is grounded in constructivism because I believe that preservice teachers learn best by making sense of the content when using their own experiences as a foundation for new learning. I also believe culturally responsive teaching and constructivism complement one another for new knowledge to be constructed. (Platform Two).

While I attempted to promote critical reflection, the following examples will show how I tended to miss opportunities to extend conversations with my preservice teachers into richer conversations about culturally responsive teaching and mathematics knowledge for teaching. Specifically missed opportunities in fostering theory to practice connections, promoting sociocultural consciousness, and promoting an affirming attitude towards students from diverse
backgrounds, including facilitating preservice teacher learning about culturally responsive teaching practices.

**Challenges fostering theory to practice connections.** One of the most challenging parts of fostering critical reflection about culturally responsive teaching and mathematics knowledge for teaching with my preservice teachers occurred when I tried to foster theory to practice connections in regard to seeing mathematics from multiple perspectives through the use of culturally responsive teaching practices. Even in the first iteration of my platform, which contained more philosophical statements, I wrote about using counter narratives as a way to support an understanding of diversity (Platform One). I believe seeing mathematics from multiple perspectives to be a powerful practice to help preservice teachers construct knowledge about culturally responsive teaching in connection with mathematics. One of the routines of practice I tried with my preservice teachers to engage in seeing mathematics from multiple perspectives was having targeted conversations. One of the ways I facilitated targeted conversations occurred through having my preservice teachers share their answers aloud in the mathematics methods course. For example, after they worked on a class project I had the preservice teachers go up to the board to explain the answers to the rest of the class. “I also allowed them to show more than one way to do that because I wanted to model for them the practice that they could use in their classrooms” (Researcher’s Journal, October 19, 2015). However, when we engaged in these types of activities I did not facilitate the discussion thoroughly enough to help them understand why the practice of explaining answers from various perspectives could help students see the mathematics curriculum from multiple perspectives, as well as how the practice could potentially help increase student learning. I reflected on my missed opportunity saying, “I should have also explained that examining the curriculum from
another perspective is helpful for student understanding, this could have been a good point to talk about culturally responsive teaching” (Embedded Reflection on Researcher’s Journal, December 4, 2015).

In addition, I attempted a targeted activity to bring literature into mathematics to help the preservice teachers see things from multiple perspectives. I reflected on the struggle I had with my implementation of using literature as a way to include multiple perspectives in mathematics to foster culturally responsive theory to practice connections:

I think incorporating literature in math can be powerful. Maybe using critical literature in math can help CRT in math as well. I wonder if that would be too confusing or if they would be better able to see how things can be seen from alternative perspectives. That is actually hard for me to think about too sometimes. In math you don’t necessarily look at the concepts from different perspectives like in literacy with stories. (Embedded Reflection on Researcher’s Journal, December 14, 2015)

These examples showed the struggle I had promoting my preservice teachers’ reflection about theory to practice connections in conjunction with issues and instances of culturally responsive teaching and mathematics, as well as the mismatch to my platform. While I attempted to think about new ways to promote reflection for my preservice teachers about theory to practice connections between elementary mathematics and culturally responsive teaching in the integrated instructional third space, I did not always adhere to the beliefs in my platform.

I attempted to foster theory to practice connections with my preservice teachers through the use of targeted conversations in the form of whole group discussions in the mathematics methods course. Furthermore, I used targeted activities in the methods course such as incorporating literature into mathematics in order to foster my preservice teachers’ learning
about culturally responsive teaching and mathematics knowledge for teaching. Through these discussions and activities, I wanted the preservice teachers to make theory to practice connections while using their knowledge of both culturally responsive teaching and mathematics knowledge for teaching.

**Challenges facilitating sociocultural consciousness.** I found that my own ability and comfort level with facilitating conversations about sociocultural consciousness impacted my how I fostered sociocultural consciousness with my preservice teachers. Sociocultural consciousness is the belief that there are multiple ways of perceiving reality and that these ways are influenced by one’s location in the social order (Villegas & Lucas, 2002). Additionally, I found instances when I began to foster sociocultural consciousness with my preservice teachers but the preservice teachers were not willing to take the next step of reflection in order to engage in deeper conversations about culturally responsive teaching. In my platform I wrote about how “probing questions assist teacher educators to prompt preservice teachers to think more deeply about a topic” (Platform Three). When I attempted to foster sociocultural consciousness with my preservice teachers I did not align my practice with this belief.

Many of my opportunities to facilitate socio-cultural consciousness happened during the post conferences I held with my preservice teachers. I did not always spend enough time or effort asking further probing questions in order to foster sociocultural consciousness during the conferences before or after my preservice teachers taught their lessons. For example, during a post conference with one preservice teacher about speaking to her lower level students I reflected:

I think I should have dug a little deeper into this question to ask her if she thinks there was any other reason why the lower level students didn’t participate, or even better why
the students seem to be low in this particular content piece in math. Maybe these deeper questions can start to get at some of the disparities in the class. Also, I could have dug deeper into what would happen to those students if they continued to not get the opportunities to express their learning. (Researcher’s Journal, February 3, 2016)

I was able to start the conversations that could lead to deeper societal connections and disparities for my preservice teachers’ students, but let it end before using probing questions to take the conversation further; this was a missed opportunity to foster the culturally responsive characteristic of sociocultural consciousness. It seemed like once I got the small victory of beginning the conversation I stopped probing further.

In another example I reflected about how to incorporate conversations about sociocultural consciousness when there did not seem to be “glaring missed opportunities for student learning that lead themselves to more sophisticated conversations about societal issues” (Researcher’s Journal, March 3, 2016). It was difficult for me to figure out how to start these more difficult conversations when I did not see disparities or missed opportunities for equitable mathematics instruction in my preservice teachers’ elementary classrooms. For example, after a post conference with one preservice teacher I noted that I could have engaged my preservice teacher with a conversation about sociocultural consciousness from a positive opportunity that occurred in her classroom, rather than a disparity, in order to help illustrate the idea that when she engaged all of her students culturally that helped “show what she was doing to help to project them to higher learning” (Researcher’s Journal March 3, 2016).

Sometimes when I thought I facilitated conversations about sociocultural consciousness with my preservice teachers they did not move forward despite my efforts. For example, I tried to talk to one of my preservice teachers during a pre-conference about “the use and modeling of
manipulatives via student experiences and making connections…but the conversation didn’t really go anywhere. She talked about cutting back to one manipulative, versus the two she had planned for” (Researcher’s Journal, March 3, 2016). I reflected further that “these [were] good instructional pieces that should be considered, [but] didn’t really lend itself to a conversation about culturally responsive teaching and structural issues” as I had initially intended. In this instance, I thought I knew the avenues to take to navigate conversations about culturally responsive teaching and mathematics through manipulative use; however, I couldn’t seem to get the preservice teacher to think about it differently through our conversation.

I attempted to promote my preservice teachers’ sociocultural consciousness in relation to mathematics with my preservice teachers through the use of pre and post conference conversations in the field experience. I intended to push my preservice teachers to critically reflect on their mathematics classrooms; however, my comfort level with these conversations sometimes hindered my preservice teachers’ learning.

**Challenges facilitating an affirming attitude towards diverse students.** I found I struggled to facilitate conversations with my preservice teaching about having an affirming attitude towards students from diverse cultural backgrounds. In this section I will provide examples of the challenges I faced in facilitating preservice teachers’ learning about affirming attitudes towards students from diverse backgrounds. Then I will address a specific challenge I encountered with my preservice teachers when I needed to focus on their basic teaching skills, while attempting to facilitate their learning about culturally responsive teaching and mathematics.

In one example I found it challenging to facilitate conversations with my preservice teachers in relation to having an affirming attitude toward students from culturally diverse
backgrounds through co-constructing mathematics lessons with their students. In order to facilitate my preservice teachers’ learning about co-constructing mathematics lessons with their students, I planned an activity in the mathematics methods course about measurement. In this activity I had the preservice teachers measure various items around the building. I missed an opportunity to debrief the process of co-constructing a lesson. I reflected on this saying, “we could have talked about how they could have their students help to co-create a lesson like this, because the students could drive the instruction here and choose things they want to measure” (Embedded Reflection on Researcher’s Journal, December 4, 2015).

Despite what I wrote in my platform, I did not always open a space for my preservice teachers to reflect about culturally responsive teaching in relation to mathematics planning as I would have liked to in the integrated instructional third space. In my platform I wrote, “To promote a constructivist and reflective learning environment teacher educators need to facilitate learning through purposeful planning and implementation of activities, readings, and conversations. To echo my platform, I reflected in my researcher’s journal that I needed “to think more about the core components of culturally responsive teaching and how those influence planning and implementation in mathematics” (Embedded Reflection on Researcher’s Journal, December 10, 2015). I had difficulty fostering culturally responsive teaching since I had a hard time thinking about it myself.

Another example when I seemed to get close to deeper conversations surrounding an affirming attitude towards students from diverse cultural backgrounds occurred while post conferencing with my preservice teacher about using the students’ home language of Spanish in the classroom. I reflected on a missed opportunity during a post conference with my preservice teacher. I said, “I wish I had mentioned that in our post conference…I could have taken it a step
farther to ask her why she thought the use of a student’s home language can help to empower a student” (Research’s Journal, March 12, 2016). I seem to get close to the conversations that dig deeper, but do not realize it until after the moment has passed with my preservice teacher.

**Challenges facilitating culturally responsive teaching.** I found when my preservice teachers needed to work on the development of their basic teaching skills it further hindered my facilitation of culturally centered conversations. In my platform I wrote, “Preservice teacher support from instructors should include being responsive to their needs as learners through differentiated instruction, as well as being culturally responsive to their needs” (Platform Two). In certain instances, I responded to my preservice teachers’ needs through development of their basic teaching skills only, rather than facilitating their learning about their teaching skills and culturally responsive teaching and mathematics knowledge for teaching.

I found that when my preservice teachers needed to develop their basic teaching skills, such as instructional planning, or behavior management, it was difficult for me to facilitate reflective conversations about both his or her teaching practices and culturally responsive teaching with mathematics, in particular an affirming attitude towards students from diverse backgrounds. I had difficulty coaching my preservice teachers when they did not have the necessary common content knowledge and curriculum knowledge, or if they did not have a trustworthy classroom culture in place, which made it difficult for them to use the knowledge about their students’ lives for instructional planning. For example, one of my preservice teachers was not fully prepared for our pre conference due to her vague lesson plan. When I began our conference I had intended to make her reschedule; however, “once we began our conversation it was clear she had thought a lot about her lesson, but had not added it to her plan” (Researcher’s Journal, February 25, 2016). In this case, “it was hard for me to think about pre conferences
questions to ask her since her lesson plan was so general,” I further reflected that it was “difficult to have a conversation about a lesson when the picture is not clear as to what is going on in that lesson.” (Researcher’s Journal, February 25, 2016). I questioned my ability to help my preservice teachers work through this process:

I think it is more difficult when there are other issues to attend to first, such as disciplinary problems with an intern. How am I supposed to think about coaching them in culturally responsive teaching when I have to deal with and work through other issues that are more pressing? (Embedded Reflection on Researcher’s Journal, November 19, 2015)

I attempted to promote an affirming attitude towards students from diverse backgrounds with my preservice teachers through hands on mathematics lesson in the mathematics methods course, and pre and post conference conversations in the field experience. Additionally, I found when my preservice teachers needed to work on the development of their basic teaching skills it hindered my facilitation of culturally centered conversations. Overall, I intended to push my preservice teachers to critically reflect on their mathematics classrooms; however, I encountered barriers in my enactment in relation to my comfort level with these conversations, as well as with my preservice teachers’ needs for support with their basic teaching skills.

**Concluding Thoughts on my Enactment**

By engaging in this self-study I noticed the impact the flexible nature of the field experience had on my enactment. The context in the field experience was less structured than that of the mathematics methods course. I noticed the difference in facilitation after the first semester of the self-study. I reflected on the missed planning opportunities for discussions about culturally responsive teaching with my preservice teachers, “I need to seek opportunities and
spend time going deeper into culturally responsive teaching when the opportunities arise. The problem is I don’t always plan out these conversations, nor am I always intentional because I get overwhelmed time-wise” (Embedded Reflection on Researcher’s Journal, October 20, 2015).

I reflected that I needed to make a change in my supervision if I was going to be more intentional about facilitating culturally responsive teaching and mathematics with my preservice teachers. I noted, “I think while I tried to be intentional in last semester’s math methods course, the supervision piece was lacking…my goal is to work with the TEACH math tools for lesson observations” (Researcher’s Journal, January 4, 2016). I felt the lack of structure from the field experience as a hindrance to my facilitation of culturally responsive teaching and mathematics knowledge for teaching with my preservice teachers. Therefore, as the self-study continued into the second semester I began to use the TEACH Math lesson plan rubric as a guide for questions to facilitate my preservice teachers’ learning.

I realized I needed to create a more structured environment for myself as a supervisor and my preservice teachers in order to better facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics. I then aligned my platform with my enactment by using my reflections to change my practice (Platform Three). For example, before each preconference with my preservice teachers, “I looked for talking points in relation to the TEACH math lesson plan reflection prompts” (Researcher’s Journal, January 20, 2016). During one preconference with a pre service teacher I noted that it seemed “like the students will be able to address the topic of graphing from a variety of perspectives” based on the activities she planned for her lesson (Researcher’s Journal, January 20, 2016). This example shows that after I used the TEACH math reflection prompts as a structured guide for conversations with my preservice
teachers, during the second semester, I focused more on the characteristics of culturally responsive teaching during the pre-conferences; which I struggled with in the first semester.

Additionally, I used the TEACH math reflection prompts as a structure for post conference conversations with my preservice teachers. In a post conferences with a preservice teacher, we discussed “how the math connected to the students through relevant experiences or situations…she talked about using the real world connections she used throughout her lesson…and how the students were cheering each other on” as they completed their mathematical task (Researcher’s Journal, March 10, 2016). The TEACH math reflection prompts gave me an opportunity to plan and structure conversations with my preservice teachers. Through this structure I facilitated deeper and more focused conversations about culturally responsive teaching and mathematics knowledge for teaching.

**Final Thoughts on my Platform**

This section will address the three iterations of my espoused platform including themes and the transformations over time of my platform. Platforms one and two will be presented with themes and reflection on how my final platform three came to fruition.

**Platform One**

As seen in Figure 10, my first platform was broken into three sections; for the full platform see Appendix E. This section will address my first platform. I will present the themes I found within this platform which include: teaching section, supervision section, and culture section.
Teaching section. The statements I made in my first platform were general and focused on theory rather than practice, or aims of education. In the teaching section of the first platform I wrote about why I entered the teaching profession, as a practitioner, by using overarching theoretical statements about my beliefs about teaching such as, “I had always wanted to work with children and the thought of thematic planning and units was very exciting to me,” (Platform One), and “I believe the construction of knowledge happens with others but meaning is unique for each learner based upon their past experiences, and how those experience influence the construction of new knowledge,” (Platform One). Another example of a broad statement in my first platform includes my beliefs about my role as a classroom teacher, “My ultimate goal as a teacher is to teach my students to learn on their own and instill a lifelong love of learning” (Platform One). The teaching section of my platform was truly focused on my role as a classroom teacher, not as a teacher educator. For example, I stated in my platform that, “I also believe that teaching in relational; it is about building and maintaining genuine trusting relationships with students” (Platform One). In another piece of my platform I talked about how
“as a teacher my job is to support and facilitate learning” (Platform One). Finally, I wrote about the general nature of working in a school stating very generally, “My preferred school climate is one of collaboration and fair accountability between all stakeholders” (Platform One). The teaching section of my platform did not have a specific practice or task associated with it due to my lens as a classroom teacher rather than a teacher educator.

**Supervision section.** The supervision section of the first platform is as generic as the teaching section. I continued to use broad statements such as, “Those who function in the role of a supervisor should mentor and coach, and when working with preservice teachers they should engage in equitable accountability in the growth of the preservice teacher,” (Platform One) and “The goal of supervision is to help a teacher grow and develop in a way that increases student achievement” (Platform One). I wrote about supervision in connection to student achievement; however, I did not write about any specific routines of practice that foster these theoretical ideas. In addition, my platform is completely void of any ideas about mathematics. These overarching philosophical statements are helpful in grounding various aims of teacher education, yet they do not offer any sort of details for how they can be accomplished through routines of practices. In one statement I began to address an aim of teacher education stating, “I believe that supervision is a tango of sorts, there is give and take between all stakeholders” (Platform One). This statement identifies the idea of a triad through the language about all stakeholders. The supervision section leaves much to the imagination about who the stakeholders are and what their functions should be, yet the supervision section does illuminate my belief that supervision is not solely the supervisor’s role to support preservice teachers in the field, there are many stakeholders involved.

**Culture section.** The last section on culture is focused on me as a cultural being and how
my identity influences my teaching and supervision practices. However, the statements I wrote are very general and broad, for instance, “I am a cultural being,” (Platform One) and “My identity influences everything about me as a teacher and a supervisor” (Platform One). I did not go any further into the details about how my identity influences me as a teacher and supervisor, nor the routines of practice I can partake in to aid in my development of preservice teachers in an integrated instructional third space. I did begin to address a generic aim of culturally responsive teaching saying, “I believe in counter narratives, through reading and experiences, reflection, and dialogue best support teachers’ understanding of equity” (Platform One). This quote is one of the few statements in my first platform where I attempted to talk about an aim or routine of practice in teacher education. In the culture section, I continued to write about my beliefs and thoughts from the perspective of a classroom teacher working in a school, not as a teacher educator in an integrated instructional third space as an instructor of a mathematics methods course and supervisor of preservice teachers.

**Missing pieces from Platform One.** The first iteration of my platform was generic, written with broad statements of beliefs, which were philosophical in nature. However, conversations with my critical friends, committee members, major professor, and reflective research journal writing helped me to think about what pieces were missing from the first platform, and how I could restructure my next platform to better reflect my thoughts and beliefs about teacher education in an integrated instructional third space. In order to reframe my thinking about my platform, in between writing the first and second iteration, I wrote a researcher’s journal entry about the process and product of the first platform in order to better illuminate my own thinking and dig deeper into the nuances of what I wanted to include in the
second iteration of my platform. In the next section I will discuss the themes from my second platform.

**Platform Two**

As was found in the study conducted by Bates, Drits, and Ramirez (2011), I too found that my platform developed over time. This section will uncover the themes of my second platform as seen in Figure eleven. For the full platform two see Appendix F.

![Figure 11. Platform two](image)

**Themes**

The second iteration of my platform is grounded in preservice teacher learning and support in the context of the integrated instructional third space. I outlined my beliefs and ideas about preservice teacher support through ideas of collaboration, community and relationship building, and culturally responsive teaching and constructivism as complementary platforms for preservice teacher learning.

**Collaboration and communication.** The second iteration of my platform was not sectioned off as clearly as the first platform. I weaved ideas and beliefs about collaboration and
communication and their function in supporting preservice teachers in an integrated instructional third space throughout my second platform. I wrote about collaboration in relation to communication among the all stakeholders in the integrated instructional third space, the triad of preservice teachers, collaborating teachers, and university supervisors, in order to support preservice teacher learning. In the second platform, some of the actions I thought about in relation to preservice teacher support included: differentiating instruction for preservice teachers, culturally responsive teaching, inquiry, and being a facilitator of learning for preservice teachers. I wrote in my platform, “In this third space there needs to be open communication and collaboration between instructors and preservice teachers beyond the syllabus or intended coursework” (Platform Two). I also reflected on my experiences teaching in the integrated instruction third space for the first semester thinking about my beliefs in order to construct my second platform. As is seen in the following example I questioned whether or not I was using communication to its full potential in relation to supporting my preservice teachers:

I incorporate activities throughout the semester that I think will help get at some of the components of math knowledge and culturally responsive teaching, but I do not plan for the small conversations, the potential teachable moments and I am not sophisticated enough in my thinking about culturally responsive teaching and math to come up with them on the fly. (Embedded Reflection of Researcher Journal, November 20, 2015)

This quote illuminates my thought processes and my reflection on teaching, and how I put communication at the forefront of my thinking on a daily basis. The quote also shows that after the action of teaching took place I went back and reflected on what I did as well as how communication played a major part day in and day out.

**Community building and relationship building.** The next theme of my second
platform was the idea of community building and relationship building in the integrated
instructional third space in order to support preservice teacher learning. Community building
and relationship building went beyond the collaboration and included practices which I wrote
about to illuminate how to gain and to keep trustworthy relationships among and between the
triad. I wrote that community and relationship building should take place among the triad,
between instructors, supervisors and school administrators. For instance, “All stakeholders,
instructors, supervisors, preservice teachers, and collaborating teachers, should be involved in
building relationships among and between the third space, in order to further elementary student
learning” (Platform Two).

I also wrote about community building and relationship building in my researcher journal
and the embedded reflection on my researcher journal stating, “This is one of the ways I try to
build relationships [having conversations about grading reflections with a new preservice
teacher] with my interns. I want them to know I have their best interest at heart” (Embedded
Reflection of Researcher Journal, November 25, 2015). I reflected here on the process of trying
to build trust and a new relationship with a new preservice teacher who was transferred into my
cohort. Reflections such as this reframed my beliefs found in my first platform and helped me to
form the second iteration of my platform. In my researcher journal I wrote about how
relationship building is a foundational piece with my preservice teachers in the observation cycle
as a supervisor, “Finally, we had a discussion about his rapport with the students and he
mentioned how personal teaching is and the relationship building piece of teaching” (Researcher
journal, November 9, 2015). This also shows the reframing from my first platform based on the
actions I took teaching in the integrated instructional third space of the course of the first
semester. This second iteration of my platform was interwoven with ideas of community and
relationship building with the intention of outlining preservice teacher support in the form of building trust, creating a safe environment, and utilizing the integrated instructional third space as a platform for support.

**Culturally responsive teaching and constructivism as complements.** The next theme that was woven throughout my second platform was the idea that culturally responsive teaching and constructivism complement one another in the integration instructional third space. In my platform I stated:

> My philosophy of teaching is grounded in constructivism because I believe that preservice teachers learn best by making sense of the content when using their own experiences as a foundation for new learning. I also believe culturally responsive teaching and constructivism complement one another for new knowledge to be constructed. (Platform Two)

I reflected on using constructivism as a way to have my preservice teachers engage in using their own knowledge and experience in my mathematics methods course, “I wanted them to use their own background knowledge and experiences to post something that was relevant to them. It is a good strategy to involve the students in the construction of their own knowledge” (Embedded Reflection of Researcher Journal, November 30, 2015). Through my researcher’s journal writing, I was able to think about what my beliefs were and how I was reframing my platform over the course of the semester in the integrated instructional third space. The ideas that culturally responsive teaching and constructivism complement one another in the integration instructional third space was an important foundation for my beliefs about preservice teacher support, and are outlined as such in the second iteration of my platform.
Reflections on my Platforms

My platform formation was a process of framing and reframing my ideas through writing, living and reflecting. As seen in this section the second iteration of my platform went beyond the generic and philosophical nature of the first platform I wrote. I included more practices related to both teacher education and culturally responsive teaching, which was a goal after reflecting on the writing of my first platform; however, it was still missing some specific aims and actions for teacher education when working with preservice teachers in an integrated instructional third space in relation to culturally responsive teaching, supervision, and elementary mathematics. After speaking with my critical friend A and critical friend C about analyzing my first and second platforms, we discussed the missing pieces from my second platform. In general terms we spoke about how the second platform did not have action based pieces to help me to conceptualize what my beliefs looked like while enacting my teaching and supervising. I reflected, “I also think conversations I’ve had with Jenn and Lori have helped me to think about my own beliefs and what I am actually trying to do when I teach” (Researcher’s Journal, November 13, 2015). I also needed to think further about the aims I deem important for teacher education, elementary mathematics, and culturally responsive teaching in an integrated instructional third space. The final platform from my self-study is in Appendix G.

Chapter Summary

This chapter addressed both of my research questions, (1) In the context of the self-study, to what extent do I enact my espoused teacher education platform in the integrated instructional third space that exists at the intersection of an undergraduate elementary field experience and an undergraduate elementary mathematics methods course in relation to culturally responsive teaching and mathematics? (a) What facilitators and challenges do I face as I try to enact my
espoused platform within this third space?; (2) In the context of the self-study, how do I transform as a teacher educator while engaging in the process of framing and reframing my platform within this integrated instructional third space? I shared facilitators and barriers I encountered while working with my preservice teachers in the integrated instructional space. I discussed how relationships with preservice teachers and relationships with collaborating teachers were key in allowing me to facilitate preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. Additionally, I presented challenges of my enactment in relation to facilitating difficult conversations with my preservice teachers about culturally responsive teaching and mathematics knowledge for teaching. Specifically, I addressed challenges in facilitating theory to practice connections, promoting sociocultural consciousness, and promoting an affirming attitude towards diverse students with my preservice teacher. Finally, I presented concluding thoughts and themes on the three iterations of my platform. In the next chapter I will discuss the importance of my findings from the self-study and implications for future research.
CHAPTER SIX
IMPLICATIONS

While conducting this self-study, the integrated instructional third space was an interwoven path for me to support culturally responsive teaching in elementary mathematics with my preservice teachers. The research questions that guided this study included: (1) In the context of the self-study, to what extent do I enact my espoused teacher education platform in the integrated instructional third space that exists at the intersection of an undergraduate elementary field experience and an undergraduate elementary mathematics methods course in relation to culturally responsive teaching and mathematics? (a) What facilitators and challenges do I face as I try to enact my espoused platform within this third space?; (2) In the context of the self-study, how do I transform as a teacher educator while engaging in the process of framing and reframing my platform within this integrated instructional third space? I conducted a self-study within the context of an integrated instructional third space within a clinically rich teacher education program where I served as both a field supervisor as well as a mathematics course instructor concurrently to the same group of preservice teachers. Data collection included a series of three phenomenological interviews, observation notes from pre and post conferences with my preservice teachers, documents and artifacts from my own teaching practice, transcripts of pre and post conferences, and a researcher’s journal. I analyzed the data for each semester and made assertions across the two semesters of data collection.
In chapter four I discussed specific routines of practice I uncovered that helped me enact all of the aspects of my platform. These routines of practice include: supervision practices, culturally responsive teaching, and mathematics knowledge for teaching. The five routines of practice I uncovered were: probing questions, utilizing personal connections, offering suggestions modeling, and targeted activities. Additionally, I outlined how each routine of practice connected to my platform and the specific pedagogies I used to help foster the routines of practice. I found I used whole group discussions and pre and post conferences conversations in order to engage in probing questions. I used hands on mathematics activities and whole group discussions to utilize personal connections with my preservice teachers. Pre- and post-conference conversations allowed me to offer suggestions to my preservice teachers. I engaged in the routine of practice of modeling through hands on mathematics activities and metacognition. Finally, online supplemental mathematics content lessons, in class readings, and micro teach lessons allowed me to provide targeted activities for my preservice teachers.

In chapter five, I shared facilitators and barriers I encountered while working with my preservice teachers in the integrated instructional space. I discussed how relationships with preservice teachers and relationships with collaborating teachers were key in allowing me to facilitate preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. Additionally, I presented challenges in relation to facilitating difficult conversations with my preservice teachers about culturally responsive teaching and mathematics knowledge for teaching. Specifically, I addressed challenges in facilitating theory to practice connections, promoting sociocultural consciousness, and promoting an affirming attitude towards diverse students with my preservice teacher. Finally, I presented concluding thoughts on the three iterations of my platform.
Discussion

Two powerful calls drove this self-study. First the call from the Blue Ribbon Panel Report titled *Transforming Teacher Education Through Clinical Practice: A National Strategy to Prepare Effective Teachers* (NCATE, 2010). In this call the panel argued that teacher educators who support preservice teacher learning during clinical experiences must be able to integrate coursework and fieldwork in order to develop preservice teachers’ abilities to meet the needs of diverse students. In this self-study I was teaching in a unique version of a third space. As a teacher educator, I was both the mathematics instructor and the field supervisor for the same cohort of preservice teachers within a clinically rich teacher education program. While many teacher educators have the opportunity to work with preservice teachers in clinically rich spaces, this space was unique in that I served this dual role and was able to help my preservice teachers make theory to practice connections from our shared experiences in both the mathematics methods course and the field experience.

A second important call for teacher educators, made by the National Council for Teachers of Mathematics (NCTM) in their book *Principles to Action* in the equity strand, stated, “An excellent mathematics program requires that all students have access to a high-quality mathematics curriculum, effective teaching and learning, high expectations, and the support and resources needed to maximize their learning potential” (2014, p. 5). The important call made by NCTM and the research conducted by others, as seen in chapter two (Aguirre & Zavala, 2013; Castro, 2010; Gay, 2000, Gutierrez, 2013; Presmeg, 1998; Sleeter, 2001; Villegas & Lucas, 2002; White, 2002) illustrated the need for preservice teachers to be exposed to culturally responsive teaching in mathematics early on in their teacher education programs. The findings from this study addressed these calls by looking at how a teacher educator in a clinically rich
teacher education program could support preservice teacher learning about mathematics knowledge for teaching and culturally responsive teaching.

In addition to the calls from NCATE (2010) and NCTM (2014) for the inclusion of equity in mathematics, Villegas and Lucas’ (2002) proposed six salient characteristics to engage preservice teachers in culturally responsive teaching. This is particularly important in mathematics because we know that mathematics tends to be a subject that is seen, “more than any other, that [is] considered to be value- and culture-free; hence the view of many educators that mathematics education [has] no need to take the growing diversity of student populations into account” (Presmeg, 1998, p. 317). This view that mathematics is culturally neutral can be difficult to overcome; however, a framework including routines of practice, and the specific pedagogies to enact these routines, could help to guide teacher educators to think about how to facilitate preservice teacher learning in relation to culturally responsive teaching and elementary mathematics in both coursework and field experiences.

In this self-study I positioned myself as a teacher educator, but also as a learner of pedagogy in relation to integrating culturally responsive teaching and mathematics knowledge for teaching. While I had previous experiences attempting to facilitate preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching I was still a novice throughout this self-study. It was my hope during the self-study to learn better ways to facilitate my preservice teachers’ learning about the integration of culturally responsive teaching and mathematics knowledge for teaching. For this reason, I extensively documented my practice and reflections on my practice in order to study my own enactment of pedagogy with my preservice teachers. Throughout this self-study I positioned myself as a constructivist. While working with my preservice teachers I attempted to model constructivist pedagogies to them and
enact constructivist practices with them. However, as seen in chapter four I did not always enact my platform using constructivist pedagogies. For example, I found the routine of practice of offering suggestions to my preservice teachers, which does not align with my constructivist lens. In regards to the mathematics knowledge for teaching throughout this study, I believe the mathematics and its interconnectedness with culturally responsive teaching could potentially have been replaced with other content areas. My focus and passion was mathematics; however, due to my novice status facilitating culturally responsive teaching with the mathematics knowledge for teaching I believe this foundational learning has the potential to apply to any content area.

Finally, I recognize there were some issues of power with my position as a teacher educator working with my preservice teachers. I tried to mitigate any perceived or real power struggles between my preservice teachers and me through relationship building. I recognized that as their instructor and supervisor I was giving my preservice teachers grades throughout this process and this could have impacted our relationships. I also recognized that there was a perceived power struggle between my preservice teachers and their collaborating teachers. This power struggle led to the preservice teachers not having full control over what types of lessons they planned for and enacted in their internship classrooms. Additionally, it could have impacted how my preservice teachers thought about culturally responsive teaching and mathematics knowledge for teaching in their internship classrooms, depending on the stance of their collaborating teachers.

**Routines of Practice**

As seen in chapter four, the findings from this self-study showed routines of practice and specific pedagogies that helped me, as a teacher educator, facilitate the learning of my preservice
teachers in relation to mathematics knowledge for teaching and culturally responsive teaching. The routines of practice I found build off of the framework from Burns and Jacobs (in press) and interweave tasks related to culturally responsive teaching and elementary mathematics knowledge needed in order to teach (Villegas & Lucas, 2002; Ball, Thames, & Phelps, 2008). Grossman, Hammerness, and McDonald (2009) called for teacher educators to shift away from teacher education programs that have curricula organized by knowledge domains to one organized around practices of the profession. They called for teacher educators to first “work to develop programs that undo the historical separation between foundation and methods courses; second, teacher educators must focus upon helping novices develop and refine a set of core practices for teaching” (Grossman et al., 2009, p. 276). In the field of elementary mathematics, teacher educators are beginning to develop a framework for instructional practices that can be used in mathematics methods courses with preservice teachers called routines of practice (Kazemi, Lampert, & Ghousseini, 2007). The routines of practice I found built on this research yet are unique in that they focused on the core practices I used to facilitate preservice teacher learning in relation to culturally responsive teaching and mathematics knowledge for teaching as a teacher educator in the integrated instructional space. In order to support preservice teacher learning in relation to mathematics knowledge for teaching and culturally responsive teaching I found I used a combination of the routines of practice.

One of the factors that required a combination of routines of practice was the structure of the integrated instructional third space. In the clinically rich teacher education program I served as both the mathematics methods course instructor as well as the field experience supervisor for the same cohort of preservice teachers. Early on in the self-study I noticed that I planned activities with relative ease in relation to culturally responsive teaching and mathematics in the
mathematics methods courses; however, when the environment was less structured, such as in spur of the moment conversations during the field experience, I had trouble finding ways to facilitate conversations about culturally responsive teaching and mathematics knowledge for teaching. When I used probing questions with my preservice teachers in order to hold conversations about culturally responsive teaching and mathematics knowledge for teaching it occurred during an opportunity that arose as a ‘teachable moment.’ However, by utilizing a variety of routines of practice I was able to move beyond the ‘teachable moments’ when working with my preservice teachers. For example, I used the routine of practice of offering suggestions while in the field with my preservice teachers in order to help focus and facilitate their learning in the field in relation to culturally responsive teaching and mathematics knowledge for teaching.

Additionally, within each routine of practice I found I used different specific pedagogies depending on the needs of my individual preservice teachers. For example, I found I used online supplemental mathematics content lessons, in class readings, and mathematics micro teach lessons in the mathematics methods course to facilitate my preservice teachers’ learning. These specific pedagogies allowed me to purposefully plan targeted activities that facilitated my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. In the mathematics methods course I facilitated many activities and discussions surrounding the preservice teachers’ mathematics knowledge for teaching. However, when the preservice teachers attempted to utilize this knowledge in both the methods class, through assignments, and the field experience, through teaching, they still needed support. Therefore, mathematics knowledge for teaching needs to be illuminated for preservice teachers and woven into the field experience, not addressed in isolation in the mathematics methods course(s).
Relationships

As seen in chapter two, Nolan and Hoover (2011) encouraged teachers to articulate their belief system with other stakeholders as a source dialogue, as well as to build relationships and trust among stakeholders. Bowers and Flinders (1991) discussed the implications a supervisor's personal beliefs and values can have on the task of working in field experience classrooms with preservice teachers. This connected with other researchers’ suggestions of uncovering one's platform (Bates, Drits, & Ramirez, 2011; Bullock, 2012; Glickman, Gordon, & Ross-Gordon, 2014; Nolan & Hoover, 2011; Sergiovanni & Starratt, 2002). Taking the time to write out a platform and share it with others allows for a more open and trustful relationship. This was also apparent in the platform reflections found in chapter five.

In the self-study I found building and maintaining relationships with preservice teachers was key in allowing me to facilitate my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. As seen in chapter five, when I built and maintained relationships with my preservice teachers I found that I more closely followed the goals and beliefs in my platform: to build relationships with my preservice teachers, to foster my preservice teachers’ construction of knowledge, to use that knowledge to plan for instruction, to understand their knowledge of content and students, and to utilize targeted instructional feedback with my preservice teachers in their field experience classrooms.

Through the process of building relationships with my preservice teachers I learned more about them personally and professionally, which built trust and allowed me to use the knowledge about my preservice teachers to facilitate their learning about mathematics knowledge for teaching and culturally responsive teaching. I learned where my preservice teachers were most comfortable in terms of their enactment of elementary mathematics lessons and how they were
able to incorporate culturally responsive teaching practices into their elementary mathematics field experience classrooms. However, many of my preservice teachers were not comfortable teaching mathematics, and were more hesitant to engage in mathematically focused conversations. I found that when my preservice teachers were more comfortable in our relationship I was better able to facilitate conversations about culturally responsive teaching and mathematics knowledge for teaching, and they were more comfortable telling me what they struggled with in relation to mathematics content. I learned that when I lacked knowledge about my preservice experiences, it influenced my ability to support them, both in relation to mathematics and culture.

I also learned from the self-study that I should have used the collaborating teachers’ knowledge and experience more in my facilitation of my preservice teachers’ learning. As seen in chapter two, many researchers have studied the struggle teacher educators have feeling like an outsider when working with collaborating teachers and preservice teachers in the field experiences (Basmadjian, 2011; Cuenca, Schmeichel, Butler, Dinkelman, & Nichols Jr., 2011; Slick, 1998a, Slick, 1998b). I too felt a bit like an outsider and hesitated to use the collaborating teachers more at times because I did not want to overwhelm them since they volunteered to host a preservice teacher. Another hesitation was my lack of experience in facilitating their knowledge and experience about mathematics to help my preservice teachers grow into using more culturally responsive practices in their elementary mathematics classrooms.

Another aspect of facilitating preservice teachers’ learning about mathematics knowledge for teaching and culturally responsive teaching that I learned was the lack of knowledge I had about the elementary students, culturally and mathematically. I believe that I would have been better able to facilitate my preservice teachers’ learning if I knew their elementary school
students on a deeper level. From the self-study I reflected about the difference in my facilitation of the group of preservice teachers I had in both the mathematics methods course and the field experience, versus the group I only saw in the methods course. It was easier for me to talk to the group I saw in the field because I could picture their mathematics environment, including the classroom and the students. I was able to pull from my own experiences of seeing their elementary students and used what I knew about their teaching to provide more in depth opportunities for reflection about mathematics knowledge for teaching and culturally responsive teaching.

**Critical Conversations**

Villegas and Lucas (2000) argue that sociocultural consciousness, “the recognition that there are multiple ways of perceiving reality and that these ways are influenced by one’s location in the social order”, cannot be learned in one course or even in multiple courses in one semester (p. 21). This was true not only for my preservice teachers, but also for me as a teacher educator. Through the reflections on my practice I found a challenge I faced as a teacher educator was realizing that I did not always have enough knowledge and experience to support my preservice teachers’ needs. Personally, I found that I struggled at times to make connections between the elementary mathematics content and how I could embed culturally responsive teaching practices in the mathematics methods course, as well as when attempting to facilitate theory to practice connections with my preservice teachers. I found that I struggled with promoting critical reflection with my preservice teachers during our conversations, especially impromptu conversations. I tended to fall back to teaching practices that were comfortable for me, being direct in conversations with my preservice teachers through giving them suggestions or feedback, rather than follow my platform beliefs of constructivist learning. These types of
conversations sometimes hindered my preservice teachers’ ability to construct their own knowledge about culturally responsive teaching and mathematics knowledge for teaching. Furthermore, my own experience and knowledge about how to facilitate conversations centered on mathematics knowledge for teaching and culturally responsive teaching impacted my preservice teachers’ learning.

I realized in order to facilitate my preservice teachers’ learning I needed to provide them with more open-ended questions during our conversations. I also needed to create a more structured environment for myself as a supervisor by more thoroughly planning for conversations with my preservice teachers. The field experience is a much less structured environment than the mathematics methods course, and through reflecting on my practice I saw when I did not plan for our conversations I often missed opportunities to facilitate deeper conversations with my preservice teachers.

**Framing and Reframing my Platform**

Bates, Drits, and Ramirez (2011) found when working with preservice teachers the more explicit the teacher educators were about their platform or ‘stance’ the better preservice teachers were able to understand the expectations held for them. As discussed in chapter two beliefs about teaching and learning heavily influence field supervisors, many of who are former teachers (Bates, Drits, & Ramirez, 2011; Bullock, 2012; Glickman, Gordon, & Ross-Gordon, 2014; Nolan & Hoover, 2011; Sergiovanni & Starratt, 2002). These beliefs can be exposed and understood by supervisors through the process of writing an educational platform.

Through the process of self-study, I wrote weekly reflections in my researcher’s journal and I had many conversations with my critical friends about all aspects of my practice. This thorough process of reflection allowed me to frame and reframe both my practice and my
platform over time as changes in myself occurred. As an example, during the first semester of enactment I reflected heavily on my own knowledge about culturally responsive teaching in mathematics and what it should look like in my facilitation of my preservice teachers’ learning. As seen in chapter five the process of reflection and the systematic data collection of my practice allowed me to transform not only my platform of teacher education, but my teaching practices as well. Over the duration of the self-study I encountered many instances of discomfort as a teacher educator. For example, during the self-study when I wrote in my researcher’s journal I would consciously attempt to think about my teacher education platform, whether it matched with what I wrote or not, and reflect on the components and how they manifested themselves in my teaching. This reflective writing process allowed me to dig deeper into the nuances of what my platform entailed, and where there was either alignment or a mismatch in my beliefs and my practice. The reflections in my researcher’s journal allowed me to think further about the reframing of my platform in the second and third iterations. As I went through this process I found that there were pieces missing from my platforms as I thought about, and attempted to live out, my beliefs and values each week in comparison to what I wrote. Additionally, I reflected about my own role in the triad and how to best facilitate my preservice teachers’ learning. This nature of framing and reframing is a major component of self-study (Lassonde, Galman, & Kosnik 2009). This study illustrates the importance of using self-study and the impact the process of self-study can have on teacher educators and their practice.

**Implications**

The findings from this self-study have implications for teacher educators and teacher education programs as well as for future research. Routines of practice, as the ones found in this study, have the potential to support teacher educators in their facilitation of preservice teacher
learning, especially in content areas with diverse students. Additionally, learning about the knowledge and experiences of my preservice teachers was not enough; I also needed to know about and utilize the knowledge and experiences of the collaborating teacher, including the knowledge about the elementary students. Finally, the process of framing and reframing my platform, and the reflection throughout the process allowed me to analyze my facilitation of preservice teachers’ learning. As seen in the findings from this self-study, routines of practice were not always enough for me to facilitate my preservice teachers’ learning. For this reason, the reflection process is an integral part for teacher educators to engage in to illuminate the nuances of their practice.

**Implications for Teacher Education**

This self-study has implications for teacher education programs, teacher educators, and building trust in a triad to support and facilitate preservice teacher learning.

**Routines of practice.** Based on what I learned from the self-study it takes more than one approach, by using a variety of routines of practice as a teacher educator, in order to facilitate preservice teacher learning about culturally responsive teaching and mathematics knowledge for teaching. As seen in chapter four, I used multiple routines of practice with my preservice teachers in order to facilitate their learning about culturally responsive teaching and mathematics knowledge for teaching. I would recommend other teacher education programs consider the calls from NCATE (2010) and NCTM (2014) to support preservice teacher learning during clinical experiences through integrated coursework and fieldwork in order to develop preservice teachers’ abilities to meet diverse students’ needs (NCATE, 2010). This is important considering the limited experiences preservice teachers have with students from diverse cultural backgrounds prior to entering teacher education programs (Blecher, 2011; Castro, 2010;
Silverman, 2010; Sleeter, 2001; Taylor & Sobel, 2001). If the field supervisor does not also teach the mathematics methods course professional development could be provided in order to support their efforts in the field in relation to culturally responsive teaching and mathematics knowledge for teaching. Additionally, field supervisors could be provided professional development in content areas, such as mathematics, to better meet the needs of preservice teachers in the field.

From the findings of this self-study I would suggest teacher education programs carefully craft the mathematics methods coursework to include theory to practice connections to the field with opportunities to explore the needs of diverse students. Preservice teachers need opportunities to construct their own knowledge about connections between culturally responsive teaching and mathematics knowledge for teaching. As seen in chapter four, the various activities I planned for my preservice teachers allowed me to facilitate their learning about culturally responsive teaching and mathematics knowledge for teaching. For example, assignments could be created to bring the field into the methods course through videotaped lessons and reflections on their mathematics lesson taught in the field. This overlap would allow the mathematics methods instructor more insight into the preservice teachers’ field experience classrooms, which would allow them to better facilitate their learning about culturally responsive teaching and mathematics knowledge for teaching. Yet, it is not recommended that the entire burden of teaching about culturally responsive teaching fall on mathematics methods instructors. Teacher education programs could include coursework involving culturally responsive teaching throughout preservice teachers’ entire program. Based on the experiences and findings from this self-study I would recommend the following as an ideal teacher education program. See figure twelve.
Figure 12. Ideal teacher education program

**Professional development.** In order to help preservice teachers grow in their knowledge of culturally responsive teaching and mathematics knowledge for teaching, collaborating teachers should be involved in professional development with field supervisors. Collaborative or simultaneous self-studies as professional development could have helped to tease out the best way to support and facilitate preservice teacher learning about culturally responsive teaching and mathematics knowledge for teaching. As seen in chapter five I struggled with how best to utilize the collaborating teachers’ expertise. It is important to have the entire triad informed on how to facilitate preservice teacher learning about culturally responsive teaching and mathematics knowledge for teaching. The university could provide professional development workshops with the field supervisors, who can then take their expertise to help the collaborating teachers grow. This would impact the preservice teachers’ growth by better equipping the triad in their support of the preservice teacher; it would also create a co-teach environment and closer relationships between the field supervisor and the collaborating teacher.
In addition, professional development could be provided to all teacher educators about the routines of practice, (Table 10), to facilitate preservice teachers’ learning in both the mathematics methods course and the field experience, or both. Professional development for teacher educators could include simulations and role-playing activities to practice using the routines of practice before working with the preservice teachers.

These routines of practice could serve as a guide for teacher educators in planning activities for their preservice teachers in both the mathematics methods course and the field experience. Teacher educators could also utilize a combination of the routines of practice to engage in various aspects of the culturally responsive components suggested by Villegas and Lucas (2002), mathematics knowledge for teaching (Ball, Thames, & Phelps, 2008), and the supervisor practices suggested by Burns and Jacobs (in press).

Table 10

<table>
<thead>
<tr>
<th>Routine of Practice</th>
<th>Supervisor practices (Burns and Jacobs, in press)</th>
<th>MKT Connections (Ball, Thames and Phelps, 2008)</th>
<th>Six Salient Cultural Strands (Villegas and Lucas, 2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probing Questions</td>
<td>Questions that allowed me to prompt preservice teachers to think more deeply about culturally responsive teaching and mathematics knowledge for teaching.</td>
<td>Knowledge of content and teaching Specialized content knowledge</td>
<td>Commitment and skills to act as agents of change An affirming attitude toward students from culturally diverse backgrounds Constructivist views of learning</td>
</tr>
<tr>
<td>Pedagogies</td>
<td>Whole group discussions Pre and post conference conversations</td>
<td>Using the knowledge of my preservice teachers to foster their construction of knowledge about how their experiences could potentially influence their teaching practice in relation to mathematics and culturally responsive teaching</td>
<td>Fostering critical reflection Knowledge about content and teaching Culturally responsive teaching practices. Sociocultural consciousness</td>
</tr>
<tr>
<td>Utilizing Personal Connections</td>
<td>Fostering critical reflection Knowledge about content and teaching Culturally responsive teaching practices. Sociocultural consciousness</td>
<td>Hands on mathematics activities</td>
<td>Whole group discussions</td>
</tr>
</tbody>
</table>
Another recommendation for professional development for teacher educators is to support their understanding of culturally responsive teaching practices, in relation to mathematics knowledge for teaching. Professional development could include analyzing coursework; including readings, discussions, and activities related to culturally responsive teaching. This type of professional development could begin to help teacher educators understand how to support preservice teacher learning about culturally responsive teaching practices in the elementary mathematics classroom. An additional suggestion from my experiences facilitating difficult conversations is to provide professional development to help
teacher educators plan for culturally responsive teaching conversations, such as through structured coursework or observation tools in the field experience and mathematics methods coursework.

**Relationships.** This study offers many implications for working with preservice teachers. One in particular is the importance of building relationships with the preservice teachers in order to better facilitate their learning about culturally responsive teaching and mathematics knowledge for teaching. As seen in chapter five relationship building was key for me to feel comfortable facilitating conversations about culturally responsive teaching and mathematics knowledge for teaching. Engaging in conversations connected to culturally responsive teaching and mathematics were difficult for me without first building trust with my preservice teachers. When I did not build trusting relationships with my preservice teachers I did not feel comfortable addressing more sensitive issues. Based on the findings from this self-study, and how my lack of knowledge about my preservice teachers’ experiences hindered my facilitation of their learning, I would recommend small groups of preservice teachers be assigned to teacher educators. Mathematics methods courses and field experiences could be structured in a way that allows relationships between the instructor and the preservice teachers to naturally occur. I would also recommend teacher educators get to know the preservice teachers’ elementary school students through conversations, surveys, or being in the classroom more. The knowledge about the elementary students is invaluable for facilitating conversations about culturally responsive teaching and mathematics. I would further recommend utilizing the collaborating teachers’ expertise of the elementary students to help facilitate preservice teacher learning.

In addition, I recommend trying to uncover preservice teachers’ past learning experiences to better build trust and facilitate their learning. As seen in both chapters four and five, I
frequently used what I knew about my preservice teachers in order to facilitate their learning about culturally responsive teaching and mathematics knowledge for teaching. It is important to understand the preservice teachers’ identities and where they come from in order to help facilitate and support discussions of culturally responsive teaching and mathematics knowledge for teaching. To help build trusting relationships with preservice teachers, I also recommend supervisors stay with the same group of preservice teachers over time so they do not have to build new relationships each semester. I also recommend mathematics methods instructors stay with their group of preservice teachers if more than one course is offered. I suggest mathematics methods instructors and field supervisors, if the same person is not assigned to teach both courses, communicate about ways to help support theory to practice connections in relation to culturally responsive teaching and mathematics knowledge for teaching to help facilitate preservice teacher learning. Furthermore, limiting the number of preservice teachers each supervisor works with could allow deeper more meaningful relationships to form in a shorter amount of time. Limiting the number of preservice teachers could allow for supervisors to have more time with their preservice teachers, which could lead to further relationship building, and even more in depth conversations that facilitate learning. From my experiences as seen in chapter five, I found when I had more time and stronger relationships with my preservice teachers we were better able to address more complex issues of culturally responsive teaching and mathematics knowledge for teaching.

Based on what I learned in the self-study, and my experiences in trying to build relationships with the triad, I would recommend teacher education programs build relationships with partnership schools in order to better facilitate this process for the university supervisor. Creating a true triad community among the supervisors, preservice teachers and collaborating
teachers could help preservice teachers to make theory to practice connections. Moreover, teacher education programs could envision the supervision of preservice teachers as more than evaluation and feedback; there are also many other functions of a supervisor. As seen in the work of Burns and Jacobs (in press) supervision is complex and supervisors need time and resources to grow, develop, and learn. This study adds to the body of work on supervision by expanding on the work of Burns and Jacobs through the addition of the routines of practice in relation to culturally responsive teaching and mathematics knowledge for teaching. As seen in this study in the findings both in chapter four and five, my function as a supervisor went beyond observations and evaluations, as a supervisor I also played a key role in areas of curriculum development, building and maintaining relationships with the triad, and giving feedback and support to preservice teachers.

As seen in chapter five, I found when working with my preservice teachers it could be difficult at times to build strong relationships with all of them because I supervised sixteen preservice teachers, and taught 31 preservice teachers in the mathematics methods course. I struggled to develop personal relationships on a deeper level with the sixteen preservice teachers I supervised, let alone their respective elementary students in their field experience classrooms. Having a strong triad could potentially curb issues of supervisors working with a large numbers of preservice teachers. A strong triad could also allow a safe environment to facilitate difficult conversations about mathematics knowledge for teaching and culturally responsive teaching. Cochran-Smith called for preservice teachers to learn to be “activists by working in the company of mentors who are also engaged in larger movements for social change” (2001, p. 180). The mentors in the integrated instructional third space are the collaborating teacher and the teacher educator. Jacobs (2006) stated, in order to increase student achievement supervisors need to
understand achievement patterns, which leads to practices of culturally responsive supervision and ultimately the identification of inequitable practices. One way supervisors can stay abreast of student achievement with a cohort of preservice teachers is to involve the collaborating teacher in the process. From the findings of this study, I realized if I had used the collaborating teachers to their full extent I could have more easily bridged the gaps of specialized content knowledge, knowledge of content and teaching, and their commitment and skills to act as agents of change. In my final researcher’s journal entry from the semester these thoughts were still weighing heavily on me.

**Relationships with the elementary students.** I found a gap in my knowledge about the elementary students my preservice teachers worked with in their field experience classrooms, as seen in chapter five. I believe I could have better facilitated my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching if I knew the elementary students on a more personal level. With the knowledge about the elementary students I could have helped the preservice teachers figure out ways to get to know about the lives of their new students better, which would have helped them think about how to plan for mathematics instruction more confidently in their new classrooms. In order to bridge this knowledge gap for field supervisors, a professional development for field supervisors held by the collaborating teachers would be beneficial. Partnership schools could bring in field supervisors to data meetings and keep them involved with what is happening with the elementary students. With more information about the elementary students, the field supervisors would be equipped to coach and facilitate the preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching.
Platform reflections. Based on what I learned from the self-study it took more than a set of beliefs, or even routines of practice in order to facilitate preservice teacher learning about culturally responsive teaching and mathematics knowledge for teaching. It takes a process of constant and continuous reflection, as was seen in this self-study, in order to better understand what is going on with ones’ teaching practice. Without the reflective nature of self-study, I would not have reflected as deeply on my practice, nor would I have had the reflective conversations with my critical friends, as seen at the end of chapter five. I would recommend providing more opportunities to work with a learning community of other supervisors to reflect on and problem-solve issues of practice. This process of reflection allowed me to consider the nuances of my teaching practice that would otherwise been overlooked. I would recommend teacher education programs encourage their teacher educators to keep reflective journals of their teaching, or embedding inquiry and/or self-study into the function of teacher educators. In addition, I would recommend teacher education programs create professional learning communities where teacher educators could meet to reflectively consult with one another and reflect on their own practice.

Implications for Future Research

Future research is needed to study further connections between culturally responsive teaching and mathematics knowledge for teaching. Ideally, I would like to ask for retroactive IRB approval to be able and include evidence of my preservice teachers’ and collaborating teachers’ voices to the study. I think if I had the preservice teachers’ and collaborating teachers’ voices in this study I would have been better able to document preservice teacher learning in relation to culturally responsive teaching and mathematics knowledge for teaching. Additionally, future studies could include the routines of practice found from this self-study to
build a more coherent framework for teaching education, especially in relation to facilitating preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. For example, I could provide professional development on the routines of practice with teacher educators and study how they implement them. In addition, future research could look at preservice teachers’ understanding of the concepts of culturally responsive teaching and mathematics knowledge as they work with supervisors who are enacting these the routines of practice to best support elementary student learning. Self-studies could be conducted with teacher educators while using these routines of practice in either a mathematics methods course or a field experience course to find out which routines of practice work best in each setting. Additionally, based on the routines of practice found in this self-study, I could survey mathematics teacher educators across the country to elicit other routines of practice and then study teacher educators implementing a broader spectrum of practices. I could also fully implement the TEACH Math resources in the mathematics methods course and bring components into the field and conduct a self-study on the process of implementing these powerful resources.

Additional self-studies of teacher educators could also be conducted to focus on the role of relationships among the triad in helping preservice teachers learn about culturally responsive teaching and mathematics. Since this self-study only took place with one cohort of preservice teachers over the course of their final year in their teacher education program, further research could be done with more cohorts of preservice teachers at various stages of field experience internships. For example, several teacher educators could simultaneously engage in self-studies at a university with several different cohorts of preservice teachers documenting relationships
among the triad and how the relationships facilitate preservice teacher learning about culturally responsive teaching and mathematics knowledge for teaching.

This study looked at the practices of one field supervisor who also taught a mathematics methods course while facilitating preservice teacher learning about culturally responsive teaching and mathematics knowledge for teaching. I could conduct a future self-study to about my knowledge about culturally responsive teaching and how I can better facilitate culturally responsive teaching conversations, including deeper conversations about sociocultural consciousness. Finally, more self-studies could be conducted to illuminate other routines of practice of teacher educators as they attempt to live out their platforms in relation to culturally responsive teaching and mathematics knowledge for teaching. Self-study offers a flexible methodology that allows for teacher educators to study and document their growth and transformations as they work with preservice teachers. It is a systematic way to examine ones’ practice that allows the researcher to become more focused on their purposes and whether or not they are aligning their beliefs with their practice.

Significance

As discussed in chapters one and two there is a need to study teacher education programs implementing clinically rich teacher education programs. Despite the call from NCATE (2010) few teacher education programs have fully integrated clinical preparation, which leads to little research on this integrated instructional space. Furthermore, there is a paucity of research on frameworks and models for integrating coursework into the field, in particular with a focus on culturally responsive teaching and mathematics knowledge for teaching (Husman & Moyer, 2006; Kurz & Batarelo, 2009; Lowery, 2002). Therefore, this study begins to fill the gap in the extant literature. The findings from this study suggest a framework to be used by teacher
educators to guide their thinking and planning of coursework to facilitate preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching.

Researchers, such as the “Teachers Empowered to Advance Change in Mathematics” (TEACH Math) group have moved the field forward with their preservice teacher learning and development with a focus on diverse learners in relation to mathematics methods coursework (Turner, Drake, McDuffie, Aguirre, Bartell, & Foote, 2012). However, these resources have yet to be used in an integrated instructional space as was presented in this self-study. This study addressed the gap in research on theory to practice connections in elementary mathematics in relation to culturally responsive teaching by examining the enactment of a teacher educator teaching in an integrated instructional space with the same cohort of preservice teachers over multiple semesters. As I participated in the self-study I documented the reflections and changes I made to my platform, as well as to my practice while facilitating my preservice teachers’ learning about culturally responsive teaching and mathematics knowledge for teaching. I found a pattern of routines of practice I engaged in with my preservice teachers to help facilitate their learning, along with facilitators and barriers throughout this process. Finally, with the help of my critical friends I looked at my practice with an open mind and a critical perspective to try new things to further the growth in my preservice teachers.

Limitations of the Study

The limitations of this study begin with myself as the main instrument of data collection and data analysis; therefore, there was potential bias in my study (Janesick, 2001; Patton, 2002). I attempted to curb biases through the use of multiple critical friends reading through the findings of this study and checking them with my data. Additionally, my preservice teachers’ knowledge of the self-study throughout the data collection process could have affected how my
preservice teachers interacted with me in both the mathematics methods course and the field experience. Furthermore, due to IRB restrictions on my self-study, and due to the fact that I served as the preservice teachers’ instructor throughout this self-study, I was unable to capture the preservice teachers’ and collaborating teachers’ voices during this study. I attempted to mitigate their lack of voice with in depth reflections on our conversations over the duration of the self-study. Finally, I utilized a variety of data sources to strengthen my findings (Lighthall, 2004). The findings from this study are context specific to my integrated instructional third space, which limits their generalizability (Samaras & Freese, 2009). However, other teacher educators may benefit from my work by applying the routines of practice to their own context.

**Reflections on Engaging in Self-Study**

The experience of engaging in self-study was both exciting and terrifying at times. I surrendered to the process of exposure and vulnerability as I openly reflected and shared my practices with my critical friends. At the beginning of the process I was unsure what would come out of this deep engagement with reflection, but was pleasantly surprised when I started to see changes in not only my practice, but changes in myself, and changes in my preservice teachers. This self-study allowed me the opportunities to thinking openly about my goals for my preservice teachers in relation to culturally responsive teaching and mathematics knowledge for teaching. It also allowed me the chance to document the changes in my practice and how these changes impacted my work. Before this study I considered myself to be a reflective practitioner; however, the thorough nature of deep reflection that incurred based on the extensive documentation and engagement with critical friends allowed me to see things in my practice that would not have been possible otherwise. It is my hope to take these deep reflective practices
forward into my future teaching to help me to continue to uncover the nuances of my practice in order to best support preservice teacher learning.

Summary of Chapter

This study has implications for both teacher education and teacher education research. The findings from this study support a need for frameworks for teacher educators while facilitating the learning of their preservice teachers in relation to culturally responsive teaching and mathematics knowledge for teaching. As seen in this self-study, the process of framing and reframing and conversations with my critical friends, allowed me to systematically document, reflect on, and transform my practice as a teacher educator. Culturally responsive teaching and its integration with mathematics knowledge for teaching needs to be a focus for both mathematics methods course instructors as well as field supervisors. Additionally, there needs to be constant communication and collaboration among and within a clinically rich teaching environment to best support teacher educators, collaborating teachers, as well as preservice teachers. Future research on clinically rich teacher education programs needs to be conducted, especially in relation to the facilitation of preservice teacher learning of culturally responsive teaching and mathematics knowledge for teaching.
REFERENCES


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Milner, R. H. (2010). *Start where you are, but don’t stay there: Understanding diversity, opportunity gaps, and teaching in today’s classrooms*. Cambridge, MA: Harvard Education Press.


APPENDIX A:

COLLEGE OF EDUCATION UNDERGRADUATE
DEPARTMENTAL COURSE SYLLABUS
MAE 4326

“The College of Education is dedicated to the ideals of Collaboration, Academic Excellence, Research, and Ethical Practice (CARE). These are key tenets in the Conceptual Framework of the College of Education. Competence in these ideals will provide candidates in educator preparation programs with skills, knowledge, and dispositions to be successful in the schools of today and tomorrow.”

Course Prefix and Number: MAE4326
Credit Hours: 3

Course Title: Teaching Elementary School (K-6) Mathematics II

Course Prerequisites (if any): Teaching Elementary School (K-6) Mathematics I (MAE4310)

Instructor: Katie Arndt
E-Mail: klarndt@mail.usf.edu
Office: EDU 202 Q
Phone: (813) 451-2191

Course Description:
This course is required in the undergraduate programs in Elementary Education. The course continues the development of knowledge and skills necessary to prepare students to assume roles as teachers of mathematics in the elementary schools. Such a course is recommended by the National Council of Teachers of Mathematics (NCTM) in its Guidelines for Preparing Teachers. Canvas- the University of South Florida’s online learning system, is an integral component to this course. Students are responsible for staying up to date with all course information posted on Canvas.

Field-based courses statement: This course is a field-based course. If you intend to withdraw from this course after the drop/ad date, you should inform your instructor before doing so as it may impact your ability to gain placement in a future term. This course requires fingerprinting. You will be informed via email by Student Academic Services regarding your need to fingerprint. Any questions/concerns regarding fingerprinting should be directed to Dianne Wood at wood@usf.edu

Course Objectives

A. Knowledge of major goals and characteristics, including scope and sequence of elementary school mathematics programs and aspects of theories of learning as applied to the planning of instruction for the teaching of elementary mathematics.
B. Knowledge of problem solving processes/strategies and their application in the teaching of elementary school mathematics.
C. Knowledge of current developments, including research, in education that may affect elementary school mathematics curriculum.
D. Knowledge of geometric concepts and principles and their application in the teaching of elementary school mathematics.
Appendix A (Continued)

E. Knowledge of measurement concepts and principles and their application in the teaching of elementary school mathematics.
F. Knowledge of concepts and principles of probability and statistics and their application in the teaching of elementary school mathematics.
G. Knowledge of concepts and principles of algebraic thinking and its application in the teaching of elementary school mathematics.
H. Knowledge of Common Core and Florida Standards for elementary school mathematics—especially as applied to the elementary curriculum and as applied to the areas of geometry, measurement, and working with data.

Course Goals (student learning outcomes):
The candidate will be able to:
1. Demonstrate specialized content knowledge and pedagogical content knowledge related to proportional reasoning. (Mathematics FLCS #3.5)
2. Demonstrate specialized content knowledge and pedagogical content knowledge related to measurement. (Mathematics FLCS #4.3, #4.5)
3. Demonstrate specialized content knowledge and pedagogical content knowledge related to geometry. (Mathematics FLCS #5.1, #5.2, #5.3, #5.4)
4. Demonstrate specialized content knowledge and pedagogical content knowledge related to data, statistics, and probability. (Mathematics FLCS #4.1, #4.2, #4.4)
5. Create a mathematics lesson plan that demonstrates knowledge of assessment, instruction, task selection, and differentiation. (Mathematics FLCS #1.5, #1.6)

Tentative Course Outline:

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<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topic</th>
<th>Assignment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/24/16</td>
<td>Fraction Follow Up</td>
<td>MQ#1</td>
</tr>
<tr>
<td>2</td>
<td>8/31/16</td>
<td>Fractions/Proportional Reasoning</td>
<td>MQ#2 Reading</td>
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<td>9/7/16</td>
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<td>12/30/15</td>
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Appendix A (continued)

Any assignment that is not turned in at the designated time is considered late. Assignments submitted within 7 days after the due date will receive no more than half credit. Any assignment that is turned in after 7 days will **NOT** be accepted and will receive **ZERO** credit.

**Course Points:**

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<td>Lesson Plan (<em>CRITICAL TASK</em>)</td>
<td>15</td>
</tr>
<tr>
<td>Mathematics Teaching Platform</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total Points</strong></td>
<td>130</td>
</tr>
</tbody>
</table>

The College of Education requires a minimum of a **C-** in this course.

**Major Course Assignments:**

**Readings and Micro-Teaching of Instructional Activities.** For each class meetings, you will be assigned a short reading from your textbook for homework. On some days, you will also be assigned an **instructional activity** from that reading to prepare. You will present that activity in a micro-teaching session with your peers. For each activity there will be a core practice that you will work to demonstrate to your peers as well. You will also need to write/adapt these instructional activities in such a way that they reflect the interests and experiences of the specific students in your internship classrooms. Each micro-teaching assignment is worth 5 points. There is no opportunity to make these points up if you are not in class to deliver the micro-teaching activity.

**Mini-Quizzes (MQ).** Fifteen mini-quizzes will be given throughout the semester. They will always be given during the first five minutes of class. Quizzes will cover material from previous course readings/discussions/activities. Each quiz will be worth 1 point. There is no opportunity to make these points up if you are not in class on quiz days or if you come to class late.

**Exam 1 and Exam 2.** These exams are each worth 25 points. They provide you with an opportunity to demonstrate your mastery of the specialized content knowledge and pedagogical content knowledge that we cover in our coursework.

**Planning Portfolio for the Standards for Mathematical Practices.** We will continue our work learning about the SMPs. This semester we will cover practices 4-8. For each practices 4, 5, 6, 7, & 8 you will create a planning portfolio page where you describe what you planned to do to facilitate the mathematical practices, what you actually did, and the impact of that action on the classroom learning environment. You will do this three times for each of the practices.

**Lesson Plan (Critical Task).** You will develop a mathematics lesson plan that demonstrates your knowledge of instruction and assessment for equitable teaching. Specifically you will demonstrate the skills listed under Florida Elementary Education Competency #32. A detailed rubric of the grading criteria for this assignment will be posted on Canvas. **THIS IS A CRITICAL TASK.** You **MUST** receive a passing grade on this assignment in order to pass the course.

**Math Teaching Platform.** This is a brief (2-4 sentences) statement that captures your vision for your role as a mathematics teacher of elementary school students.
Appendix A (continued)

Hillsborough County Public Schools Task Force specific class activity statement

This project has been approved through the Hillsborough County Public School Research Review process. Note that individual student information is protected under the Family Educational Right and Privacy Act (FERPA). The University of South Florida and Hillsborough County Public Schools both want to ensure that student records are protected and that teachers and potential teachers have the most appropriate training opportunities. Student Information (K-12) collected for this task will NOT include information that identified the individual student and any student identifiable information/data collected will NOT be retained (e.g., videos with students in them, copies of student work, audio recordings of student interviews, etc.) past the completion of the course and the assignment of a grade by the instructor/professor.”

Chalk & Wire: All tasks designated as critical must be completed with a score of 3 or above on each criterion in order to pass the course. An assignment that receives a score of below 3 on any criterion must be resubmitted until a score of 3 or better is achieved and that score will be entered into the Assignment E-portfolio system. However, the original grade on the assignment will be the score used to compute the final grade for the course. All revisions must be completed before the last class meeting. A Chalk&Wire e-portfolio account may be purchased at the USF Bookstore.

Grading Criteria:

The course uses letter grades with a plus/minus system. The College of Education requires a minimum of a C- in this course for elementary education majors.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
<th>Percentage</th>
<th>Grade</th>
<th>Percentage</th>
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<td>94-100%</td>
<td>A</td>
<td>90-93%</td>
<td>A-</td>
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<tr>
<td>87-89%</td>
<td>B+</td>
<td>84-86%</td>
<td>B</td>
<td>80-83%</td>
<td>B-</td>
</tr>
<tr>
<td>77-79%</td>
<td>C+</td>
<td>74-76%</td>
<td>C</td>
<td>70-73%</td>
<td>C-</td>
</tr>
<tr>
<td>67-69%</td>
<td>D+</td>
<td>64-66%</td>
<td>D</td>
<td>60-63%</td>
<td>D-</td>
</tr>
</tbody>
</table>

This is a hands-on methods course that requires active participation. If a student has more than one unexcused absence, the final course grade will be reduced by 5% for each additional absence. At the discretion of the instructor, arriving late or leaving early may be considered absences.

Textbook(s) and Readings:

Required
Ready to Teach Mathematics Manipulative Kit (Elementary School Version) from ETA (Prod#79616)

Recommended
Appendix A (continued)

UNIVERSITY POLICIES: Standard Policies
1. Final Examinations Policy - all final examinations are to be scheduled in accordance with the University's final examination policy.
3. General Attendance Policy
5. Early Notification Requirement for Observed Religious Days - Students who anticipate the necessity of being absent from class due to the observation of a major religious observance must provide notice of the date(s) to the instructor, in writing, at the beginning of the term.
7. Academic Integrity of Students
9. Disruption of the Academic Process
11. Gender-Based Crimes - Educators must report incidents of gender-based crimes including sexual assault, sexual harassment, stalking, dating violence and domestic violence. If a student discloses in class, in papers, or to an instructor, the instructor is required by law to report the disclosure. The Center for Victim Advocacy and Violence Prevention (813-974-5757) is a confidential resource where you can talk about such situations and receive assistance in confidence. Additional confidential resources on campus are: the Counseling Center (813-974-2831) and Student Health Services (813-974-2331).
12. Student Academic Grievance Procedures
14. Students with Disabilities - Students with disabilities are responsible for registering with Students with Disabilities Services (SDS) in order to receive academic accommodations. SDS encourages students to notify instructors of accommodation needs at least 5 business days prior to needing the accommodation. A letter from SDS must accompany this request.
   o See student responsibilities: http://www.sds.usf.edu
   o See instructor responsibilities: http://www.asasd.usf.edu/instructorresponsibilities.asp?refer=FACULTY
15. Turnitin Privacy Policy
   In order to comply with privacy laws, students are not required to include personal identifying information, such as name, in the body of the document. Turnitin provides an originality report letting the instructor know how much of the assignment is original. Please follow your instructor's instructions carefully regarding what identifying information to include.
1. How do I submit a Turnitin Assignment?
Appendix A (continued)

2. University Emergency Policy

In the event of an emergency, it may be necessary for USF to suspend normal operations. During this time, USF may opt to continue delivery of instruction through methods that include but are not limited to: Blackboard, Elluminate, Skype, and email messaging and/or an alternate schedule. It's the responsibility of the student to monitor Blackboard site for each class for course specific communication, and the main USF, College, and department websites, emails, and MoBull messages for important general information.

MAE4326 LESSON PLAN CRITICAL TASK

Critical Task Description:
Candidates will develop a lesson plan that demonstrates their knowledge of instruction and assessment. Specifically the candidates will demonstrate the skills listed under Elementary Education Competency #32.

This assignment is designed to measure candidate achievement with respect to Florida Elementary Education Competencies & Skills (FLCS #32).

32 Knowledge of instruction and assessment

1. Identify a variety of appropriate instructional strategies (e.g., cooperative learning, peer tutoring, think alouds) for teaching specific concepts.
2. Identify ways that manipulatives, mathematical and physical models, and technology can be used in instruction.
3. Identify a variety of methods for assessing mathematical knowledge, including analyzing student thinking processes to determine strengths and weaknesses.

Critical Task Assessment: There are 3 criteria that will be used to assess the critical task.
Appendix A (continued)

Criterion #1: Identify a variety of appropriate instructional strategies (e.g., cooperative learning, peer tutoring, think alouds) for teaching specific concepts.

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1=unacceptable</td>
<td>Lesson plan fails to identify specific instructional strategies that are appropriate for the mathematical concept addressed in the lesson.</td>
</tr>
<tr>
<td>2=limited</td>
<td>Lesson plan identifies specific instructional strategies but these strategies are not appropriate to the content of the lesson.</td>
</tr>
<tr>
<td>3=proficient</td>
<td>Lesson plan identifies instructional strategies that are appropriate to the content of the lesson.</td>
</tr>
<tr>
<td>4=strong</td>
<td>Lesson plan identifies instructional strategies that are appropriate to the content of the lesson AND the candidate can explain how the strategies promote student engagement.</td>
</tr>
<tr>
<td>5=outstanding</td>
<td>Lesson plan identifies instructional strategies that are appropriate to the content of the lesson AND the candidate can explain how the strategies promote student engagement AND candidate provides alternate strategies that could be used with specific learners' needs (ELL, ADHD, etc.) to facilitate a learning environment with greater equity for those students.</td>
</tr>
</tbody>
</table>

Criterion #2: Identify ways that manipulatives, mathematical and physical models, and technology can be used in instruction.

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1=unacceptable</td>
<td>Lesson plan fails to identify appropriate manipulatives/models and technology to be used in the lesson.</td>
</tr>
<tr>
<td>2=limited</td>
<td>Lesson plan identifies EITHER appropriate manipulatives/models OR appropriate technology for the lesson.</td>
</tr>
<tr>
<td>3=proficient</td>
<td>Lesson plan identifies BOTH appropriate manipulatives/models AND appropriate technology for the lesson.</td>
</tr>
<tr>
<td>4=strong</td>
<td>Lesson plan identifies manipulatives/models and technology that are appropriate to the content of the lesson AND the candidate explains how the strategies promote student engagement.</td>
</tr>
<tr>
<td>5=outstanding</td>
<td>Lesson plan identifies manipulatives/models and technology that are appropriate to the content of the lesson AND the candidate explains how the strategies promote student engagement AND candidate provides alternate strategies that could be used with specific learners’ needs (ELL, ADHD, etc.) to facilitate a learning environment with greater equity for those students.</td>
</tr>
</tbody>
</table>

Criterion #3: Identify a variety of methods for assessing mathematical knowledge, including analyzing student thinking processes to determine strengths and weaknesses.

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1=unacceptable</td>
<td>Lesson plan fails to identify at least one method for assessing mathematical knowledge that is appropriate to the lesson content.</td>
</tr>
<tr>
<td>2=limited</td>
<td>Lesson plan fails to identify at least two methods for assessing mathematical knowledge that are appropriate to the lesson content.</td>
</tr>
<tr>
<td>3=proficient</td>
<td>Lesson plan identifies at least two methods for assessing mathematical knowledge that are appropriate to the lesson content.</td>
</tr>
<tr>
<td>4=strong</td>
<td>Lesson plan identifies at least two methods for assessing mathematical knowledge that are appropriate to the lesson content AND the lesson plan includes a brief cognitive interview that is based on the content of the lesson.</td>
</tr>
<tr>
<td>5=outstanding</td>
<td>Lesson plan identifies at least two methods for assessing mathematical knowledge that are appropriate to the lesson content AND the lesson plan includes a brief cognitive interview that is based on the content of the lesson AND the lesson plan includes reaching decisions based upon results of cognitive interview (what teacher does next if student has mastered conceptual understanding of topic vs. what teacher does next if student has a misconception or lack of understanding).</td>
</tr>
</tbody>
</table>
APPENDIX B:

COLLEGE OF EDUCATION UNDERGRADUATE DEPARTMENT COURSE SYLLABUS

EDE 4944

“The College of Education is dedicated to the ideals of Collaboration, Academic Excellence, Research, and Ethical Practice (CARE). These are key tenets in the Conceptual Framework of the College of Education. Competence in these ideals will provide candidates in educator preparation programs with skills, knowledge, and dispositions to be successful in the schools of today and tomorrow.”

Course Prefix and Number: EDE 4944  Credit Hours: 3

Course Title: Elementary Education Internship Level III

Course Prerequisites (if any): Successful completion of Level 2 Internship.

Regular Instructor(s):

Name: Katie Arndt  Office Hours: By appointment
Office: EDU202Q  Email: klarndt@mail.usf.edu
Phone: (813) 451-2191

Name: Suzanne Roberts  Office Hours: Meetings by appointment
Office:  Email:
Phone:

Course Description:

This intensive, inquiry-driven internship experience is designed to complement foundational course work expected in the Undergraduate Elementary Program. The integration of course and field experience allows the Undergraduate Teacher Candidates to make critical course to field connections. These students will spend two full days per week in a supervised internship experience in classroom settings in a public school. The classroom experiences are supplemented by a weekly seminar meeting in which relevant topics are discussed.

Please note: Between the first day, the week of August 14, 2015 at your assigned school and the final internship day scheduled November 30, 2015, all students are expected to keep up with their progression through the Level III internship tasks and to monitor the seminar information and directions using Canvas.

Field-based courses statement: This course is a field based course. If you intend to withdraw from this course after the drop/ad date, you should inform your instructor before doing so as it may impact your ability to gain placement in a future term.

Include for field-based courses that require fingerprinting: This course requires fingerprinting. You will be informed via email by Student Academic Services regarding your need to fingerprint. Any questions/concerns regarding fingerprinting should be directed to Dianne Wood at wood@usf.edu
Appendix B (continued)

Course Objectives:
This course will: introduce pre-service teacher candidates to effective classroom management techniques, including organization of space, time and resources; introduce candidates to effective verbal and non-verbal classroom communication techniques; address accommodations for ELLs and students with special needs; design challenging and engaging instruction; use data-based decision making, and align instruction with state-adopted standards.

Course Goals (student learning outcomes):
1. Guided by state standards, the Undergraduate Teacher Candidate will apply concepts from human development and learning theories to co-plan and co-teach coherent, data-driven sequenced instruction that acknowledges student differences and leads to student mastery. (FEAP 1a, 1b, 1c, 1d, 1e, 3c, 3h, 3d)
2. The Undergraduate Teacher Candidate will use a variety of research-based instructional strategies (e.g. cooperative learning, hands-on experiences, modeling, think-alouds, content area literacy strategies, integration, higher order questioning, centers, assistive technologies) and resources to co-plan and co-teach effective instruction for diverse learners (FEAP 1f, 2h, 2i, 3a, 3b, 3e, 3f, 3g)
3. The Undergraduate Teacher Candidate maintains a management system that promotes a supportive, safe, organized, and efficient student-centered learning environment respectful of learner differences (e.g. cultural, familial, linguistic, ability). (FEAP 2a, 2b, 2d, 2f)
4. The Undergraduate Teacher Candidate will use and model clear, acceptable oral and written communication (FEAP 2e)
5. The Undergraduate Teacher Candidate will integrate current information and communication technologies to support teaching and learning using a variety of learning styles and varying levels of knowledge and set high expectations for all learners, including ELLs, ESE, and gifted learners. (FEAPS: 2c, 3a, 3d, 3g, 3h, 4d; ESOL: 5.1d, 5.1e, 5.3c, 5.3e)
6. The Undergraduate Teacher Candidate will align learner objectives with a variety of formative and summative assessments to diagnose students’ learning needs, provide specific feedback, and adjust instruction to promote mastery among all students, including ELLs, ESE, and gifted learners. (FEAP 3i, 3j, 4a, 4b, 4c; ESOL 5.1a, 5.1b, 5.1c, 5.3a, 5.3b, 5.3d, 5.3f)
7. The Undergraduate Teacher Candidate will use inquiry and incorporate reflection, data, informed research, collaborative partnerships, and professional growth opportunities to set purposeful goals that drive professional development. (FEAP 5a, 5b, 5d, 5e)
8. The Undergraduate Teacher Candidate will adhere to the Code of Ethics and the Principles of Professional Conduct of the Education Profession of Florida, pursuant to State Board of Education Rules 6B-1.001 and 6B-1.006, F.A.C., and fulfills the expected obligations to students, the public, and the education profession. (FEAP 6)
9. Guided by state standards, the Undergraduate Teacher Candidate will apply concepts from human development and learning theories to co-plan and co-teach coherent, data-driven sequenced instruction that acknowledges student differences and leads to student mastery. (FEAP 1a, 1b, 1c, 1d, 1e, 3c, 3h, 3d)

Content Outline:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>8/24 &amp; 8/25</td>
<td>First day of school</td>
</tr>
<tr>
<td>8/29/2015</td>
<td>Fall, first day of classes</td>
</tr>
<tr>
<td>9/7/2015</td>
<td>Labor Day</td>
</tr>
<tr>
<td>11/11/2015</td>
<td>Veteran’s Day</td>
</tr>
<tr>
<td>11/26-27 USF</td>
<td>Thanksgiving Holiday</td>
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<tr>
<td>11/23-27</td>
<td>Thanksgiving Holiday–Hillsborough</td>
</tr>
<tr>
<td>11/30/2014</td>
<td>Fall, last week of classes</td>
</tr>
<tr>
<td>12/2014</td>
<td>Last day of the school</td>
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### Appendix B (continued)

<table>
<thead>
<tr>
<th>SEMINAR DATE</th>
<th>TOPICS</th>
<th>ASSIGNMENTS DUE</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Last Day of Pre-Planning and First Day of School</td>
<td>Start EDE 4504 Data Collection</td>
</tr>
<tr>
<td>Week 2</td>
<td>Syllabus Form Reflections on the first two weeks Data Notebook</td>
<td>Bring Copy of Syllabus Collect data about your class</td>
</tr>
<tr>
<td>Sept 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 3</td>
<td>Data Notebook &amp; Analysis Exploring Ethics</td>
<td>Collect data about your class</td>
</tr>
<tr>
<td>Sept 9</td>
<td></td>
<td></td>
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<tr>
<td>Week 4</td>
<td>Data Analysis Exploring Ethics</td>
<td>Collect data about your class</td>
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<tr>
<td>Begin Round 1 Observations Sept 16</td>
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<tr>
<td>Week 5</td>
<td>Making Claims about Data</td>
<td>Collect data about your class</td>
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<tr>
<td>Round 1 Observations Sept 23</td>
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<tr>
<td>Week 6</td>
<td>Searching the Literature</td>
<td>Blog—Wonderings and data analysis</td>
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<td>Round 1 Observations Sept 30</td>
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<tr>
<td>Week 7</td>
<td>Searching the Literature Pre-Assessment Tools</td>
<td>Bring an article you found related to your topic</td>
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<tr>
<td>Round 1 Observations Oct 7</td>
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<tr>
<td>Week 8</td>
<td>Searching the Literature—Summarizing Articles Refine Wondering Pre-Assessment Tools—Using data to plan lessons</td>
<td>Bring in two more articles you read related to your topic</td>
</tr>
<tr>
<td>Engaging in Pre-Assessment Oct 14</td>
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<tr>
<td>Week 9</td>
<td>Formative Assessment Creation Check in about Ethics</td>
<td>Bring in a summary of an article you read</td>
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<td>Engaging in Pre-Assessment Oct 21</td>
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<td>Week 10</td>
<td>Adapting/Differentiating Lessons Based on Formative Assessment Data</td>
<td>Literature Summaries</td>
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<td>Begin Round 2 Observations Oct 28</td>
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<td>Week 11</td>
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<td>Round 2 Observations Nov 4</td>
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<td>Week 12</td>
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<td>Round 2 Observations Nov 11</td>
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<td>Week 13</td>
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<td>Final Conferences</td>
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<td>Round 2 Observations Nov 18</td>
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<td>Week 14</td>
<td>Week of Thanksgiving No Class</td>
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<tr>
<td>November 25</td>
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<tr>
<td>Week 15</td>
<td>Inquiry Presentations</td>
<td>Final Conference</td>
</tr>
<tr>
<td>Dec 2</td>
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</table>

220
Appendix B (continued)

Evaluation of Student Outcomes:

List the approaches (or assessment strategies) that will be used to determine students' achievement of course goals and objectives. Include the assessments that must be completed in all sections of the course. Individual instructors' section syllabi should include any other activities/assessments/readings assigned by that instructor. Briefly describe each assessment/activity.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Standards Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Inquiry into Student Learning in the Content Areas:</td>
<td></td>
</tr>
<tr>
<td>The purpose of this assignment is for interns to systematically study their practice and work with students in a particular content area. The beginning of the semester will focus on collecting data to better understand the needs of your students. Interns will use this data to narrow down a wondering focused on a particular content area. Then additional data will be collected by reading both research and practitioner literature. The second cycle of inquiry will include teaching two connected lessons in relation to the inquiry topic. These connected lessons will allow interns to make data-based decisions in planning and instruction. *You will continue this inquiry in the spring. Parts of this inquiry will be used within the final teacher inquiry paper in the spring.</td>
<td></td>
</tr>
</tbody>
</table>

Inquiry Checkpoints: 20 points

1a. Inquiry Data Notebook:
Throughout the semester you will be collecting data for your inquiry in your data notebook. For the first few weeks of the semester you will collect data to gain insight into your students as learners and the classroom learning environment. This data will help you begin to narrow down your inquiry focus form the semester. You will then continue adding to this notebook throughout the semester. Some of this data you will be also collecting for your EDE 4504 Learning Environments course. You will be asked to bring this data to seminar to discuss and reflect on within your blog.

First 4 Weeks: Collect Data to Answer the Questions:
- Who are the learners in my classroom?
- What are the strengths and needs of my learners across content areas?
- What does the learning environment look like? What are the needs of the learning environment?

Types of Data Collected May Include: Observations, field notes, student work, student surveys, interviews, reflections, test scores, grades, etc.

1. You will be expected to bring your data notebook to each seminar as your field supervisor will be asking you to work on analyzing data.
2. You will be expected to bring your data notebook to your internship classroom every week, it should be somewhere in the classroom so your supervisor can peek at it, leave you notes, etc.
3. There should be evidence you are collecting data in your blog entries.

1b. Inquiry Blog Entries—During each seminar you will be spending time analyzing your inquiry data, readings, etc. and discussing this data with your peers. You will then write a blog post to be uploaded during seminar (or after if no internet). This blog entry should include references to the data you have collected and/or pictures of this data. Your supervisor will check in 4 times during the semester to make sure you are up-to-date with these reflections. In
Appendix B (continued)

order to be successful with these blog entries you will need to bring your data notebook to each seminar. These blogs will be helpful as you build upon your inquiry next semester.

4 Checkpoints (5 points each) 20 points

**Developing Your Wondering after Initial Data Analysis Blog**
This blog entry will be completed outside of class time. This will be a time to stop and analyze your data to develop an initial inquiry focus. You will write a thoughtful blog entry about what you are starting to learn from the data collected. We encourage you to build off and use hyperlinks to the previous blog entries you have completed as ways to discuss your claims. This blog entry should include:

Paragraph about the types of data you collected in data notebook (several sentences describing each kind)**Pics as examples Make several claims based on the data you have collected. Include data to support claims.
Where do you see the claims intersecting with where you would like to grow as a teacher?
End with an initial topic focus/wondering (select areas from inquiry menu)

Due: Week 6 20 points

**1c. Literature Summaries**
After selecting an inquiry focus topic you will search for literature to help you better understand your focus area as well as learn about ideas and background knowledge for teaching lessons related to your focus area. There should be a connection to a specific content area.
Read 5 articles (2 research; 2 practitioner; 1 inquiry) about your topic area.
Create a summary for each article.
Write a paragraph that talks about the themes across your articles.

Due: Week 10 20 points

**1d. Revisit Wondering**
In seminar, you will reflect on what ways did your wondering change as a result of your literature search. How did the literature make you feel differently/enlighten you about your wondering? You will use this wondering to help guide your connected lessons.

2. Connected Inquiry Lessons
 ***Chalk and Wire FEAPS (1a, 1b, 1d, 5a, 5b, 5c, 5f)
Interns will work with their CT to plan and teach two connected lessons in relation to their inquiry content/ focus area. The data collected from the first cycle of your inquiry (literature, classroom data, etc.) will help to inform your teaching. This will be chalk and wire task.

**2a. Pre-Assessment:** What do my students know about my lesson topic?
Create pre-assessment tool(s) to collect data focused on your lesson objectives.
Collect pre-assessment data using your tool(s).
Think about data collected previously on your topic area from above. Gather any of this previous data that may support your planning (previous tests, observations, etc.)
Write 1-2 paragraphs making claims about student learning in connection to your objectives based on pre-assessment data collected. How will you use this in your planning?

**2b. Planning:** How can I plan lessons within my inquiry content area based on data?
Create two lesson plans that occur on back-to-back days or subsequent weeks that build on each other. Use the data collected regarding your class and the literature in relation to the specific content area.
Appendix B (continued)

2c. Teaching: What are students learning within my two lessons? How do I differentiate instruction to meet their needs?

Teach lesson one and collect data during this lesson.
Analyze data collected during and after lesson. Make sure to disaggregate the data to see if there are any trends in learning outcomes.
Make claims about student learning based on data in lesson reflection.
Adapt lesson plan 2 as needed. (highlight changes in lesson plan)
Teach and collect data during lesson two.
Analyze data collected during and after lesson.
Make graphic display of data collected across lessons to illustrate impact on student learning.

2d. Reflection/Findings: What have I learned about my students’ learning in my content area? What have I learned about myself as a teacher?
Looking across all the data you have collected make several claims about the impact of your lessons on student learning. Reference the graph you have made and attach specific examples of student work Make sure you are specific and use the data you have collected to back up these claims. What would you do differently in the future in order to increase student learning? What have you learned about yourself as a teacher? Where do you see your inquiry heading next semester? What might your wondering be?

Portfolio: Pre-assessment tool and reflection; 2 lesson plans (second one highlighted); graph of data; and reflection

Due: Week 15 50 points

Hillsborough County Public Schools Task Force specific class activity statement (if applicable):
This project has been approved through the Hillsborough County Public School Research Review process. Note that individual student information is protected under the Family Educational Right and Privacy Act (FERPA). The University of South Florida and Hillsborough County Public Schools both want to ensure that student records are protected and that teachers and potential teachers have the most appropriate training opportunities. Student Information (K-12) collected for this task will NOT include information that identified the individual student and any student identifiable information/data collected will NOT be retained (e.g., videos with students in them, copies of student work, audio recordings of student interviews, etc.) past the completion of the course and the assignment of a grade by the instructor/professor.”

Chalk & Wire (if course has a critical task) : All tasks designated as critical must be completed with a score of 3 or above on each criterion in order to pass the course. An assignment that receives a score of below 3 on any criterion must be resubmitted until a score of 3 or better is achieved and that score will be entered into the Assignment E-portfolio system. A ChalkWire e-portfolio account may be purchased at the USF Bookstore.

3. Performance Assessment—

Code of Ethics & Principles of Professional Conduct for the Education Profession in Florida (FEAP 6) *(Chalk and Wire)
FEAPS: AP 6
Appendix B (continued)

Early in the semester you will read, discuss, and reflect on the Code of Ethics & Principles of Professional Conduct for the Education Profession in Florida. In the final goal setting conference at the end of the semester, each intern will show evidence for how they have demonstrated being an ethical educator this semester. The intern will identify and describe an example of meeting this accomplished practice. In addition, each intern will bring an artifact to serve as evidence of being an ethical educator.

The notes from the conference and artifact will be uploaded to chalk and wire.

Due: During Final Conference (one of last three weeks of the semester) 20 points

Chalk & Wire (if course has a critical task) : All tasks designated as critical must be completed with a score of 3 or above on each criterion in order to pass the course. An assignment that receives a score of below 3 on any criterion must be resubmitted until a score of 3 or better is achieved and that score will be entered into the Assignment E-portfolio system. A Chalk & Wire e-portfolio account may be purchased at the USF Bookstore.

4. Formal Observations by University Field Supervisor and Collaborating teacher (FEAP: 1a-f, 2a-f, 2h 3a-j, 4a-d, 5a, 5d, 5e, 6; Objectives 1, 2, 3, 4, 5, 6, 7, 8) and Video Taping (FEAP: 1a, 1c-f, 2a-f, 2h-i, 3a-j, 4a-d, 5a-e; Objectives: 1, 2, 3, 4, 5, 6, 7, 8) (at least one lesson must include technology) (both US observations connected to inquiry)

During this semester, two formative observations will be completed by both the University Supervisor and your Collaborating Teacher (total of four). To prepare for each of the observations, you will complete the lesson plan template identifying the essential focus for the lesson, techniques for instruction and assessment focusing on active student involvement, effective methods for managing students, etc. A pre-conference will be held prior to your instruction with the observer. Following the lesson, you will participate in a post conference with the observer. During this post conference, you will develop goals and an inquiry question for on-going professional development. After the post-conference you will watch the video for your lesson and complete a written reflection to be uploaded to canvas. These materials can be found on Canvas.

You should videotape each of your observed lessons. This will help support your reflection on your teaching. You will use these videos to support writing your post-conference reflection sheet. Your field supervisor/collaborating teacher may ask you to watch clips from the video during the post-conference.

Pieces of Formal Observations
a. Lesson Plan—must be given to field supervisor/collaborating teacher prior to preconference
b. Video lesson
c. Post conference written reflection—due on canvas one week after lesson is taught (you will need to watch video in order to complete this reflection)

****The points associated with the lesson plans are related to handing in the lesson plan and post-reflection in on time.

After the four formative observations, at the end of the semester, the Undergraduate Teacher Candidate, the University Supervisor and your Collaborating Teacher will each complete a Summative Evaluation. This evaluation will look at the Undergraduate Teacher Candidate’s overall progress for this internship. You will participate in a final conference to share this Summative Evaluation and discuss goals for your final internship.

* Indicates a critical assignment

Grading Criteria
Appendix B (continued)

Evaluation will be holistic, covering the entire experience. This will include (but is not limited to): university supervisor’s observation notes, lesson plans, weekly reflections, videos, inquiry project, seminar assignments, attendance records, teacher interviews, and peer coaching participation. Grading will be A-C (pass) or D/F (fail).

** Interns who have not turned in all assignments by the last day of class or other predetermined date prior to exam week or posted the Critical Assignments on Chalk and Wire will receive an “F” (fail).

The following descriptions are general guidelines for determining the course outcome of passing/ failing:

A-B: Consistent, active and thoughtful participation each day in both the classroom and in seminar discussions/ activities. Excellent quality and serious thought put into each assignment. Professional growth is evident, as indicated on the midterm and final observation forms, as well as on weekly reflections as assessed as “Developing” or higher.

C+, C, C-, D+, D, D- or F: Inconsistency of participation in the classroom or seminar, assignments that are incomplete or poorly done, failure to complete course objectives, requirements, or expectations, or the inability to perform in a satisfactory manner in the internship experience (documented by an unsatisfactory final evaluation form from the university supervisor or the classroom teacher.

Any assignment that is not turned in at the designated time is considered late. Assignments submitted within 7 days after the due date will receive no more than half credit. Any assignment that is turned in after 7 days will not be accepted and will receive no credit.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inquiry into Student Learning with the Content Areas</td>
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<tr>
<td>Seminar Inquiry Blog Checks</td>
<td>4 x 5 points</td>
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<tr>
<td>Blog Entry Exploring Wandering</td>
<td>20 points</td>
<td>20 points</td>
</tr>
<tr>
<td>Literature Summaries</td>
<td>30 points</td>
<td>30 points</td>
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<tr>
<td>Connected Inquiry Lessons Observation #2 “Chalk and Wire task”</td>
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<td>50 points</td>
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<td>Ethical Dilemma and Reflection Task</td>
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<td>20 points</td>
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<tr>
<td>Formal Observations</td>
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<td></td>
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<tr>
<td>Supervisor Observations</td>
<td>50 points (#1)</td>
<td>50 points</td>
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<tr>
<td>#2--Embedded in connected inquiry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT Observations (points for lesson plan uploaded and copy of CT observation)</td>
<td>5 points (#1)</td>
<td>5 points (#2)</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>150 points</td>
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</tbody>
</table>
Appendix B (continued)

Textbook(s) and Readings:

There are no required textbooks.

(INSTRUCTOR POLICIES (per individual instructor/section syllabus)

UNIVERSITY POLICIES: Standard Policies  (Information regarding these policies are standard items, many of which can be included as a hyperlink if so desired. Some are only necessary if applicable.)

1. General Attendance Policy
3. Early Notification Requirement for Observed Religious Days - Students who anticipate the necessity of being absent from class due to the observation of a major religious observance must provide notice of the date(s) to the instructor, in writing, at the beginning of the term.
5. Academic Integrity of Students
7. Disruption of the Academic Process
9. Gender-Based Crimes - Educators must report incidents of gender-based crimes including sexual assault, sexual harassment, stalking, dating violence and domestic violence. If a student discloses in class, in papers, or to an instructor, the instructor is required by law to report the disclosure. The Center for Victim Advocacy and Violence Prevention (813-974-5757) is a confidential resource where you can talk about such situations and receive assistance in confidence. Additional confidential resources on campus are: the Counseling Center (813-974-2831) and Student Health Services (813-974-2331).
10. Student Academic Grievance Procedures
12. Students with Disabilities - Students with disabilities are responsible for registering with Students with Disabilities Services (SDS) in order to receive academic accommodations. SDS encourages students to notify instructors of accommodation needs at least 5 business days prior to needing the accommodation. A letter from SDS must accompany this request.
   o See student responsibilities: http://www.sds.usf.edu
   o See instructor responsibilities:
   http://www.asasd.usf.edu/instructorresponsibilities.asp?refer=FACULTY
13. Turnitin Privacy Policy
   In order to comply with privacy laws, students are not required to include personal identifying information, such as name, in the body of the document. Turnitin provides an originality report letting the instructor know how much of the assignment is original. Please follow your instructor's instructions carefully regarding what identifying information to include.
Appendix B (continued)
1. **How do I submit a Turnitin Assignment?**

2. **University Emergency Policy**

   In the event of an emergency, it may be necessary for USF to suspend normal operations. During this time, USF may opt to continue delivery of instruction through methods that include but are not limited to: Blackboard, Elluminate, Skype, and email messaging and/or an alternate schedule. It's the responsibility of the student to monitor Blackboard site for each class for course specific communication, and the main USF, College, and department websites, emails, and MoBull messages for important general information.
APPENDIX C:

COLLEGE OF EDUCATION UNDERGRADUATE DEPARTMENT COURSE SYLLAS

EDE 4940

The College of Education is dedicated to the ideals of Collaboration, Academic Excellence, Research, and Ethics/Diversity (CARE). These are key tenets in the Conceptual Framework of the College of Education. Competence in these ideals will provide candidates in educator preparation programs with skills, knowledge, and dispositions to be successful in the schools of today and tomorrow.

1. SYLLABUS for Course Number: EDE 4940 SPRING, 2016

2. Course Name: Final Internship

3. Instructor:
   Name: Katie Arndt
   Office: EDU 202Q
   Phone: (813) 451-2191
   Email: klarndt@mail.usf.edu

Each final intern is assigned a University Supervisor who is the first point of contact for questions about the syllabus.

4. Course Prerequisites: Completion of all program coursework except HLP 4722 which may be taken concurrently

5. Textbooks and Readings:
   a. Email address
   b. Name badge (available at Marshall Center – NO FIRST NAME)
   c. Current Chalk-and-Wire account
   d. Video capabilities

All interns are required to purchase a Final Internship Handbook (ProCopy at 5219 East Fowler Avenue in Tampa) that includes a description of the respective responsibilities for the intern, collaborating teacher, and university supervisor. The packet also contains copies of required assessment forms, helpful suggestions, and recommended organizational tips. It is expected that interns will receive from their collaborating teachers, the appropriate textbooks and supplementary materials designed to aid them in developing and delivering instruction to the class or classes in which they are interning.
Appendix C (continued)

6. Course Description:
This course is designed to support a one semester full-day internship in a public elementary school. The Undergraduate Teacher Candidate will demonstrate his or her ability to teach as described by the Florida Accomplished Practices for Pre-professionals as well as his or her readiness to assume the full span of job responsibilities that are expected of a teacher. Through inquiry, pre-service teachers will focus on their professional development during final internship through purposeful goal setting and data collection and analysis.

This course is integrated with EDE 4802: The Teacher as Researcher. The intent is to focus the teacher candidates on their performance as a developing educator. Thus, the field supervisor will support the process of inquiry as a part of a reflective educator’s daily practice while the instructor for EDE The Teacher as Researcher will support the generation and articulation of teacher knowledge through writing and sharing with others as an integral part of the inquiry process.

Please note: Between the first day, Monday, January 11, 2016 and the final internship day scheduled Friday, April 29, 2016 all interns are expected to keep up with their progression through the final internship tasks and to monitor the seminar information and directions using Canvas. In addition all interns must attend the USF Inquiry Conference on April 25, 2016. This will be an excused day from the internship.

7. Course Goals and Objectives:
1. Guided by state standards, the Undergraduate Teacher Candidate will apply concepts from human development and learning theories to co-plan and co-teach coherent, data-driven sequenced instruction that acknowledges student differences and leads to student mastery. (FEAP 1a, 1b, 1c, 1d, 3c, 3h, 3d)
2. The Undergraduate Teacher Candidate will use a variety of research-based instructional strategies (e.g. cooperative learning, hands-on experiences, modeling, think-alouds, content area literacy strategies, integration, higher order questioning, centers, assistive technologies) and resources to co-plan and co-teach effective instruction for diverse learners (FEAP 1e, 2h, 2i, 3a, 3b, 3e, 3f, 3g)
3. The Undergraduate Teacher Candidate maintains a management system that promotes a supportive, safe, organized, and efficient student-centered learning environment respectful of learner differences (e.g. cultural, familial, linguistic, ability). (FEAP 2a, 2b, 2d, 2f)
4. The Undergraduate Teacher Candidate will use and model clear, acceptable oral and written communication (FEAP 2e)
5. The Undergraduate Teacher Candidate will integrate current information and communication technologies to support teaching and learning and organize data for collaboration with parents, administrators, and other instructional personnel. (FEAP 2g, 4e, 4f)
6. The Undergraduate Teacher Candidate will differentiate instruction and assessment to accommodate a variety of learning styles and varying levels of knowledge and set high expectations for all learners. (FEAP 2c, 3a, 3d, 3g, 3h, 4d)
Appendix C (continued)

7. The Undergraduate Teacher Candidate will align learner objectives with a variety of formative and summative assessments to diagnose students’ learning needs, provide specific feedback, and adjust instruction to promote student mastery. (FEAP 3i, 3j, 4a, 4b, 4c)

8. The Undergraduate Teacher Candidate will incorporate reflection, data informed research, collaborative partnerships, and professional growth opportunities to set purposeful goals that drive professional development. (FEAP 5a, 5b, 5d, 5e)

9. The Undergraduate Teacher Candidate will collaborate with school personnel to enhance academic achievement through participation a variety of school-based initiatives (e.g. RtI, PLC’s, school improvement committees, team meetings, and faculty meetings) (FEAP 4e, 5c)

10. The Undergraduate Teacher Candidate will adhere to the Code of Ethics and the Principles of Professional Conduct of the Education Profession of Florida, pursuant to State Board of Education Rules 6B-1.001 and 6B-1.006, F.A.C., and fulfills the expected obligations to students, the public, and the education profession. (FEAP 6)

7b. Expectations:

Follow procedures and expectations as stated in the College Final Internship Handbook.

**Punctuality.** Interns will be at the school during the days and hours that his or her collaborating teacher is required to be there. Each school has teacher contract hours. Interns are expected to be on time or early to the school each day. **Repeated lateness will result in an action plan and a loss of points as this is connected to FEAP 6 and professionalism.** Interns are to attend any function that the teacher is required to attend. This includes: faculty meetings, parent/teacher conference, planning meetings, parent nights, etc. Always have your name tag (no first name) with you and sign in with the front office before teacher contract hours following the school’s sign-in procedures. Sign out at the time you leave the building. **UNDER NO CIRCUMSTANCES are you to sign in and out when you arrive; doing so constitutes a breach of ethics and will be subject to review by the Professional Standards Committee.**

**Attendance:** Interns will be allowed three excused absences due to illness or emergency. The first absence will NOT require a doctor’s note, etc.—however, if there are an additional two absences for illness or emergency, documentation (doctor’s note, obituary, accident report, etc.) is required. **Additional absences beyond the three or failure to provide documentation for absences 2 & 3 will result in an action plan and loss of points on your grade as this is connected to FEAP 6 and professionalism.**
Appendix C (continued)

If you are absent, the intern MUST:

Contact the school or teacher in advance as early as possible, and contact the university supervisor at work or at home. Do not leave a message on the school message line.

Provide the collaborating teacher with substitute plans for what you were responsible for teaching as soon as possible before the absence. These plans should also be emailed to your supervisor. Failure to hand in sub plans will result in an action plan and loss of points on your grade as this is connected to FEAP 6 and professionalism.

Complete an absence form and upload to Canvas. If this is your 2\textsuperscript{nd} or 3\textsuperscript{rd} excused absence also upload the documentation for that absence.

Students are required to attend all seminars with supervisors. See under participation points.

Demonstrate instructional competence as specified by the Florida Educator Accomplished Practices during scheduled and unscheduled observations. A minimum of three observations are required during the semester by the University Supervisor and three observations by the Classroom Collaborating Teacher (a total of six). You must receive at least a 3 or higher on each stated Accomplished Practice on the summative document. Missing a scheduled observation without giving the university supervisor prior notice will result in an action plan and loss of points.

Active participation and discussion in the seminars. Beyond just attending, students need to actively participate and be prepared for seminar. Failure to do so could result in an action plan or loss of points.

Demonstrate adherence to the dress code set forth by the county or individual school by being dressed professionally each time you go to the school.

Display enthusiasm and a positive attitude toward your work with both the classroom teacher and the students in your classroom. You must be thoroughly prepared in advance for each day in the classroom.

Perform all tasks assigned by the classroom teacher and the university supervisor in a prompt, professional, and responsible manner.

Reinforce established classroom organization and management strategies with regard to discipline, guidance techniques, rules, routines, transitions, and clerical tasks.
Appendix C (continued)

Assume **increasing responsibility** as outlined by the collaborating teacher and university supervisor. This will include tutoring, small group instruction (i.e. reading) and whole class activities and lessons utilizing the co-teach model. Show enthusiasm, confidence, and initiative.

**Handle all confidential information in a professional manner.** Be able to define and differentiate between confidential and public information.

Exhibit **positive interpersonal relationships** in the school. [This is your future. The relationships you establish through this course could follow you throughout your career.]

Use **proper handwriting, standard grammar, spelling** and **handwriting** in all work in the classroom, on the board, and in written communication.

Be able to **accept constructive criticism** from the classroom teacher and the university supervisor in a positive manner, and implement suggestions for improved teaching.

**Demonstrate knowledge and mastery** of each of the Florida Department of Education’s Accomplished Practices at the Pre-professional level prior to graduation from the program.

Please turn off cell phones while you are in the school and during seminar sessions. Please do not text, email, or conduct personal Internet business during class time. You may not use your cell phone to conduct personal business while working with students.

***Failure to adhere to the above course expectations will result in an action plan and loss of points. Failure to improve in these areas once an action plan has been developed can result in removal from internship or failure.***

8. Content Outcomes / Course Schedule:

A. **IMPORTANT DATES:**

As an intern, you are to follow your Collaborating Teacher’s work day schedule.

<table>
<thead>
<tr>
<th>Hillsborough County</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Internship Begins</td>
<td>Monday, January 11th</td>
</tr>
<tr>
<td>Martin Luther King Jr. --No School</td>
<td>Monday, January 18th</td>
</tr>
<tr>
<td>Non-Student Day (expected to report to school)</td>
<td>Tuesday, January 19th</td>
</tr>
<tr>
<td>W. Hillsborough - Florida State Fair</td>
<td>Friday, February 5th</td>
</tr>
<tr>
<td>E. Hillsborough – Strawberry Festival</td>
<td>Monday, March 7th</td>
</tr>
<tr>
<td>Spring Break</td>
<td>March 14th -18th</td>
</tr>
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<td><strong>Appendix C (continued)</strong></td>
<td></td>
</tr>
<tr>
<td>Non-Student Day</td>
<td>Friday, March 25th</td>
</tr>
</tbody>
</table>
Appendix C (continued)

Last Day of Internship          Friday, April 29th

**Student Early Release**      One Hour Early Each Monday

At the beginning of the semester, the Undergraduate Teacher Candidate will be placed in a school setting with a collaborating teacher who is trained in clinical education, who has taught successfully for at least three years, and who holds current certification in the student’s major. The student will also be assigned a supervisor from the university whose responsibility it is to observe the student’s performance in the classroom, provide feedback and collaborate with the intern and collaborating teachers to resolve any issues or concerns that arise. Each student’s daily schedule will vary according to the nature of the school context (e.g. school faculty meetings, PTA meetings, Parent Conferences, Open House, etc.).

A.  Seminar Schedule  (Tentative Schedule subject to change)
## Appendix C (continued)

<table>
<thead>
<tr>
<th>Date/Week</th>
<th>Class</th>
<th>Focus of Seminar</th>
<th>Assignment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1: Jan 11</strong></td>
<td>EDE 4940 Seminar</td>
<td>• Introductions&lt;br&gt;• Syllabus&lt;br&gt;Expectations and Course Structure&lt;br&gt;• Assignments and assessment</td>
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</tr>
<tr>
<td><strong>Week 2: Jan 19</strong></td>
<td>EDE 4940 Seminar</td>
<td>• Portfolio Update&lt;br&gt;• Share Revisiting My Inquiry post&lt;br&gt;• Complete Inquiry Goal Sheet</td>
<td>Revisiting Inquiry Post&lt;br&gt;CT/Intern Conversation Guide</td>
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<tr>
<td><strong>Week 3: Jan 27</strong></td>
<td>Teacher as Researcher</td>
<td></td>
<td>Portfolio Checkpoint</td>
</tr>
<tr>
<td><strong>Week 4: Feb. 5 Last day to apply for spring graduation.</strong></td>
<td>Teacher as Researcher</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Week 5: Feb. 8</strong></td>
<td>EDE 4940 Seminar</td>
<td>Types of Data&lt;br&gt;Lesson Planning</td>
<td>1st CT observation; 1st US observation&lt;br&gt;Bring copy of first observation lesson plan.&lt;br&gt;Inquiry Notebook</td>
</tr>
<tr>
<td><strong>Week 6: Feb. 17</strong></td>
<td>Teacher as Researcher</td>
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<td></td>
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<tr>
<td><strong>Week 7: Feb 22</strong></td>
<td>EDE 4940 Seminar</td>
<td>Analyzing Inquiry Data</td>
<td>Portfolio Checkpoint</td>
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<tr>
<td><strong>Week 8: Feb 29</strong></td>
<td>EDE 4940 Seminar</td>
<td>Making Claims</td>
<td>Portfolio Checkpoint&lt;br&gt;Midterm Evaluation&lt;br&gt;Inquiry Notebook</td>
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<td><strong>Week 9: Mar 9</strong></td>
<td>Teacher as Researcher</td>
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<td>2nd CT observation; 2nd US observation&lt;br&gt;Inquiry Notebook</td>
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<td><strong>Week 10: Mar 16</strong></td>
<td>HCPS Spring Break EDE 4940 Seminar for Pasco Schools</td>
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<td><strong>Week 11: Mar 21</strong></td>
<td>EDE 4940 Seminar</td>
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<td><strong>Week 12: Mar 30</strong></td>
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<td>Portfolio Checkpoint</td>
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<td><strong>Week 13: April 4</strong></td>
<td>EDE 4940 Seminar</td>
<td>Inquiry Conference Presentations</td>
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<td><strong>Week 14: April 13</strong></td>
<td>Teacher as Researcher</td>
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<td>3rd CT observation; 3rd US observation&lt;br&gt;Inquiry Notebook</td>
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<td><strong>Week 15: April 18 Final Conferences</strong></td>
<td>EDE 4940 Seminar&lt;br&gt;Inquiry Conference</td>
<td>Practicing Inquiry Presentations</td>
<td>Final Portfolio&lt;br&gt;Inquiry Powerpoint</td>
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<td><strong>April 25</strong></td>
<td>Inqury Conference</td>
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<tr>
<td><strong>Week 16: April 27 Final Conferences</strong></td>
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<td></td>
<td>Final Portfolio&lt;br&gt;Inquiry Powerpoint</td>
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</tbody>
</table>
Appendix C (continued)

The seminar schedule as well as times/dates will be emailed to you by your field supervisor and posted on Canvas.

9. **Formative and Summative Assignments/Assessments** (Points and/or %)

*Performance Artifacts*

**A. Formative Observations**

During this semester, **three formative observations** will be completed by both the University Supervisor and the Collaborating Teacher (a total of six observations). To prepare for each of the observations, you will complete the USF lesson plan template identifying the essential focus for the lesson, techniques for instruction focusing on active student involvement, effective questioning techniques that encourage high expectations for student academic growth and efficient, effective methods for managing students. A pre-conference will be held prior to your instruction with the observer. You will video the lesson. Following the lesson, you will participate in a post conference with the observer to discuss the data collected. During this post conference, you will set goals for on-going professional development. Either prior to or following the post conference (depending on timing) you will view your video and complete a reflection blog on the lesson using the lesson reflection prompts as a starting point. You must refer to your video in the reflection (discuss specific aspects and the time on the video).

*You must videotape each of your observed lessons. This will help support your reflection on your teaching. You will use these videos to support writing your post-conference reflection sheet. Your field supervisor/collaborating teacher may ask you to watch clips from the video during the post-conference. You will be expected to reference the video in your lesson reflection or it will result in a loss of points.*

**Pieces of Formal Observations**

a. **Lesson Plan**—must be given to field supervisor/collaborating teacher by a time specified by supervisor prior to preconference. Upload to Canvas. During the preconference you may make changes to your lesson plan based on discussion, but you are expected to bring a quality lesson plan to this conversation. Your CT and University Supervisor will use a **rubric** to assess the lesson plan.

b. **Video lesson/Observer collect data**

c. **Post conference reflection blog**—due on canvas **for both CT and US observations by due dates below.** You will need to watch video in order to complete this reflection) You must refer to the video (even including exact times) in your reflections.

**Observation Reflection Blog:**

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Appendix C (continued)

*Discuss student learning. What did students learn? Provide evidence for this learning (discuss student work, observation data, video, etc.). How do you know that students learned?

*Select several questions from the USF lesson plan reflection sheet based on content.

*What did you learn from engaging in this lesson?

*What are some of your goals based on what you learned from this lesson?

Make sure to include artifacts as a part of this blog post--student work (names scratched out), pics from lesson (no student faces), resources created, etc. You must also include specific times from video as you discuss aspects of the lesson.

**Points will be deducted if not handed in on time**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Due Date</th>
<th>Total Points</th>
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<tbody>
<tr>
<td><strong>University Supervisor Observations</strong></td>
<td>1st due by: Feb. 10th</td>
<td>45 points</td>
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<tr>
<td>2nd due by: Mar. 9th</td>
<td>3 observations @ 15 points each -Lesson Plan (5 pt) -Pre &amp; Post Conference -Blog Reflection (10 pt)</td>
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<tr>
<td>3rd due by: April 13th</td>
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<tr>
<td>3 observations @ 10 points each -Lesson Plan (5) -Pre &amp; Post Conference -Blog Reflection (5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Collaborating Teacher Observations</strong></td>
<td>1st due by: Feb. 10th</td>
<td>30 points</td>
</tr>
<tr>
<td>2nd due by: Mar. 9th</td>
<td>3 observations @ 10 points each -Lesson Plan (5) -Pre &amp; Post Conference -Blog Reflection (5)</td>
<td></td>
</tr>
<tr>
<td>3rd due by: Apr. 13th</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Totals:</strong></td>
<td>6 formal lesson plans; 6 blog entries <strong>Reminder: these blog entries are key pieces of evidence for your portfolio and also possible inquiry data.</strong></td>
<td>75 points</td>
</tr>
</tbody>
</table>

B. Mid-term Evaluation

At mid-term each teacher candidate will meet with the university supervisor and collaborating teacher to discuss progress in regard to the Florida Educator Accomplished Practices (FEAPs). As part of this process the intern will:

1. Complete a self-assessment using the FEAPs assessment sheet using evidence from FEAPs portfolio and other data from the semester.
2. Meet with CT and University Supervisor to discuss self-assessment (bringing evidence or having access to portfolio) and to discuss grade at this point in the semester. Goals for the rest of the semester will be discussed in terms of expectations for successful completion of the internship.
Appendix C (continued)

You should support your self-evaluation with evidence from your teaching. If you have been posting to your blog and updating portfolio consistently, then data will be easier to retrieve. You will engage in the same process at the end of the semester, but the focus will be on a summative evaluation of your performance over the semester. You need to come prepared to both of these meetings to speak intelligently and accurately about your performance. Failure to be prepared will result in your grade being lowered.

C. FEAPs Portfolio (FEAP: 2e, 5d; Objectives: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10)

The FEAPs portfolio will provide the CT and university supervisor with evidence when completing the end of semester summative evaluation. This portfolio can also be used when interviewing for jobs. Teacher candidates will continue to add to their website portfolio that will serve as evidence of demonstrated proficiency in the Florida Educator Accomplished Practices. For each Florida Educator Accomplished Practice 1-4 you will 1) select an artifact as evidence that demonstrates proficiency in a particular FEAP (hyperlink to blog) and 2) provide a justification for how this evidence demonstrates your proficiency in a particular FEAP.

Artifacts may include: portion of lesson plan, picture of an assessment you created and administered, picture of student work, etc. The easiest way to organize this portfolio is to write a blog entry for each indicator and then paste a link to the blog entry in your portfolio tab. For some indicators a short video-clip may work best. In this case include your paragraph reflection on the website, but upload the video-clip to Canvas or a secure you-tube upload for your supervisor to look at. You may use artifacts from previous semesters. Your goal is to show evidence you have met the FEAP or you may show growth by comparing two different artifacts (i.e. a lesson plan you wrote in level 2 and a lesson plan from final internship).

Your justification should include a short paragraph that reflects on 1) why you selected the specific artifact and 2) how this artifact shows your proficiency in this area

**For the Learning Environments course you spent a great deal on FEAP 2—so for final internship you will want to review as well as add any additional evidence from this semester that you think would be beneficial to show your growth.

Example information for each portfolio Entry:

**FEAP One Instructional Design and Lesson Planning**

Indicator: 1d. Selects appropriate formative assessments to monitor learning.

Artifact: Formative assessment tool (picture or attachment of tool)
Appendix C (continued)

Paragraph Reflection:
What is the artifact? (several details)
Why did you select the specific artifact as a way to show proficiency of the specific indicator?

**Remember: One artifact can count for several indicators, but you will need to still write a short paragraph reflection for each indicator that the artifact represents. For example, after observation one—you may be able to select several indicators to show growth. You could use different components of that observation as evidence—i.e. supervisor observation notes, lesson plan, student work, artifact from lesson, video clip, etc.

Throughout the semester you will have checkpoints related to the portfolio to make sure you stay on track. One of the major checkpoints will be at midterm when you will use the portfolio to demonstrate the growth for the first half of the semester.

Assessment:
10 points for overall FEAP 1, 2, 3, & 4 (10X4) = 40 points
FEAP 1
FEAP 2
FEAP 3
FEAP 4
  5 points--artifacts under FEAP match indicators
  10 points--thoughtful justification for each artifact

Portfolio checkpoints: 3 points each (completed and on time) (3 X 4 checkpoints = 12 points)
Appendix C (continued)

<table>
<thead>
<tr>
<th>Date</th>
<th>Focus of Checkpoint</th>
<th>Assessment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 27</td>
<td>Revisit FEAP 2</td>
<td>*All FEAP 2 indicators have evidence from both level 3 and at least 3 new pieces of evidence from final internship</td>
<td>3 points</td>
</tr>
<tr>
<td>Feb 17th</td>
<td>FEAP 1, 3, &amp; 4 * Look over formal observation experience as well as everyday classroom practice</td>
<td>At least 5-6 indicators added</td>
<td>3 points</td>
</tr>
<tr>
<td>March 2nd</td>
<td>Showing Progress through mid-term</td>
<td>At least 5-6 indicators added</td>
<td>3 points</td>
</tr>
<tr>
<td>March 30</td>
<td>FEAP 1, 3, &amp; 4 * Look over formal observation experience as well as everyday classroom practice</td>
<td>At least 5-6 indicators added</td>
<td>3 points</td>
</tr>
<tr>
<td>April 20</td>
<td>All indicators for FEAPs 1-4</td>
<td>All indicators added for each FEAP: 5 points artifacts: 10 points justification = 15 points 15 points X 4 FEAPs = 60</td>
<td>60 points</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>72 points</td>
</tr>
</tbody>
</table>

D. Inquiry
In the final internship, teacher candidates will continue their inquiry from level 3. Your inquiry might adapt based on findings from last semester or after moving to another context. In the EDE 4940 course you will focus on enacting your inquiry while in EDE 4802: Teacher as Researcher you will learn about how to write about your inquiry. In EDE 4940 you will be expected to discuss your inquiry, collaborate with other interns about your inquiry, and communicate and work collaboratively with your CT regarding your inquiry. Two assignments will be connected to inquiry in 4940.

Inquiry Notebook & Weekly Reflections: Each week interns will be required to update a notebook with a new entry and bring to EDE 4940 or EDE 4802 as applicable to be eligible for Professionalism and Participation points for the week. The collection of data and reflections in this notebook will serve as evidence that interns have engaged in collecting data and taking action as part of the inquiry process over a minimum of 5-6 weeks. In addition, the inquiry notebook will support formative data analysis and serve as a reflective journal for teacher candidates. Excerpts of data from this notebook will be featured in the Appendices of the final paper. The timely and thoughtful completion of the notebook weekly reflections will be part of your participation points.
Appendix C (continued)

Presentation for Inquiry Conference  10 points
This powerpoint or handout will be used during the USF Inquiry Conference on April 25. The final product must address each section of the inquiry. There must be examples of data collected, be neat and organized, and have proper citations. Peer feedback and preparation.

Slides:
Background
Context
Wondering
Research Literature Summary
Methodology
Findings
Implications/Conclusions

E. Seminar Participation and Professionalism
24 points (8 meetings X 3 points = 24 points)

It is an expectation that teacher candidates are punctual, prepared, and active participants in seminar. All points are earned if the following criteria are met: (1) applicable materials (including Inquiry Notebook, course text, inquiry artifacts, writing in progress, laptop etc.) are prepared and brought to each seminar as needed, (2) intern is actively engaged and on task for all activities, and (3) intern actions during class support the learning of self and others.

Students are required to attend all seminars with supervisors. If for some reason, the student is sick or there is a death in the family, etc. the student will be required to provide documentation and the professor has the right to have the intern complete a make-up assignment or submit other work at his/her discretion. Attendance at the Practitioner Inquiry Conference is a mandatory part of this course in order to pass. The presentation will take place on April 25 at the Marshall Center. You will be excused from your internship on that day.

Punctuality is a professional expectation. Candidates that are late will receive partial credit for professionalism and participation for that week. A teacher candidate that is more than 15 minutes late is considered absent and the attendance policy below will be applied.

F. CT/Intern Conversation Guide (5 points)

The purpose of this guide is to promote a discussion between the intern and collaborating teacher about internship expectations and as a way to gather information about the internship classroom. There is an expectation that the intern takes notes about the conversation questions and the intern and CT sign.
Appendix C (continued)

G. Final Summative Evaluation
At the end of the semester the teacher candidate, collaborating teacher, and university supervisor will complete an evaluation form that rates the teacher candidate’s performance on all the Florida Educator Accomplished Practices. The ratings will be discussed during a final evaluation conference. The CT, US, and teacher candidate will rely on data collected throughout the semester, the mid-term evaluation conference, and the FEAPs portfolio in order to determine the ratings. The ratings must include scores of 3 or higher.

<table>
<thead>
<tr>
<th>Quizzes</th>
<th>(Points and/or %) n/a</th>
<th>Final Exam</th>
<th>(Points and/or %) n/a</th>
</tr>
</thead>
</table>

Policies Regarding Other Points Awarded (Points and/or %) n/a

10. GRADING CRITERIA:

Evaluation will be holistic, covering the entire experience. This will include (but is not limited to): university supervisor’s observation notes, lesson plans, mid-term evaluation, seminar assignments, FEAPs portfolio, and attendance/professionalism. Grading will be A-C (pass) or D/F (fail).

The following descriptions are general guidelines for determining the course outcome of passing/failing:

A-B: Consistent, active and thoughtful participation each day in both the classroom and in seminar discussions/activities. Excellent quality and serious thought put into each assignment and lesson taught. Professional growth is evident, as indicated on the midterm and final observation forms, as well as summative evaluation on FEAPs assessed as at least a “3” or higher.

C+, C, C-, D+, D, D- or F: Inconsistency of participation in the classroom or seminar, assignments that are incomplete or poorly done, failure to complete course objectives, requirements, or expectations, or the inability to perform in a satisfactory manner in the internship experience (documented by an unsatisfactory final evaluation form from the university supervisor or the classroom teacher).

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A = 94-100%</td>
</tr>
<tr>
<td>A-</td>
<td>A- = 90-93%</td>
</tr>
<tr>
<td>B+</td>
<td>B+ = 87-89%</td>
</tr>
<tr>
<td>B</td>
<td>B = 84-86%</td>
</tr>
<tr>
<td>B-</td>
<td>B- = 80-83%</td>
</tr>
<tr>
<td>C+</td>
<td>C+ = 77-79%</td>
</tr>
<tr>
<td>C</td>
<td>C = 74-76%</td>
</tr>
<tr>
<td>C-</td>
<td>C- = 70-73%</td>
</tr>
<tr>
<td>D+</td>
<td>D+ = 67-69%</td>
</tr>
<tr>
<td>D</td>
<td>D = 64-66%</td>
</tr>
<tr>
<td>D-</td>
<td>D- = 60-63%</td>
</tr>
<tr>
<td>F</td>
<td>F = 59% and below</td>
</tr>
</tbody>
</table>
Appendix C (continued)

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Due Date</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan for Success</td>
<td>Jan. 20</td>
<td>*Completed</td>
</tr>
<tr>
<td>University Supervisor Observations</td>
<td>1st due by: Feb. 10th&lt;br&gt;2nd due by: Mar. 9th&lt;br&gt;3rd due by: April 13th</td>
<td>3 observations @ 15 points each</td>
</tr>
<tr>
<td>Collaborating Teacher Observations</td>
<td>1st due by: Feb. 10th&lt;br&gt;2nd due by: Mar. 9th&lt;br&gt;3rd due by: Apr. 13th</td>
<td>3 observations @ 10 points each</td>
</tr>
<tr>
<td>FEAPS Portfolio</td>
<td>Revisit FEAP 2: Jan. 23th&lt;br&gt;Checkpoint—add to FEAP 1, 3, &amp; 4: Feb. 17th&lt;br&gt;Checkpoint—add to FEAP 1, 3, &amp; 4: Mar. 2nd&lt;br&gt;Checkpoint—add to FEAP 1, 3, &amp; 4: March 30&lt;br&gt;Final Due: April 20</td>
<td>Checkpoints –12 points (9 x 4 = 12 points)&lt;br&gt;Final Portfolio = 60 points (15 points for each FEAP 1-4)</td>
</tr>
<tr>
<td>Seminar Participation &amp; Attendance</td>
<td>8 meetings (3 points each)</td>
<td>24 points</td>
</tr>
<tr>
<td>CT/Intern Conversation Guide</td>
<td>Due: Jan 20</td>
<td>5 points</td>
</tr>
<tr>
<td>Final Inquiry Powerpoint</td>
<td>Due by Monday April 25</td>
<td>10 points</td>
</tr>
<tr>
<td><strong>Total Points:</strong></td>
<td></td>
<td><strong>184 points</strong></td>
</tr>
</tbody>
</table>

**Late Work:**
As this course is intended to support the development of a reflective stance over time, timely submission of assignments is a requirement in order to demonstrate conceptual understanding and generation of teacher knowledge over time. As such, all late assignments will lose a letter grade each day. After a task is one week late a maximum of 50% credit will be earned and the opportunity for instructor feedback may be forfeited by the student. Students that submit late work on two or more assignments are eligible for an action plan and may be unable to successfully complete the assignments in this course.

**11. Academic Dishonesty**
Plagiarism is defined as "literary theft" and consists of the unattributed quotation of the exact words of a published text or the unattributed borrowing of original ideas by paraphrase from a published text. On written papers for which the student employs information gathered from
Appendix C (continued)

books, articles, or oral sources, each direct quotation, as well as ideas and facts that are not
generally known to the public-at-large, must be attributed to its author by means of the
appropriate citation procedure. Citations may be made in footnotes or within the body of the text.
Plagiarism also consists of passing off as one's own, segments or the total of another person's
work. Punishment for academic dishonesty will depend on the seriousness of the offense and
may include receipt of an "F" with a numerical value of zero on the item submitted, and the "F"
shall be used to determine the final course grade. It is the option of the instructor to assign the
student a grade of "F" of "FF" (the latter indicating dishonesty) in the course.

12. Detection of Plagiarism
The University of South Florida has an account with an automated plagiarism detection service
which allows instructors to submit student assignments to be checked for plagiarism. I reserve
the right to 1) request that assignments be submitted to me as electronic files and 2)
electronically submit to SafeAssignment.com, or 3) ask students to submit their assignments to
SafeAssignment.com through myUSF. Assignments are compared automatically with a database
of journal articles, web articles, and previously submitted papers. The instructor receives a report
showing exactly how a student's paper was plagiarized.

13. Web Portal Information
Every newly enrolled USF student receives an official USF e-mail account that ends with
"mail.acomp.usf.edu." Every official USF correspondence to students will be sent to that
account. Go to the Academic Computing website and select the link "Activating a Student E-
mail Account" for detailed information. Information about the USF Web Portal can be found at:

14. ADA Statement
Students in need of academic accommodations for a disability may consult with the office of
Services for Students with Disabilities to arrange appropriate accommodations. Students are
required to give reasonable notice (typically 5 working days) prior to requesting an
accommodation.

15. USF Policy on Religious Observances
Students who anticipate the necessity of being absent from class due to the observation of a
major religious observance must provide notice of the date(s) to the instructor, in writing, by the
second class meeting.

16. ESOL & Florida Accomplished Practices (FAP) Requirements (for ESOL-infused
courses and other courses where assignments need to be collected by students to complete their
portfolios): Please note certain assignments are marked (e.g., AP4 and 8, and/or ESOL2) or (*)
and should be saved once graded, as appropriate documentation for one or more of the Florida
Accomplished Practices/ESOL Performance Standards.
Appendix C (continued)

17. Critical Tasks
The Undergraduate Teacher Candidates in the Elementary Education Program are required to successfully complete Critical Tasks in program courses to document meeting State of Florida teacher preparation standards. In this course the Critical Task is the final summative evaluation.

18. Canvas and Email
Course materials, checklists, and announcements will be posted on Canvas. Students are responsible for downloading materials. Hardcopies of checklists or rubrics must be handed in with assignments. Canvas email will be used to communicate among class members. You are responsible for information that is emailed to your USF email account or is posted on Canvas. Please check them regularly.

19. Emergency Preparation
In the event of an emergency, it may be necessary for USF to suspend normal operations. During this time, USF may opt to continue delivery of instruction through methods that include but are not limited to: Canvas, Elluminate, Skype, and email messaging and/or an alternate schedule. It’s the responsibility of the student to monitor the Canvas site for each class for course specific communication, and the main USF, College, and department websites, emails, and MoBull messages for important general information.

20. Communication
Course materials, checklists, and announcements will be posted on Canvas. You are responsible for downloading any pertinent materials. Checklists or rubrics must be handed in with assignments. Blackboard email will be used to communicate among class members. You are responsible for checking your email regularly and for reading announcements posted on Canvas.

21. The Family Educational Rights and Privacy Act (FERPA)
This is a Federal law designated to protect the privacy of a student’s education records and academic work. The law applies to all schools and universities which receive funds, under an applicable program of the U.S. Department of Education, and is applicable to students at USF as well as the students in our partnering schools. All files, records, and academic work completed within this course are considered educational records and are protected under FERPA. It is a student’s right to expect that any materials you submit in this course will not include names or other identifying information. The exception will be only when you have given written consent.
Appendix C (continued)

Florida Department of Education Accomplished Practices—Pre-professional Level

The following Accomplished Practices must be demonstrated prior to graduation from the program.

Accomplished Practice #1: Instructional Design and Lesson Planning. The pre-professional teacher works with other professionals to design learning experiences that develops background knowledge, sets high expectations and meet students’ needs and interests of all students. Planned instruction that is aligned with the Sunshine State Standards incorporates a creative environment and utilizes varied and motivational strategies and multiple resources for providing comprehensible instruction for all students. Upon reflection of test data, the teacher continuously refines outcome assessment and learning experiences student academic growth.

Accomplished Practice #2: The learning Environment. The pre-professional teacher has a basic understanding of the subject field and is beginning to understand that the subject is linked to other disciplines and can be applied to real-world integrated settings. The teacher’s repertoire of teaching skills includes a variety of means to assist student acquisition of new knowledge and skills using that knowledge. The pre-professional teacher understands the importance of setting up effective learning environments and has techniques and strategies to use to do so, including some that provide opportunities for student input into the processes. The teacher understands that she/he will need a variety of techniques and works to increase her/his knowledge and skills.

Accomplished Practice #3: Instructional Delivery and Facilitation. The pre-professional teacher recognizes the need for effective communication in the classroom and is in the process of acquiring techniques that she/he will use in the classroom. Students are engaged in active learning through hands-on activities, cooperative learning strategies, problem-solving activities designed to assist all students in demonstrating their ability to think creatively. The pre-professional teacher uses technology as available at the school site and as appropriate to the learner. She/he provides students with opportunities to actively use technology and facilitates access to the use of electronic resources. The teacher also uses technology to manage, evaluate, and improve instruction. The pre-professional teacher establishes a comfortable environment which accepts and fosters diversity. The teacher must demonstrate knowledge and awareness of varied cultures and linguistic backgrounds. The teacher creates a climate of openness, inquiry, and support by practicing strategies such as acceptance, tolerance, resolution, and mediation.

Accomplished Practice #4: Assessment. The pre-professional teacher collects and uses data gathered from a variety of sources. These sources include both traditional and alternate assessment strategies. Furthermore, the teacher can
identify and match the students’ instructional plans with their cognitive, social, linguistic, cultural, emotional, and physical needs.

**Accomplished Practice #5: Continuous Professional Improvement.**
The pre-professional teacher realizes that she/he is in the initial stages of a lifelong learning process and that self-reflection is one of the key components of that process. While her/his concentration is, of necessity, inward and personal, the role of colleagues and school-based improvement activities increases as time passes. The teacher’s continued professional improvement is characterized by self-reflection, working with immediate colleagues and teammates, and meeting the goals of a personal professional development plan.

**Accomplished Practice #6: Professional Responsibility and Ethical Conduct.** Understanding that educators are held to a high moral standard in a community, the effective educator adheres to the Code of Ethics and the principles of Professional Conduct of the Education Profession of Florida and fulfills the expected obligations to students, the public and the education profession.
Interview 1:

L: Tell me about your life until you became a graduate assistant?

K: Well, I was born in Skokie, IL which is just outside of Chicago. I lived there until I was two and then my dad got a job in Oldsmar so my family moved down to FL, I have been in FL ever since. I grew up in the same house for however many years, my parents still live in the house I grew up in. I went to school in Pinellas county for elementary, middle and high school and then I went to the University of Florida for my undergraduate and the University of South Florida for my Masters and now my doctorate.

L: Tell me more about your schooling?

K: So I went to the same schools for elementary, middle, and high school. I went to Curlew Creek Elementary school first. I already knew how to read in kindergarten and I think my teacher didn’t really know what to do with me. I would be asked to work with students who didn’t know how to read pretty often. So they had me tested for gifted and I remember being terrified, taken by some lady into the back room in our media center and I sat down and had to answer all sorts of questions about patterns and puzzles. And I still remember thinking that I was not doing a good job or I was going to fail. I had a hard time growing up not wanting to fail and being afraid of failing. Well, I realize that now of course, not really back then. So I was in the tiny room with some random lady I didn’t know and then I later found out that I did indeed qualify for gifted. Which in kindergarten was definitely not my favorite thing to do because I was sent to the media center once a week and we sat in a dark room and talked about planets and the solar system, but there weren’t that many kids in there with me, maybe like five or seven or something. As I got older those were my favorite classes because we always did cool projects, like learning about the ocean, the titanic, the Mayans and stuff and we went on awesome extra field trips that everyone else didn’t get to go on. So I was definitely tracked from an early age because then I was admitted to the math and science middle school program. And I had to take the SAT in sixth grade, you had to get a certain score in math and then they let you in. So I did, and I got in and I actually got to go to Clemson for a science summer camp after sixth grade, that was pretty cool. In sixth grade we did a special logic math class that I really liked and I was pretty good at and
Appendix D (continued)

then by seventh grade we did more advanced science too. I remember being one of only five kids maybe, in eighth grade who had an A in geometry, we had to do all these proofs and stuff and it was super tedious but logical so I think that’s why I did well in it, and I didn’t have to take the final exam. I beat out a bunch of the boys and I remember being super proud of that. I applied to the International Baccalaureate program at Palm Harbor High School because I wanted to go to take the most rigorous curriculum possible. Now again, I didn’t want to be too challenged that I would fail, but I had never had any issues with my grades in school up to this point and everything came really easily and naturally so I had never really experienced failure before. But then when I got into high school I had a hard time keeping up with the eight classes we took every year and I definitely experienced some failure for the first time, it was tough and it definitely rattled me a bit. I started to feel like I wasn’t as smart as I always thought I was and there were kids I went to school with that were crazy smart, and way better than I was at loads of stuff. I think this kind of set the tone for college because I was burned out, I realize that now, and probably realized it a bit then, but didn’t anticipate its effect on me. I was really striving to go to med school and wanted to be a pediatrician because I wanted to work with kids. My mom was a preschool teacher and my dad was a mechanical engineer so despite the fact that neither of them had a four year college degree, my dad and mom both have the equivalent of an AA, I had some guidance for my career. Well, they definitely wanted me to be a doctor, my mom would always say that she wanted me to be a doctor so when they got old I could take care of them. I’m not sure that is the only way I would be able to take care of them, well obviously not, but that is what I heard growing up. I was meticulous with picking through my food as a child and detail oriented even when I was little so I think they wanted me to be a surgeon or a doctor or something. And my mom would steer me away from certain careers that she thought wouldn’t be good for a lifestyle, like working weekends and holidays and stuff, now I’m like doctors work all sorts of crazy hours so that doesn’t really make a whole lot of sense, but whatever. I think the problem for me was this idea of failure though, it crept into my psyche in college, I didn’t know that chemistry was the major science you needed for med school, I always thought it was biology so I took a ton of biology in high school. So I wasn’t super confident in my ability to do chemistry and I got super nervous that I wasn’t going to pass the MCATs, because I had a girlfriend whose older sister failed it a bunch and had spent all this time in college prepping for med school and then she couldn’t get in. So needless to say, I didn’t go to med school and that’s probably been my biggest regret and failure to date, obviously not horrific, I love teaching and I feel like I’ve been successful since then but it still weighs heavy on my mind because I quit before I could fail and that is totally against my everything. For instance, when I was five I got an S instead of an E in PE because I couldn’t jump rope so what did I do? I went home that night, asked my parents for a jump rope and stood outside on our patio for hours until I learned how to jump rope. Good
Appendix D (continued)

ol five year old me sticking to it, but somehow in college I lost that vigor, I was tired, and rebellious maybe that I didn’t want to have to be the one to take care of my family, I wanted to do what I wanted to do. So I majored in tons of things in between and finally ended up with a degree in business economics. I didn’t do well in accounting that I thought would be good because I always loved math, I would have been better off majoring in math, although at the time I thought what the heck do you do with a math degree? Again, not so much guidance from my guidance people at Florida, nor from my parents who didn’t really have the college experience so how were they to know? So I did that and then I started working in like a sales position when I left college. I did recruiting for technical jobs, so I got some good experience looking at resumes and helping prep other people for interviews. But the whole idea behind the job was to screw people out of money so that I could make a higher spread on my commission. I was not totally into that, I was actually really bad at it and just wanted to give the people a higher salary at my own expense, literally. It didn’t really work for me, so I thought about what I could do instead, like most 22 year olds I suppose. So I went back to school for my Masters in teaching. I thought teaching would be great because I wanted to work with kids, I knew I liked it because I would go help my mom in her classroom all the time and I would get summers off. It sounded like a good gig. The only problem in my mind was that I wasn’t doing something that necessarily met my intellect, because of the stigma of teaching and the constant reminder that med school was the initial dream. But, I was excited about teaching and a new possibility so I went to USF and I got my Masters, I worked at a chiropractors office part time while I went to school, I tutored for a while and I also worked with some of the faculty members and doc students on a research project. This sparked my interest to go on to grad school as a Ph.D. student, I thought I could really get into the idea of research and that would be more stimulating. So before I even went into the classroom I had an itch to go back to school and finish with a terminal degree. I wanted it so bad and I thought that would certainly make me feel like I was living up to my potential. Now the interesting part is that my mom pulled me aside in a store when I eventually told her I wanted to go back for a Ph.D., this was after I had been teaching for a couple of years and she was like, are you sure you want to be that kind of doctor and you don’t want to be a real doctor doctor. I was pissed that she didn’t seem supportive of my idea, after all this was her career path also and I adamantly refused her idea and told her I was doing a Ph.D. I was financially independent and I was not going to let her influence me just because she wanted me to be a doctor doctor. Looking back I have struggled with this moment as well because sometimes I think I’d still be interested in med school, but then I struggle with thinking that maybe it’s just that I enjoy school and learning and want to learn more and more. I don’t know, maybe I’ll never get over that piece, nice and stubborn just like always ha-ha! So here we are.
Appendix D (continued)

Interview 2:

L: What experiences have you had as an instructor of mathematics with undergraduate students?

K: I have had some experience as a mathematics methods instructor with undergraduate students. I was not able to teach the elementary mathematics methods courses when I first started as a graduate assistant at USF. I mostly worked as a field supervisor, but I was able to teach a classroom management and instructional planning course, and a creative experiences for elementary students course. In the Fall 2013 semester I was able to shadow the elementary mathematics methods course lead and begin to conceptualize what teaching looks like in these courses. I also was able to co teach with another graduate assistant who had not worked in an elementary mathematics classroom before. She was very strong in the mathematical content, but struggled with what the concepts looked like in an elementary classroom, so I was given the opportunity to co teach and learn from her and she learned from me and my experiences as an elementary school teacher. As I worked in these classrooms that were not my own I gathered a lot of good information about the struggles mathematics methods instructors encounter. For one, the preservice teachers are not always prepared for the content, even though it is only up to sixth grade math. This reconfirmed my ideas about the struggles of mathematics teachers from my experiences as an elementary school teacher, I always wondered why teacher did not want to teach math and why they were happier in the primary grades, well why some of them were happier in the younger grades. It was potentially this hatred of math, or lack of confidence or ability. After I was able to shadow and co teach in the mathematics methods course I was able to teach my own course in the Spring of 2014. I taught the second mathematics methods course to a group of residency students, who I also coached in math. This was really difficult for me because there were so many of them and I had a hard time getting to their classrooms more than once. And there wasn’t really a good way or model for doing this so it was kind of up to me to figure it out which was really hard. I didn’t feel like I did a really good job with the coaching aspect in particular because I wasn’t present enough. It was so hard with all of my coursework to get into their classrooms as much as I wanted, and having over 30 of them to go see didn’t help. I thought maybe a PLC structure would have been better, but it was kind of too late when I thought about implementing that for it to work, so I definitely would have some different ideas for how to structure that course in the future, if I was to be put in that situation again. It’s hard when you know you didn’t do all you could to help a group of teachers, or when you’re just learning how to teach them and it doesn’t really go as well as you thought it would. The mathematics methods course was a bit better though, I had a good idea of how to structure the class since I had seen
Appendix D (continued)

one before and I got a lot of really good resources from my course lead and the girl I had co
taught with. So that was good. My evaluations were pretty good too, they wanted more content
and hands on things so good feedback and kind of stuff I would want to work on to improve my
practice even if they hadn’t mentioned that. It is hard in the methods courses because content is
king so to speak, but there isn’t really a whole lot of time to only teach content, since you want to
teach them how to teach, but you have to try and fit it all in, be strategic about it. I was actually
really surprised by how much they didn’t know about the math content, it only goes up to sixth
grade so I thought they may have some issues here and there, but they were really behind with
what content they knew. I was just shocked, I thought they would be more prepared. After the
Spring 2014 semester I taught the mathematics methods one course to my cohort in Fall 2014,
my cohort I was supervising. I was excited to have them in the classroom and in the field
because I could use what I saw them doing in their field experience classrooms and bring it back
to our methods course. And since I had experience teaching the methods course it was easier for
me to plan and think about how I wanted them to learn about the content and pedagogy.
Experience was definitely helpful. I had another group of math methods one before, but I can’t
remember, I may have messed up the dates on some of those because I have taught math
methods 1 twice and now this semester will be my second time teaching the math methods 2, so
anyways you kind of get the point I guess, I’ve done it, each of them, a couple of times now. It’s
still hard for me to think about how to best engage them in the math though, because I know
what they want, they want videos and they want to see me teaching, but getting videos is super
hard because you have to have IRB for kids to be in videos so the math videos that are out there
are super old and they’re relevant but it’s still hard for them to connect sometimes. I like the idea
of them videoing themselves and watching it because that is easier for them to have access to,
but then it doesn’t show exactly what I want to focus on necessarily. So I tried to use more micro
teaching things and see if that helps a bit, which you know it does but they always want more,
more content, more strategies, you can’t teach them everything. And they don’t like math and
they’re not great, or comfortable with it so I just feel like it’s a hard job, you do your best and
you still don’t feel like you have totally prepared them. I try to emphasize the fact that they will
need to be lifelong learners and they will need to know how to teach themselves because that is
more helpful than me telling them everything, I don’t have all the answers, I don’t know what
they’re going to encounter, but I don’t think they see that yet. So I try my best and throw in some
old stuff and some new stuff and see how it goes.

Interview 3:

L: Thinking back over the first two interviews, the one about your experiences up until graduate
school and the ones during graduate school, what reflections do you have?
Appendix D (continued)

K: I would say there are many connections from my past experiences to my current ones. I think my family always seemed like a big influence on me but it was hard to see before I outlined all of my experiences. I think it is really important to me, my family is, to the decisions I’ve made. I was definitely influenced by my dad because he was born out of the States. I honestly didn’t even realize my dad had an accent until sixth grade when some of my friends pointed it out. They were like, ‘your dad has a super thick accent!’ And I was like, ‘Really? I never noticed I guess.’ So I think things like that kind of influence you and shape you. I mean now thinking about it, kids I taught didn’t know what influenced them, or they probably couldn’t articulate it anyways, I would not imagine they could. That is kind of big stuff that you don’t realize unless you take the time to reflect, and I feel like I’m a pretty reflective person and I still don’t think about this stuff all the time. It’s hard to dissect where certain parts of you come from. I think as a teacher I never want to make a child feel the way my dad felt growing up. He would tell us how he would get made fun of because of his clothes and also how he was marginalized because he was White. It seemed so backwards to me as a kid and I remember my parents explaining that the majority of people in Argentina were not White so it was something different. I related my kids experiences to my dad’s and I think it made me more empathetic as a person and definitely as a teacher.

Another thing that stuck out to me was my relationship with my mom. She was a teacher and I didn’t really want to be a teacher because I didn’t think teachers were usually very smart and I put a lot of emphasis of my self worth into my intelligence. I knew I was smart and I didn’t want to do anything that would make people question that in any way. But I also knew I didn’t want to be behind a computer all day, I wanted to work with people. I was also terrified of failing in college so I didn’t pursue my med school dream so all of these thoughts and experiences were just compiling into this perfect storm I guess. So when I graduate college and I worked, my undergraduate degree, and I worked in this sales position, I thought ok well I’m working with people but this sucks, it is just awful and I don’t want to work in an office. So I decided to go back to school and the thought of working with kids, having summers off, and doing something I really loved, because I certainly wasn’t getting paid well at my sales job, so I thought what the heck I’ll try out teaching. And I didn’t want a second bachelor’s degree, so I found the MAT program at USF and I immediately fell in love as soon as I started the coursework. I read everything that was assigned, I worked harder in school than I had in a long time and I was happy to do it, because I really felt like I had found what I was meant to do. I kind of realized why my mom loved her job so much, not that my dad doesn’t love his job, he is obsessed with his job and has been at the same company for 50 years, but I kind of got it I guess. I got the teaching bug. I didn’t have to wear a suit everyday or be in an office, I got to decorate my
Appendix D (continued)
classroom and teach kids the way I felt was best for them and I loved being in the classroom. I couldn’t believe most days that they paid me to work with kids!

Another reflection I had thinking and talking about these things was my stance on culturally responsive teaching. So earlier I mentioned my empathetic nature and the want or drive whatever, to help all students. This is totally true, I definitely felt this way and found new language in my graduate coursework to help me frame my behaviors or how I felt, but I certainly still had some glaringly inappropriate mindsets when it came to people as a whole, like in society, and stereotyping groups based on generic categories. Growing up it was not ok to judge or outwardly marginalize a particular group per say, but it was definitely commonplace in my house to hear racial slurs or jokes about certain groups of people, but those are just jokes or comments I think in my parents’ minds, they don’t really mean it. But for a kid growing up and hearing that stuff you know it’s not ok, but you also don’t think it’s totally wrong to judge an entire group of people based on who they are or where they come from. I think that was a turning point for me, knowing that I am not a bad person because I think certain things, but more or less analyzing why I think those things and trying to do something about it instead of just feeling bad about it. I think it’s easy to say or think, oh I just won’t think that again or oops that was inappropriate, but taking the time to dissect what is really happening and why those thought pop into my head is more productive, at least it feels like a step in the right direction. It’s kind of like creating a whole new habit of thinking, or process of considering the ultimate possibilities of what can be going on. Which is really interesting because that’s how I think about life and religion and math and all things that make up the world, I like to think it’s not just because I can be indecisive ha-ha! I really do believe that there are an infinite number of possibilities for how this life can go, so why on earth would I have ever thought about one possibility for one person, or groups of people? It’s hard to go back to that mindset and be so closed off to the other possibilities. It’s hard to think about myself as that person, especially the person who made the list of schools I wanted to teach at based on socioeconomic status, race, and ethnicity. I shun that person, I hide that version of myself because I’m not proud that exists in my memories, I’m certainly not proud I did it, and I don’t ever want to be like that person again, ever. And on top of that, I don’t want my future students to be like that, I want to teach them to be better than me. When I first told that story to you aloud I almost cried, I was so ashamed, I’ve never actually said the words out loud and it was kind of freeing and terrifying all at once. It's that kind of cathartic nature of reflection that I’ve learned and I love it, I’m so open, but even more so now about everything, not just school or myself, but in life and I’ve found that it’s really refreshing to people and that lots of people want to talk about things that they think are uncomfortable for them, like health stuff or whatever, but when someone else brings it up it’s ok. Miscarriages I talked about with a bunch of people not too long ago, now I’ve never been pregnant, so I don’t
Appendix D (continued)

have that experience, but I know so many people who have, including my mom and my grandma, so I’m kind of expecting them I guess, and I talk to people, not naming names, but you know it’s something that people think they are alone in and I don’t ever want people in my life to feel like their alone. Some people forget that it’s ok to talk, and that makes me think of the counter narrative stories we learned about in school because the more people share, the more they realize that what they think about a person or a group is not the case. It’s easy to put people down or ‘hate’ people, I don’t like to say it like that but you know, who don’t have a face, like online bullying and I think of message boards. It’s pretty easy to write nasty things online, or to yell at a person on the phone, like the Bright House customer service people ha-ha! But they’re people, really humans with a story, with a family, with a purpose and when you see that side and that face and that purpose it’s really hard to hold onto anything you previously assumed about them. It makes me think of the congressman who was against gay relationships, this was years ago, we weren’t even close to the marriage thing, and he was adamantly against it, until his son or son’s friend or someone close to him came out, then all of the sudden it was like oh he’s just a guy, he’s a person, like me. In a world where people have so much access to so much information and can be so close to one another, we sometimes feel so far apart. The interwebs of online interactions and ceaseless amounts of information don’t always allow for us to take that time to reflect and feel things as easily, we have to make that effort as humans to think and feel. That is kind of a rant, but you know I really do feel like I’m a different person, I am not the same Katie from 2011, not even close. It actually kind of makes me wonder if my past relationships were meant to be doomed from the start because I am no longer that person. I never really thought that people changed, not for real, I firmly held this belief until I realized the profound change in myself, for the better, and forever, I’m not going back, not ever. I freaking make myself sound like a saint, that’s not what I mean, I have a long way to go there are many things to work on, but I’m moving forward, in the right direction, or a better direction, and I now have the knowledge and the language to keep growing as a person.
I entered the teaching profession because my mother was a teacher and I wanted to switch out of my current career in sales. I had always wanted to work with children and the thought of thematic planning and units was very exciting to me. I wanted to help children learn and I wanted to teach mathematics before I even started back to school with my Masters. I believe knowledge is constructed through our experiences, and building on prior experiences. I believe the construction of knowledge happens with others but meaning is unique for each learner based upon their past experiences, and how those experiences influence the construction of new knowledge. I believe students learn through constructing their own knowledge, but the modality can be different depending on the content. I also believe that teaching is relational, it is about building and maintaining genuine trusting relationships with students. As a teacher my job is to support and facilitate learning. My ultimate goal as a teacher is to teach my students to learn on their own and instill a lifelong love of learning. My preferred school climate is one of collaboration and fair accountability between all stakeholders. I believe leaders and administrators should not only guide their team, but also they should support and encourage.

I believe that supervision is a tango of sorts, there is give a take between all stakeholders. Those who function in the role of a supervisor should mentor and coach, and when working with preservice teachers they should engage in equitable accountability in the growth of the preservice teacher. Evaluation needs to be collaborative, and it should come from rigorous documentation and multiple conversations, not one point in time. Evaluation should lead to growth, development, and change, not fear or negativity. The goal of supervision is to help a teacher growth and develop in a way that increases student achievement.

I am a cultural being. I am a white middle-class female who is influenced by my past experiences, successes and failures. I am a coach and a mentor, an authoritative figure when needed and above all a supportive leader. I experience privilege in my relative attractiveness and Whiteness. People tend to trust me with little effort, yet I put forth more than is necessary. I am also marginalized in my gender and age, I appear young and inexperienced, when in fact I do possess knowledge and experiences worth sharing. My identity influences everything about me as a teacher and a supervisor. I practice constant reflection in order to uncover my own biases and how they influence my perception of people and experiences. I believe counter narratives, through reading and experiences, reflection, and dialogue best support teachers’ understanding of equity.
I believe that teacher education should be collaborative in nature between preservice teachers, instructors, and collaborating teachers. Teacher education lies between various spaces of learning and the third space should be addressed by all stakeholders. In this third space there needs to be open communication and collaboration between instructors and preservice teachers beyond the syllabus or intended coursework. Preservice teacher support from instructors should include being responsive to their needs as learners through differentiated instruction, as well as being culturally responsive to their needs. Supervisors of preservice teachers in the field need to adhere to the same responsiveness, open communication, and relationship building not only with preservice teachers, but also with the collaborating teachers, administrators of schools, and other instructors. In order to support preservice teachers, instructors need to be aware of the third space between the university and the field and must communicate and collaborate with one another, with the preservice teachers, and with supervisors in the field; including coursework and students’ performance.

My philosophy of teaching is grounded in constructivism because I believe that preservice teachers learn best by making sense of the content when using their own experiences as a foundation for new learning. I also believe culturally responsive teaching and constructivism complement one another for new knowledge to be constructed. If preservice teachers can relate to the material being taught they are more likely to understand it, and apply it. Instructors and supervisors should use preservice teachers’ prior knowledge and experiences as both students and teachers to further their learning. They should be aware of the third space between the university and field in order to help preservice teachers make connections among and between spaces. Instructors and supervisors should differentiate instruction, and be culturally responsive to the needs of their preservice teachers by building lessons for them that allow the preservice teachers to explore content and pedagogy on their own, through the use of inquiry, in order to construct knowledge. They should be facilitators of learning for preservice teachers through strategic pedagogies.

All stakeholders, instructors, supervisors, preservice teachers, and collaborating teachers, should be involved in building relationships among and between the third space, in order to further elementary student learning. A classroom community should be established in both university and field settings in order to ensure preservice teachers feel comfortable taking risks and exploring best practices. Preservice teachers should feel safe to share openly about their successes and failures in their field experience classrooms, and also with their potential shortcomings in content and pedagogy. Instructors should build relationships among themselves and with supervisors in order to be fully involved and aware of all preservice teachers’ strengths and weaknesses. Supervisors should communicate and build relationships with collaborating
Appendix F (continued)
teachers and administrators in order to best support preservice teachers. The function of each
stakeholder should be clearly defined, as well as expectations for the preservice teachers. These
functions and expectations should be clearly communicated and revisited as needed in order to
provide continuous support for preservice teachers. Finally, collaborating teachers should be
supported in any way necessary in order to best support preservice teachers; the support should
be grounded in constructivist learning, culturally responsive teaching, and inquiry based
learning.
Teacher educators are tasked with facilitating the learning of their preservice teachers, in conjunction with other stakeholders at the university and at district school partnerships. When the goal of preservice teacher learning is rooted in culturally responsive teaching and mathematics, foundational relationships are needed among the triad in order to support preservice teacher learning. Relationship building is necessary in order to learn about the preservice teachers’ and collaborating teachers’ lives and past learning experiences. This knowledge can then be used to facilitate new learning about how to implement culturally responsive teaching and mathematics knowledge for teaching in elementary classrooms. Relationship building leads to trust among the triad, which is necessary to conduct and to facilitate difficult conversations about culturally responsive teaching and mathematics knowledge for teaching. Uncomfortable conversations are difficult to facilitate without trusting relationships in place.

There are many routines of practice teacher educators can use to actualize the facilitation of learning with preservice teachers in culturally responsive teaching practices and mathematics. Probing questions assist teacher educators to prompt preservice teachers to reflect more deeply about a topic. Utilizing personal connections help foster the construction of new knowledge for preservice teachers about how their experiences could potentially influence their teaching practice. Offering suggestions provide direct advice or ideas to preservice teachers, and modeling explicitly demonstrates teaching practices. Planning and implementing targeted activities help to engage preservice teachers in thinking about culturally responsive teaching and mathematics knowledge for teaching in a controlled environment. Finally, fostering communication with the triad helps to facilitate preservice teacher learning by using the expertise of all stakeholders in the triad. These routines of practice can help teacher educators foster and facilitate preservice teacher learning in relation to culturally responsive teaching and mathematics knowledge for teaching.

Teacher educators need to be flexible and reflective. To promote a constructivist and reflective learning environment teacher educators need to facilitate learning through purposeful planning and implementations of activities, readings, and conversations. Beyond the facilitation of learning, teacher educators also need to utilize metacognitive techniques to ensure preservice teacher learning happens. Teacher educators should work with collaborating teachers and partnership schools to engage in collaborative professional development. Teacher educators need to be responsive to their preservice teachers’ and collaborating teachers needs. Reflection needs to be a part of a teacher educator’s daily routine in order to think through and enact changes in ones practice. Teacher educators should reflect on the resources available in an integrated instructional third space and utilize those resources to best meet the needs of the preservice teachers. These resources include, but are not limited to the knowledge of all stakeholders. Additionally, relationships should be built with the elementary students in order to
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better facilitate preservice teacher learning about culturally responsive teaching. There should be collaboration with stakeholders at the university to learn about preservice teachers, and help facilitate context responsive learning. Collaboration should also take place in the community with district school partnerships, and other community partnerships to help preservice teachers learn about the communities of their students.
APPENDIX H:
EXAMPLE OF A RESEARCHER’S JOURNAL

Week 11: Nov 9:

- Shared learnings from online module
- Read data analysis/discussed
- M&M data activity, beyond the classroom data activity
- STEM overview
- Peer reviewed critical task

This week we started to talk about data analysis and statistics it was really interesting that they were able to make a lot of connections to interests of themselves and interests of their students. They seemed to display a lot of knowledge about what they thought their students would like and we talked in depth about how we can integrate statistics into the classroom in a culturally responsive way. We not only talked about how the data collection could be relevant to student’s lives and interests but also how being statistically literate can be helpful in the real world. I would really like to take it a step further next week, like Gutstein does with his high school students. He did things like taking data and looking at it to see what inequities were present. I think for next week I will see if I can pull some data or have them look at the similar statistics that Gutstein did with his kids. We have another whole day of data analysis and statistics and I think it would be good to engage in this CRT and really social justice to get them to think about how important math can be in helping someone to feel ‘powerful’. I need to make sure to get the right data and really think through how to present it. I know we have used the county testing data in the past to talk about the inequities. I wonder if they will make assumptions about students with all of the exposure they have had to CRT. I am very interested to try this out with them and I think it will help me to really engage with CRT with them, opposed to discussions and the mini lesson assignments. I don’t think those mini lesson assignments, the way I have implemented them, have really helped them to think about CRT in math. I think it really helped them to get feedback and to think about the SMPs, assessments, and differentiating instruction, but not necessarily CRT. I still think they think DI and CRT are the same. I had a pre conference after class with one of my interns and he left the culture box blank on his lesson plan. He was doing first grade, doubles plus one and doubles minus one. He said well I don’t see how I could incorporate the student’s cultures into this lesson. I asked him to consider culture as a broader definition beyond race and ethnicity. I asked him to think about how his students could relate to the material and what type of activity may be helpful to engage students in a way that they can draw on their own experiences to help them learn doubles plus and doubles minus one. I pointed out a picture of one of the worksheets he was using in his lesson and asked him whether or not the drawing of the student on the worksheet looked like the students in his class. He agreed it did look like the majority of his students. So then I posed to him that when students are able to see people like them doing math, in this case, it has the
potential to make them think they are capable of doing it. I asked him to think about super heroes and damsels in distress in movies and what they look like. Knowing he is Filipino, and another one of my interns who is Cuban was listening in, I asked him if those people look like him, and her. They both seemed to get the point that it can be hard to relate to something or to feel connected to something when it seems to be all about ‘other people’ and not them. I think he seemed to get the point because in his lesson he worked with a small group of students, at one point, and he allowed them the opportunities to create their own stories about the numbers. The students came up with word problem stories that they enjoyed and could relate to. One girl wrote about cupcakes, another wrote about cars, and the third wrote about dirty socks. It was a way to engage the students experiences and interests while also engaging in the math. In our post conference we talked about this a lot as well. I reiterated the point that this can be a helpful way to engage students with math in a way that is meaningful to them. Finally, we had a discussion about his rapport with the students and he mentioned how personal teaching is and the relationship building piece of teaching. I asked him what he remembered from being a student and he said he remembered the teachers that knew him and talked to him and cared about him. I think the conversations with this one particular interns was a powerful experience for me this week. I think after talked with Jenn I was able to reframe my purpose of the pre and post conference with my CRT lens. She is awesome at asking the right questions and sometimes I feel lost, I lose the words and the purpose of engaging students with ideas of CRT. I really want them to take away ideas and strategies for teaching and for teaching in a culturally responsive way but sometimes it gets lost in the shuffle, in the daily grind, the content, the pedagogies, the FTCE, the management, the struggles of themselves becoming a teacher. Their frustrations and struggles seem to trump conversations and I have to remember to fight the CRT back into the conversations, not to lose them because it is quicker or easier to do so. I truly believe if I was not having the conversations I was having with Jenn I would be stuck in this rut of getting things done. We have our syllabus and our goals for the interns for the semester but my passion for CRT and math and my beliefs about teaching are important. I cannot lose sight of them when the weight of everything else is bearing down. Being able to revisit my own goals for them is helpful. I think I need to write them down next semester and subsequent semesters so that I can kind of keep myself in check. Life happens and things get in the way, but I can’t let those things stop me or slow me down. It’s hard when you don’t always know what you don’t know, in regards to my integration of CRT and my attempts to teach the interns about CRT with their students, but that’s what has been great about this process. It is giving me the time and space to air it all out and go back and revisit my own platform. I have a lot of work on myself still, but I think reflecting on this process is helping.

Week 12: Nov 16:

This week we continued with data analysis and they collected leaves to analyze and categorize/classify and then graph based on the categories they chose. We also talked about measures of center and variability. We did two different activities to unpack the concept of mean. They worked in pairs and discussed in small group and in whole group how to calculate the mean. The final piece of class was reflecting on the data for Hillsborough county. This included test scores and demographic information. It was a bit uncomfortable for me to lead the discussion because I wasn’t sure where the conversations were going to go. I thought it would help them to think about the students in their classes and the county in which they teach. They were asked to decide if the data makes them ask a question, disturbs them, surprises them, or if they could make a connection to the data. When discussing the
Appendix H (Continued)
demographic information they were a little surprised but we had good conversations about where the
students are in the county. They discussed ideas about how students from different ethnicities tend to be
in certain areas of the county because people want to live around people like them. I think this was an ok
assumption. I didn’t dig too much deeper as to why certain groups of people live where they do. If I had
more time, I would have like to have broken down the historical living of the county, I have heard those
data are available and that may be able to help them think about the more structural inequities in the
county. We kind of left it as they live in similar neighborhoods as their ethnicity and it has to do with
socioeconomic status. I probably should have dug deeper, but there was so much data I wanted to talk
about. They were surprised that Vietnamese and Haitian were two of the majority languages that were
spoken in the district. They also brought up the idea that the resource teachers and resources in general
are not abundant for languages other than English or Spanish. I thought this was a good point for them to
take away that the resources for all students is not equal. It seems sort of surface level for them to unpack,
but the fact that they are thinking about the resources available I thought would help them to think about
the testing inequities, but that wasn’t really the case. When we talked about the slide on people moving to
the county they were very critical of the data which I thought was great. We tied this back to our math
discussions and how being mathematically literate is powerful for them and not to take data at face value.
They questioned whether people were moving out of the county as well and what percentages of the
population were transient. They also brought up great discussions they have had with their CTs about
their transient students and what that means for them and how it can impact their planning and teaching,
as well as the students’ learning. It seemed to me that we were off to a great start about the data
discussions and they were understanding how the school system and the structures of schools are
advantageous for a certain group of students. That was until we got to the test score data. This was when I
got a little nervous for them. I don’t think they really could digest the inquities within the data. For
instance they were surprised the females outperformed the male students, this told me that they have an
underlying assumption that males are better at reading than females. That could be my own assumption
about their thinking, but it seems to me that they wouldn’t be surprised by that data unless they had an
assumption about how males and females perform on reading tests. The conversation about SES took an
interesting turn. One of them brought up the idea of nutrition in food and how that could affect students
taking the standardized tests. They talked about what food was available to the students. I also mentioned
the idea that certain neighborhoods are not littered with grocery stores, but rather convenience stores,
again to try and get them to think about the structures of neighborhoods, but they didn’t really bite on that
too much either. One interesting dynamic I noticed during the food conversation was the fact that the girl
who brought up the nutrition piece is not particularly well liked in the cohort and a lot of people were
hesitant to agree with her, and some downright refused and they argued against her. This really makes me
think about how important classroom dynamics are and what types of conversations could be posed, or
even tolerated in a course depending on how comfortable they are with each other and how much (or if)
they all get along. I think it would be very difficult to have these kinds of conversations with students
who didn’t get along at all, or didn’t trust each other. To me, it seemed like the girl who brought up the
nutrition ideas was not trusted by the other students and therefore her ideas, albeit good ideas, were not
taken seriously or even considered by some to be a possibility. The last data slide we had time for was
about reading scores based on ethnicity and one of the students said she was not surprised that hispanic
students do not do well on the tests because they do not have a lot of support at home for reading or
academics so they probably would not do well on the tests. This is when I almost lost it. I was so
unprepared for such a deficit comment and was really taken aback by it. I did not know the right questions
to ask to guide her to think about it a different way so I let the other students chime in, in hopes that
maybe she would be able to think about it a different way. Some students agreed and some students
disagreed with her, again I was so shocked and really unprepared for this type of reaction. At one point I

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Appendix H (continued)
said, so you’re telling me you don’t think Hispanic students are as capable as others? And I think that stopped her in her tracks a bit, in hindsight I think this was a bit harsh to say, but I was so emotional about it and upset because I felt like we were really getting somewhere with the conversations and then she blurts that out. I could tell some of the non White students were offended too. I think I would be insulted if one of my classmates said something like that seriously about White women or something similar that I couldn’t change about myself. I really didn’t want the other students to be offended, but I also was not super sure how to handle that either. I definitely need practice with these types of conversations because I don’t think I handled that too well. I potentially over reacted and took offense to her comment when I should have anticipated those types of things and been more prepared for counter questions or comments to help them think about it in a different way. I think they got a lot out of our conversations and based on their reflections after the discussion most of them agreed it helped them to think about their student in another way, so I think it was productive, but I wish I had more time to work with them and talk with them about these things. The more overt and in your face data talk seemed to be more powerful than the other activities I incorporated into our coursework over the semester.
APPENDIX I

PICTURES OF DATA ANALYSIS
Appendix I (continued)

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<th>Occurrences of Mathematics Knowledge for Teaching and Culturally Responsive Teacher Supervision Practice</th>
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The first semester of data collection is analyzed separately from the second.
Appendix J

August 26, 2015

Katie Arndt
Teaching and Learning
Tampa, FL 33609

RE: Expedited Approval for Initial Review
IRB#: Pro00023372
Title: A Self-study on Platform to Practice Connections for Facilitating Culturally Responsive Elementary Mathematics with Preservice Teachers

Study Approval Period: 8/26/2015 to 8/26/2016

Dear Ms. Arndt,

On 8/26/2015, the Institutional Review Board (IRB) reviewed and APPROVED the above application and all documents contained within, including those outlined below.

Approved Item(s):
Protocol Document(s):
Katie Arndt Dissertation IRB Self Study

Consent/Assent Document(s)*:
Waiver of Process granted (self study)

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110 and 21 CFR 56.110. The research proposed in this study is categorized under the following expedited review category:

(5) Research involving materials (data, documents, records, or specimens) that have been
collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your study qualifies for a waiver of the requirements for the informed consent process as outlined in the federal regulations at 45CFR46.116 (d) which states that an IRB may approve a consent procedure which does not include, or which alters, some or all of the elements of informed consent, or waive the requirements to obtain informed consent provided the IRB finds and documents that (1) the research involves no more than minimal risk to the subjects; (2) the waiver or alteration will not adversely affect the rights and welfare of the subjects; (3) the research could not practicably be carried out without the waiver or alteration; and (4) whenever appropriate, the subjects will be provided with additional pertinent information after participation.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board