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Emotional Geographies of Beginning and Veteran Reformed Teachers in

Mentor/Mentee Relationships

Emily Joan Adams

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of

Master of Science

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## ABSTRACT

### Emotional Geographies of Beginning and Veteran Reformed Teachers in Mentor/Mentee Relationships

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Master of Science

Reformed teaching is better for students' conceptual understanding compared to the more popular traditional style of teaching. Many beginning teachers wanting to teach reformed conform to traditional teaching within their first couple years of teaching. I argue that this can happen because the emotional labor to continue teaching reformed without support is too high. Having a reformed math mentor can decrease this emotional labor and provide more support to beginning reformed teachers. This study builds on and adds to Hargreaves (2001) emotional geography framework to better understand the emotional closeness/distance beginning and veteran reformed teachers have talking about their practice. The results of this study show the emotional closeness/distance of four emotional geographies: moral, political, physical, professional of two mentor/mentee teachers pairs.

Keywords: emotional geographies, beginning teachers, teacher emotions, mentors

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## CHAPTER ONE: INTRODUCTION

Traditional mathematics teaching follows a pattern of a teacher modeling a problem and then asking students to do similar problems. In contrast, the National Council for Teaching Mathematics came out with *Curriculum and Evaluation Standards for School Mathematics* in 1989 promoting a student centered classroom that is focused on inquiry based teaching instead of the common traditional instruction that focused on the procedural understanding of mathematics. These standards reminded the mathematics education community that there is another way to teach mathematics--typically, referred to as reformed mathematics teaching. Reformed teaching entails posing tasks to students that require them to reason about quantities, discuss their thinking, and invent strategies (Ma & Singer-Gabella, 2011). In this study, I define reformed teaching by using the eight effective mathematics teaching practices found in the book entitled, *Taking Action: Implementing Effective Mathematics Teaching Practices in Grades 9-12*. These effective practices include:

Establishing mathematics goals to focus learning...implement tasks that promote reasoning and problem solving...use and connect mathematical representations...facilitate meaningful mathematical discourse...pose purposeful questions...build procedural fluency from conceptual understanding...support productive struggle in learning mathematics...elicit and use evidence of student thinking. (p. 5)

Throughout this study as I mention reformed teaching I am referring to these eight effective mathematical teaching practices. Research shows that teaching from a reformed perspective allows students to be more equipped to reason and communicate mathematically than those students who were taught traditionally (Silver & Stein, 1996). Further, they have greater access to Algebra which affords opportunities for higher mathematical learning (Silver & Stein,

1996). Yet, despite this kind of research and tools for implementing reform practices (e.g., NCTM, 2014), today traditional instruction persists as the most common way to teach mathematics.

Beginning teachers usually abandon reformed practices in favor of the traditional practices that are taught in their school (Towers, 2010). There are many reasons why teachers are not switching over to or do not continue to teach with reformed methods. One rationale is that some teachers are not convinced that it is better for the students. Other teachers have constraints put on them that clash with reformed teaching. McGinnis et al., (2004) described several of these constraints: expectations from students to teach traditionally, access to curriculum, conflicts with colleagues, and excessive parent involvement. There could also be a lack of support from administration or lack of time (preparation time) to carry out this teaching. Another reason that teachers do not teach reformed principles is that they may have a lack of knowledge in sustaining this practice or may feel inadequate in their understanding of how to begin teaching in this manner. Many teachers feel pressure to obtain certain results on high stakes testing, which clash with how they want to teach (Agee, 2004; McGinnis et al., 2004). Overall, it is clear that there are many constraints and lack of support for teaching trying to teach reformed. Since many teachers conform to the traditional pedagogies, as a field, we do not have much knowledge about the process that teachers go through to begin to teach and then sustain teaching reformed-oriented pedagogies.

If we, as mathematics education researchers and teacher educators, want more teachers to teach from the reformed perspective, then it is important to look at the process that teachers go through as they try to teach this way. We, then, can develop an understanding of how to support teachers as they navigate this critical transition in terms of resources, curriculum, peer support,

administrator support or other needs. Martin and colleagues (2016) described how teachers leave schools when they feel ineffective, which can come from not being supported and not feeling prepared to meet student needs. We can not afford to lose these invested reformed oriented beginning teachers as they are coming into the teaching profession.

Teachers are in a position that society thinks that they need to perform at expert levels while they are still new to the profession. The expectation is that they take control in the classroom at the same level as an experienced teacher. “The pressure to perform immediately causes two common frustrations for novice teachers: defining themselves as a teacher and reconciling their expectations as a teacher with the reality of the classroom (McCann and Johanneses, 2004)” (Sowell, 2017, p. 133). For all teachers, not just beginning teachers, teaching is an emotionally laboring profession (Zembylas, 2003) and is extremely charged with feelings (Nias, 1996). The demand that has been put on teachers to act professionally and react correctly emotionally to colleagues and students means that emotional labor is an essential part of the job (Zembylas, 2006).

In each institution there are emotional norms that are indicative of which emotions are valued and not valued in a school or institution. Studying emotions allows us, as educators and educational researchers, to see the emotional norms in an institution which in return allows us to understand the social structures of that institution (Zembylas, 2006). There are social consequences if the norm is followed or not. Consequences of breaking a norm can result in being socially isolated from the rest of the group. Zembylas discussed how emotional norms are developed and through the exercise of power are legitimized to “govern” teachers by limiting what they can and can not express. Every day, teachers make conscious decisions to suppress or demonstrate their emotions depending on situations they find themselves in (Uitto et, al., 2015).

Teachers have to manage their emotions when there is a conflict between the emotional norms of an institution of how one acts vs how one wants to act. When there is repeated emotional management that leads to emotional labor. Studies show that emotional labor leads to teacher stress and burnout which is linked to teachers' early exit from the teaching profession (Zembylas, 2003). Although I am not studying why teachers overall leave the profession, stress and burnout can lead teachers to end up doing what is easier, which is teaching traditionally or doing what the norm is. Uitto and colleagues (2015) stated that if we cannot address teacher emotions in education reforms, it might be possible that the changes made will not succeed.

Beginning teachers trying to teach from a reformed perspective are often alone or a part of a minority group in their school wanting to teach this way. This isolation, I would add, evokes an extra range of emotions for many teachers including pride (in doing what is right for students in face of obstacles) and guilt or shame when they rely on traditional methods (because of pressure or because it can be less demanding for the teacher). Taking a look at teacher emotions can provide a lens for looking at the marginalization of teachers--those that feel like they do not belong or those that are dissatisfied with teaching (Zembylas, 2004). Reformed teachers are often marginalized by their pedagogical beliefs and by the emotional norms of schools. I argue that a beginning reformed math teacher can have extra emotional labor because of this added marginalization that beginning traditional teachers do not have. I will provide specific examples of this in the next chapter.

The transition for teachers from their teacher preparation program to their first teaching job (in itself) is traumatic (McGinnis et al., 2004). Many in the education field have realized this and have provided teachers support through the use of induction programs to make the transition smoother. About two-thirds of new teachers nationally are a part of a teacher induction program

(Martin et al., 2016) and mentoring is a huge part of the induction process (Sowell, 2017). “In order to help beginning teachers, who have serious learning needs during their early years, mentoring is often the only long-term support provided beyond new teacher orientation sessions and faculty handbooks” (Stanulis et al., 2004, p. 127 ). Beginning teachers need mentors to provide support so that they can be the most effective that they can be (Martin et al., 2016). Mentoring allows some pressure to be taken off of the new teacher as they transition to the profession. I argue that it might also diminish some of the emotional labor that new teachers have as they start to teach. That is, mentoring might ameliorate some of the trauma or negative emotional responses of the transition into teaching. Retention of teachers depends more on their first experience than the type of preparation they have received (Peterson & Williams, 1998).

Martin and colleagues (2016) described that “Only about 1% of teachers actually receive what they deem as comprehensive induction (Alliance for Excellent Education, 2004)” (p. 5-6). If a teacher does have a mentor or is a part of an induction program, it does not guarantee that the beginning teachers are getting the support that they need. For instance, content specific needs are important and beginning teachers need the content specific support early in their careers (Wood et al., 2012). Further, “many mentoring programs focus only on emotional support or buddy mentoring instead of helping teachers understand and improve their practices, because beginners are often overwhelmed with issues of survival” (Stanulis et al., 2014, p. 128). Peterson and Williams (1998) discussed how teachers might know the content and the pedagogical knowledge, but may not have the specific pedagogical knowledge to address student’s learning of mathematics. A teacher might know how to use the invert and multiply rule, but not know why it works when dividing fractions. Ma and Singer-Gabella (2011) stated that engaging in reformed mathematics pedagogy demands creating a vision of learning mathematics that is

significantly different from the traditional models. Not only do teachers need a supportive mentor when they begin teaching, but a mentor that can support them in their continual learning of mathematics. I argue that beginning teachers that have a mentor in the same content area where both teachers are reformed teachers will diminish the most emotional labor for a beginning reformed teacher and this is the situation in which reformed beginning teachers are the most likely to succeed at teaching reformed.

Studying the transitional process teachers make to teach the reformed method is something that is not well researched. Reformed teaching practices help students have a better conceptual understanding than traditional teaching. It is necessary that instructors feel supported and comfortable teaching this method. Studying emotions illuminates the social structures of the schools and can develop educators' and researchers' understanding of the emotional labor that teachers are experiencing in the process of educating. The teaching profession is very stressful and is emotionally challenging. Effective educators need to feel support at the beginning of their career to better navigate the pressures and expectations placed upon them. Teachers need to feel successful and recognize the importance of really making a difference in not only the lives of their students, but as contributors to society. In this study, I examine the emotions of mentor-beginning teacher dyads in order to better understand their emotional labors as they navigate teaching reform practices in traditional mathematics departments in secondary schools. Studying cases where teachers are feeling supported in the reformed method of teaching will develop understanding of how to not only support teachers, but help them rise above the challenges that may be an obstacle for their success.

## CHAPTER TWO: BACKGROUND

### **Literature Review**

There are three different areas of the literature that will be discussed in this section. I will first discuss reformed teaching where I go into detail about two studies on different conflicts or dilemmas that lead teachers to conform to traditional practices. Next, I discuss teacher induction and how mentors and induction programs are a great resource for beginning teachers, but often is not enough support for beginning teachers to be successful. Lastly, I present the research that has been done on teacher emotions.

### **Reformed Teaching**

There is not a lot of research on the process that it takes for teachers to go from traditional to reformed teaching. “Learning to engage in reform mathematics pedagogy entails developing a vision of teaching and learning mathematics that differs dramatically from the vision underlying traditional classroom models (Feiman-Nemser, 2001)” (Ma & Singer-Gabella, 2011, p. 8). I will now discuss two studies that illustrate some common constraints that were put on teachers as they tried to enact reformed teaching. The teachers as a result were left dissatisfied with how they taught because it was different than what they would have hoped it to be.

Romagnano (1994) did a research project with Ms. Curry for seven weeks during the 1990-91 school year. Ms. Curry was dissatisfied with the results of how her students were doing in her class. Romagnano and Ms. Curry each taught a class of ninth graders that were in the lowest track of mathematics. When they decided to teach reformed they had two goals: to change how and what was being taught, learn more about the issues that teachers face as they tried to change their practice.

Romagnano and Ms. Curry ran into several dilemmas as they tried to change their practice. Two of these dilemmas: Good Problems dilemma; the Ask Them or Tell Them dilemma. Romagnano (1994) discussed how the good problem dilemma (wanting to engage their students in meaningful mathematics) was greatly influenced by the school politics. These policies were placed on both the teachers and students in this project. The author described how many people at the school held a different definition of what made for a good problem or mathematics task for students to engage in. The students that Romagnano and Ms. Curry worked with were in the lowest math track and, therefore, were less likely to have been asked to wrestle with mathematics (Romagnano, 1994). The students were used to being told what to do and how to do it. The teachers themselves wrestled with knowing how to let their students struggle with mathematics so that they were the ones that did the mathematics instead of being told about it.

Romagnano (1994) described how there were several times when Ms. Curry was shaken in the classroom. This emotional response happened when she was doing mathematics in her classroom that she was not totally comfortable with even if she felt she prepared adequately. Ms. Curry's assumption was that she could anticipate every thought that might be expressed with a particular problem and, if that is not the case, then the problem should not be used. Teachers can not anticipate everything that is going to happen in the classroom. The author described how it is not the teachers' job to know or anticipate every move that is going to happen, but to know how to continue when the answer is not clear. This experience can be very vulnerable for teachers. For this reason, it might make it harder for teachers to break free from the Ask Them or Tell Them Dilemma (Romagnano). This study showed that teachers need support when they are beginning to teach reformed since it can be different from ways they have been teaching and it

may be uncomfortable at first. Beginning teachers need support from a mentor that has experience teaching mathematics from a reformed perspective.

In the end, Romagnano (1994) explained that both teachers had to compromise in how they taught. Neither of them were satisfied with their decisions with regard to the given dilemmas, but were not sure what they could have done instead. Their classes ended up being different than what they set out to make them. This study showed some obstacles in teaching reformed mathematics could be the school politics and expectations (emotional norms) of school faculty and students in how math should be taught. This study also showed how vulnerable it can be to teach reformed mathematics.

Agee (2004) did a study with a beginning Black English teacher Tina working in a school where the other teachers were predominantly White. Agee followed Tina from her last year as a preservice teacher and into her first two years teaching. At the end of her last preservice year, she had a goal of teaching from a more sociocultural lens and introducing her students to many different authors. In her first year teaching, she taught her students literature from multiple authors of different races which aligned with her goals. In her second year of teaching, a high stakes test became mandatory for students to graduate high school and during that year other colleagues wanted to have common assessments to prepare the students for the state test. Tina “was privately troubled by the power” (p. 769) that the test had in her agenda. Tina struggled with knowing how to prepare her students for the test “that represented for the most part White mainstream values--and prepare them as well to understand other races and cultures through their reading” (p. 770). At the end of that second year Tina realized that she could not have time for both and gave up on her vision as a teacher that could have added new perspectives of what literature could be.

Tina had a vision of how she wanted to teach and was the only English teacher at her school trying to teach texts written from a racially diverse set of authors. Even before Tina entered into her first year of teaching she experienced, “conflicts within herself about what she wanted to do as a teacher and what was possible” (Agee, 2004, p. 762) with the constraints that she had. Tina received pressure to teach towards the test since the results on the test determined if her students would graduate or not. These internal conflicts that Tina had shows how emotional this process was for her as the school policies moved her further from her initial vision of the teacher she wanted to be. It could be argued that Tina experienced high amounts of emotional labor that influenced her to change her teaching to survive. This study first showed that teachers outside of mathematics have also ended up conforming to traditional teaching methods and this is not just a mathematics issue. Second, this study showed that curriculum and school mandates influence how teachers teach. Understanding the social structure of schools is important to understand what situation teachers are placed in.

In both studies, these teachers did not have the support to be able to teach reformed. Both schools had pressures to teach certain ways that were against how the teachers felt or wanted to teach. Each teacher had obstacles in their way that made it difficult for them to keep teaching reformed mathematics. These studies showed how important it is to have support and guidance when teaching reformed.

### **Teacher Induction/Mentoring**

As beginning teachers first enter the teaching profession, there are a lot of demands placed upon them and the transition can be quite difficult (McGinnis et al., 2004). When teachers do not have enough support to use the knowledge they have learned in their preparation programs they struggle and teachers will leave schools where they feel ineffective and not

supported (Martin et al., 2016). Beginning teachers need to feel successful and supported otherwise they will not stay in the teaching profession.

Knowing that teaching is difficult, induction programs were designed to provide support to beginning teachers. “Induction programs that are tailored to teachers’ needs guide them to be effective practitioners can significantly impact teachers’ decisions to stay in their school and the profession altogether” (Martin et al., 2016, p. 4-5). What has kept teachers teaching is effective induction programs. There is a tendency to think that induction programs were only there for beginning teachers who would “sink” if there was no such program otherwise (Wood et al., 2012). Wood and colleagues stated that this thinking limits the ability to get to know the situation of other teachers, who may not be sinking, but still have very real needs. Every teacher needs support as they transition from preparatory education to their first year of teaching.

Mentors were a large part of many induction programs and were usually the only long term support that new teachers have access to (Stanulis et al., 2014). It was important for the mentor and mentee to have a good relationship otherwise the mentee would not get support. When beginning teachers do not have a relationship with their mentor they are less likely to be open to feedback or like being observed by them (Martin et al., 2016). Sowell (2017) described that “building a relationship with the new teacher increases the mentor’s ability to work with, and support, the new teacher in a positive manner” (p. 130). Peterson and Williams (1998) described that a role of a mentor is to be a sponsor for the beginning teacher and to encourage the beginning teacher to reflect on their own practice.

I will now describe two studies that illustrate the importance of present content mentors for new teachers. Wood et al. (2012) studied two teachers who were surviving their first year and were perceived by their mentors as not needing support. Helen, one of the two teachers in the

study, talked about when she asked for help, she was told that she did not need it, even though she felt that she did. Helen explained how frustrated she got when she would teach math and her students were not getting it. Helen might not have needed support to manage a class, but she did need the support to continue learning how to teach math. Since Helen was successful at keeping her students away from the principal's office, she was left alone to teach even though there was still so much she needed to learn about teaching. Since Helen's mentor thought she was doing well, she spent less and less time with Helen even though Helen wanted the continued support.

Just having a mentor in name is not enough to guarantee support for a beginning teacher. Helen needed pedagogical support. "According to Glickman, Gordan, and Ross-Gordan (2007), most teachers are not supported in ways that enable them to improve their teaching or become reflective practitioners" (Stanulis et al., 2014, p. 128). Often, mentoring programs have focused on emotional support or what is called buddy mentoring only instead of actually helping teachers improve their practice.

Martin and colleagues (2016) explored five teachers and the perceived support they received in their first year teaching. Each of these new teachers had a mentor and the researchers noticed two different roles for these mentors. The first was the helpful type that would meet the teacher's basic needs such as getting paperwork completed or being available for immediate assistance. The second type was focused on supporting the teacher to improve their craft. Suzanna was one of the teachers that did not trust her mentor. Suzanna did not like her mentor to observe her since she did not have a relationship with her and felt that her mentor did not have her best interests in mind. She also knew that she wanted her students to collaborate, but lacked the pedagogical strategies in order to make it happen. She did not have someone that she felt like she could go to talk about her pedagogical instruction. Maria was another teacher in this study

that had a mentor guide her through the curriculum with hands-on support. Maria found this beneficial in helping her become a better teacher. .

In this study, when the new teachers struggled it was because of their lack of guidance they had to improve their instructional practice (Martin et al., 2016). “Teachers benefited from curriculum-focused meetings with colleagues of the same content to enable novices to make informed decisions about what to teach and how to assess” (Martin et al., 2016, p. 9). This study showed how important it is for teachers to have specific content mentors who can help them improve their practice. Now in mathematics, traditional and reformed teaching is different pedagogically. So it is important for a beginning reformed math teacher to have a reformed math mentor to support them with their pedagogical needs. Wood et al. (2012) stated that “we are also unsure about the best ways to support new teachers in engaging in the challenging work of teaching mathematics” (p. 39). There is still work needed to be done to answer the question of what we can specifically do to support beginning mathematics teachers.

Most of the research on mentoring does not address specific content mentoring. Wood et al. (2012) discussed that content specific induction needs are not talked about enough. There are induction programs that make sure their mentors are with a teacher who is in the same content area, but not all make it a priority. Martin et al. (2016) described that beginning teachers who received a mentor in the same content receive more support in their first year of teaching and collaborate more with other teachers. These teachers were less likely to leave the profession after their first year. Mentors that mentored new teachers outside of their content area said that they struggled with helping the beginning teachers improve their instructional practice (Sowell, 2017). Wood et al. (2012) stated that when learning to teach mathematics it is essential to have a content-specific induction. I would again argue that it is important for not only a beginning

reformed teacher to have a math mentor, but vital to have a reformed math mentor. Since reformed teaching is rather different than traditional.

I argue that having reformed content specific induction alleviates emotional labor for a beginning teacher. Having a reformed content mentor that is teaching in similar ways to the beginning teacher alleviates the most emotional labor. I claim that having a mentor that teaches reformed is the best possible place for a beginning reformed teacher to succeed in teaching reformed. This is the place where my study is situated. I looked at beginning reformed math teachers with mentors that are also reformed math teachers.

## **Emotions**

### ***Emotion Research Overview***

Teacher emotions are not well researched and it is surprising since teaching is such an emotional profession (Zembylas, 2006). It is particularly surprising with beginning teachers since its transitional nature makes it highly emotional (Uitto et al., 2015). Zembylas provided three reasons as to why there is a lack of research on teacher emotions in our society. First off, there is prejudice associated with emotions in the Western culture. Emotions have been judged to be unstable. Second, many researchers do not want to spend the time studying something that can not be measured objectively. Third, emotions are often associated with women and, therefore, have been excluded from a patriarchal dominated field. Because of these reasons, there has not been a lot of work done on emotions in education, let alone on teacher emotions. Here, I explain the work that has been done thus far on emotions in education.

There have been two waves of research done on emotions in education (Zembylas, 2003; 2006). The first wave primarily took place during the 1980's-1990's which first acknowledged the existence of emotions in teaching. Emotional research during this time provided two main

contributions to the field of education. This research first acknowledged that the relationships between teachers and students is important to the learning process. Another contribution is that stress and burnout can lead to a teacher's early exit from the teaching profession. During this time, however, teacher emotions were not accepted as a social or cultural phenomenon and did not acknowledge that emotions were connected to the school culture. Researchers tended to view emotions as a cognitive activity and emotions in this phase were seen as originating within the personal self. Even today, there are still researchers that view emotions as cognitive and continue to study emotions in this way.

The second wave of research took place during the next decade (Zembylas, 2003, 2006) and there was a shift from a cognitive view of emotions to viewing emotions as socially constructed. Researchers in this wave established that teacher emotions are complex and addressed that there is a link that exists between emotions in teaching and school policies. Viewing emotions as social leads researchers to study the social interactions between and across groups such as teachers, students, parents, administrators. Researchers in this wave often neglect the cognitive emotions entirely and view emotions as something that can only come from social interactions. Just like the last wave of research there are still researchers studying emotions from this viewpoint.

Most of the emotional research has been done on how emotions influence students' ability to learn mathematics and more specifically how emotions affect their problem solving ability (Gomez). Zembylas (2004) discussed how educators have been exploring the relationship between teachers and emotions and discusses which issues have been studied:

The emotional complexities in teachers; interactions with students (Hargreaves, 2000); the emotional aspects of teacher-parent relationships (Lasky, 2000); the

anxiety of prospective teachers when teaching subject-matter that makes them feel uncomfortable (Zembylas & Baker, 2002); and the anxiety of a school inspection (Jeffrey & Woods, 1996). (p. 185)

The research that has been done on teacher emotions has not focused on developing a cohesive body of knowledge and there are not any systematic ways in the field to study emotions or a universal working definition of emotions. A goal of this study is to utilize one existing framework in which to view emotions and add to it. I will discuss the framework that I am going to use in the theoretical framework section.

### ***Two Studies on Emotions***

I will discuss two studies that have been done on teacher emotion to give background about specific studies on teacher emotions. This review will set the stage for how other studies have viewed emotions and how my study will fill some holes in the research on teacher emotions in mathematics education.

Michalinos Zembylas (2004; 2006) conducted a three-year ethnographic case study on teacher emotions with a teacher (Catherine) who had been teaching for 25 years before the study took place. Zembylas' role changed from a "participant-observer" to "participant-collaborator" by the end of the study. The collaboration part of the researcher helped Catherine feel more comfortable with how she felt about her pedagogy, teaching role, and emotional politics at the school she worked at (Zembylas, 2004). This teacher was classified as teaching in a progressive way in her science classroom, whereas the other teachers at her school were classified as teaching towards the test. (This dichotomy is similar to reform-oriented teaching compared with a traditional pedagogy in mathematics education.) Another teacher told her that if she wanted to be 'normal' that she needed to do everything like everyone else. Someone even asked Catherine,

“Why don’t you simply teach science the way it’s supposed to be taught?” (p. 126). This teacher was referring to how Catherine is not normal by not teaching towards the test. Catherine stated how she felt a sense of powerlessness and personal inadequacy which she said led her to feel shame. She felt teacher isolation as being known as the “different teacher” by not having similar teaching philosophies with the other teachers. Catherine’s colleagues used shame to put her in line. “Shame, guilt and low self-esteem were the emotional consequences of the conflict between Catherine’s values and the school social norms” (Zembylas, 2006, p. 126). Zembylas stated that an often response to shame is hiding away. Catherine withdrew from communication with most of her colleagues and managed her appearances. Catherine explained that:

I often had to pretend I felt differently, because I didn’t want to reveal to them [colleagues] how I *really* felt. I became pretty good at saying and showing that I felt one thing, while feeling something totally different... As you can imagine, of course, the emotional cost was very high (March 24, 1999). (Zembylas, 2006, p. 128)

Zembylas (2004) mentioned that Catherine felt discouraged and dismissed with colleagues who did not accept or understand her pedagogy. The emotions that Catherine experienced at her school were shaped by the discourse of what the school considered “appropriate” (Zembylas, 2004). Zembylas stated that this study gives valuable insight in how emotions influence teaching and impacts a teacher’s pedagogy. Zembylas concluded that Catherine’s story “might inspire recognition of similar experiences in others” (p. 190) and help other teachers know that their situation might not be an isolated event.

The study that Zembylas (2004; 2006) conducted explains the emotional labor that a teacher had to use who is not accepted at her school because of her pedagogical beliefs. This study does not however provide insight into the transition period of what it took Catherine to get

to this reformed teaching. This study begs the question of, how many teachers are in similar situations or face opposition in their schools with respect to their pedagogy? This study showed that the culture of the school (emotional norms) and relationships or lack thereof Catherine had with her colleagues created negative emotional labor.

Gomez (2017) studied four prospective elementary school teachers during their first practicum experience. The prospective teachers met together four different times to discuss and write their experiences and were interviewed at the beginning, middle and end of the practicum. The goal of the study was to use the narratives of emotional experiences the teachers had in their practicums to investigate the identity development of the prospective teachers as mathematics teachers. Gomez studied the prospective teacher's emotions in a systematic way by using Hargreaves (2001) emotional geographies to discuss teacher identity. I will go into detail about Hargreaves emotional geographies in my theoretical framework as this will be a lens for my study. Gomez goes into detail about one prospective teacher's experience, Anastasia. Anastasia wanted to teach mathematics conceptually and her mentor teacher did not. As she watched her mentor teacher teach, she felt a lot of anger and frustration. Gomez discussed how the power struggle between the two influenced Anastasia's decisions in the classroom and how she thought about teaching mathematics.

Gomez (2017) used a systematic way to study emotions by using Hargreaves (2001) emotional geographies. This is a huge contribution to the field of teacher emotions since few, if any studies, have used any systematic way to study emotions (Zembylas, 2003; Uitto et al., 2015). However, Gomez used emotional geographies as a way to talk about teacher identity and does not strictly stick with emotions. This is common and something that I will discuss more in the next section.

As I have talked about before, teacher emotions are not well researched (Zembylas, 2006). The participants of my study are beginning secondary mathematics teachers and experienced teachers. My study gives insight into teacher emotions by focusing on a different population of teachers than the other two studies have. Both studies focused on elementary school teachers and either veteran or pre-service teachers respectively. My study focuses on beginning and experienced teachers in secondary schools. As educational researchers, we are just starting to study teacher emotions and we still have a lot more to do to develop and deepen our understanding.

### ***Emotion and Identity***

In the literature it is not uncommon to see emotions and identity linked together. For instance, Gomez (2017) studied the narrative of emotional experiences to understand more of the identity development of preservice teachers. In “Identity work and emotions: A review by Ingo Winkler” , Winkler (2018) reviewed the literature about identity work and emotions. He first established the importance of emotions by stating that emotions are an important way that people define themselves and it is essential in every aspect of our social lives. Identity work has become an established topic in various fields, but research on emotions still needs a lot of work.

There are several ways that researchers have connected emotions and identity (Winkler, 2018). For instance, Winkler described how one way to look at emotions is when there is a conflict of identity. For example, a beginning teacher trying to sort out their identity as a prospective teacher and the identity of the teacher that they are at that moment could be quite different. Emotions come as teachers battle that conflict. Winkler explained how gaining understanding of emotional norms would help us understand the dynamic identity work that focuses on power, emotions, and control. Gomez and Conner (2014) discussed that the emotions

of the individual is the foundation of the professional identity. Identity work is important and emotional studies can help with that work. Winkler (2018) described how there is a distinction between using emotions to describe identity work and the relationship between emotions and identity. The relationship between emotions and identity work exists and there is more research that is needed to understand the relationship between these two. Even though emotions and identity work is linked, I will not be exploring this link or identity in my study. Research on identity is leaps and bounds ahead of emotional work and I believe that there needs to be more work done on emotions before deep analysis of the connection between the two can be studied. There are hardly any systematic ways we know of to study emotions and more work needs to be done establishing frameworks, before any relationship with other constructs can truly be examined.

### **Theoretical Framework**

In this section, I am going to first discuss how I will view emotions as socially performed. I will use Hargreaves (2001) emotional geographies framework and discuss each part with examples. I will finish this section by stating my research question for this study.

#### **Emotion Definition**

In this study, I define emotions containing two aspects. First the bodily experience or what is felt *and*, second, the sociocultural experience or social aspect of how one expresses themselves with other people. These parts together refer to socially performed emotions (Zembylas, 2006). In any institution, such as education, each school has emotional norms or rules that dictate how one needs to act emotionally. When there is conflict or a disconnect between how one should act emotionally and how one wants to act emotionally, emotional management happens. Emotional management is the work needed to manage emotions in that

moment. When one manages emotions repeating in a situation, then it becomes emotional labor. I discuss this idea more in the next section.

Zembylas (2004) discusses how there is a zone within emotional norms in which specific emotions are allowed and other emotions are not allowed. It comes at varying costs when the emotional norms are obeyed or broken. Teachers are expected to act “professionally” throughout the day, which means they have to be almost clinical about their emotions (Hargreaves, 2004). Teachers are expected to be caring individuals, but need to control their emotions around children and parents to be professional. Since teachers are expected to act professionally throughout the day, the emotional labor of managing emotions throughout the day is apparent.

Emotional norms are created when certain affective stances or attitudes are repeated and become thick in a culture. There is not a way to get rid of emotional norms, but they can be reshaped (Zembylas, 2004). These emotional norms are already intertwined with teaching and pedagogy. Now these emotional norms can be thinned and changed by emotional performances that challenge the emotional norms that currently exist (Thein & Schmidt, 2017). In order for the current emotional norms to be thinned and reshaped, we need to know what the current emotional norms are and how they currently affect people.

These emotional norms are legitimized through “the exercise of power”. This power “governs” teachers and puts limits on what is emotionally expressed so that they are then in turn “normalize and thus turn appropriate behavior into a set of skills, desirable outcomes, and dispositions that can be used to examine and evaluate in them” (Zembylas, 2006, p. 37). Power relations are an important part of all the discourse about emotions. What can and can not be said or shown shows what does and therefore does not have power in a system (Zembylas).

There are not many studies that acknowledge the politics or power of emotions. If the politics of emotions are acknowledged, it encourages people to articulate their emotions in a way that challenges oppressive ideologies (Zembylas, 2003). Emotions are created for particular purposes and not constructed from nothing. Emotions are shaped, controlled, and challenged (Zembylas, 2003) and can be viewed as instruments of freedom (Zembylas, 2004). If emotions are no longer irrational, then emotions are not self-oppressors (Zembylas, 2004).

My goal is to project what a teacher might or might not be feeling or expressing as a specific emotion unless they specifically say an emotion they are feeling. Emotional labor creates emotional dissonance which in turn leads to stress and burnout (Zembylas, 2006). My goal is to use the emotional geography framework to establish patterns of closeness and distance that lead to certain emotional feelings. I now explain the emotional geography framework.

### **Emotional Geographies**

Hargreaves (2001) created a conceptual framework to address how “teachers’ emotions are embedded in the conditions and interactions of their work,” (p. 1058). Up to this point there has not been a framework that looked at teacher emotions and how they are influenced by interactions with colleagues and administrators. Emotional geographies provide a framework to understand the support and threats to basic emotional bonds that can happen from either forms of distance or closeness in the interactions teachers have with others. Distance and closeness are perceived distance or closeness and not necessarily physical distance or closeness from something. Hargreaves described five emotional geographies: sociocultural, moral, professional, physical, and political. Hargreaves focused mainly on the idea of distance instead of both distance and closeness and does not explain why. I presume that he focuses on distance since it is the place where emotions are likely. I hypothesize that distance might not be the only defining

features of emotions when beginning teachers and mentor teachers describe their teaching practices and, therefore, think that closeness plays a larger role than Hargreaves indicated. I will describe the five emotional geographies below. I will use examples from different studies to illustrate each emotional geography. Further, in some instances, I speculate about how emotional closeness would be defined as the opposite to the distances that Hargreaves described.

Sociocultural distance is the distance people feel when they are from different cultures (Hargreaves, 2001). This emotional distance can happen if teachers do not live in the community that their students' do, which can lead teachers stereotyping their students or placing them as "others" if progress is not made with their students' education. "Othering is a way of coming to terms with the felt inability to make a difference in clients' lives--blaming clients themselves for any failure to respond (Ashton & Webb, 1985; Rosenholz, 1989)" (p. 1065). Blame can be described as a result of suppressed emotions such as guilt or shame for not being able to accomplish one's job or calling. Agee (2004) explained that when Tina was in her first year of teaching she had to explain to some why she chose the texts that she did. As a Black teacher, she was committed to exposing her students to authors of Color; however, this teaching practice ran against the established norms at the school. Her second year of teaching, the school where she was working started to have common assessments. During her second year, she conformed to what the White teachers in the school were teaching. After some time she could not free herself from the pressure to do what the White teachers were doing. She did not have help to know how to prepare her students to understand other races and cultures and prepare for the tests that represented the White mainstream values. In this process, she gave up her vision of the teacher she wanted to be. The example of Tina is an example of sociocultural distance because as she went from her first year of teaching to her second year of teaching, there was a bigger divide

between how she wanted to teach literature from different perspectives and how the White teachers put value on the White mainstream values because of the cultural expectations of her students and her colleagues to teach a certain way. An example of sociocultural closeness would be a teacher trying to understand the community her students are in and tailoring her teaching to address the needs of her students.

Moral distance is the reason behind why people do what they do (Hargreaves, 2001). Teachers can feel a sense of accomplishment together if they pursue common purposes or they can be defensive and be in disagreement with others about purposes (Hargreaves, 2001b). Teachers have the strongest negative emotion when they feel that their purpose was lost, being threatened or their expertise were in question. Zembylas (2006) explained that the school that Catherine taught at was a school that prioritized testing including many of the other science teachers at the school. Catherine strongly opposed this. Since her goals were different from her school, she felt disappointed and frustrated. She chose not to sacrifice her moral goals which meant that she exposed herself to rejection from her colleagues and school. Since she was resisting from what her school or colleagues valued for years, she endured a lot of emotional suffering. When she was a new teacher she did not know how to break free from all the restraints around her. She felt a lot of guilt from other teachers and the school pressure about testing. Hargreaves (2001) described that anxiety, frustration, guilt, and anger affect everyone when teachers' purposes are at odds with those around them. An example of moral closeness might be when teachers have a similar purpose or viewpoint of what it means to teach. Teachers that are morally close, I hypothesize, feel safe to share the positive and negative challenges that are happening in their classrooms.

Professional distance is described as “norms of professionalism that set professionals apart from their colleagues and clients” (Hargreaves, 2001b, p. 509). In teaching the norms of professionalism are the institutionalized expectations that are placed upon teachers. Often in being “professional,” teachers must control their emotions around their students or mask their emotions with colleagues, parents or administrators when it is not appropriate to be expressing the emotion they are feeling (Hargreaves, 2001). Zembylas (2006) explained that at Catherine’s school, it was not considered professional to talk about her emotions and thus when she tried to talk about her emotions with her colleagues, the topic was dismissed. So, she felt dismissed. The expectations of what it meant to be a “professional” teacher meant that Catherine did not have anyone she felt she could talk to about how she felt. She did not have a place institutionalized by the school where she could share her emotions because no such place existed.

Physical distance is the time and space that keeps people physically apart and resulting in relationships not developing. Physical closeness might then be defined as the time and space that physically bring or keep people together so that relationships can form over time. Physical distance can happen by the norms of the workplace. For example, physical distance naturally happens with how classrooms in the United States structure their school days. Teachers are often isolated from their colleagues throughout the day (Zembylas, 2006) which can lead to teachers having infrequent or non face-to-face interactions with their colleagues or with parents (Hargreaves, 2001). This isolation leads to relationships not being formed. This physical distance can also reach beyond physical isolation and lead to the feelings of isolation that contribute to teacher loneliness. Gomez (2017) discusses how Anastasia, a practicum student, was only going in the classroom once a week. The infrequency of the visits did not allow her to build a relationship with her mentor teacher and trust was not developed between the two.

Political distance is the “differences of power and status [that] can distort interpersonal communication, or where such differences can be used not to protect people’s own interests but to empower others” (Hargreaves, 2001b, p. 509). Many human emotions can be understood as a response to status and power of a social structure. When someone has more power in a situation, they feel more secure in expressing their emotions; whereas, someone who does not have power will feel less secure in expressing emotion. When someone feels less secure, they are more likely to mask or control their emotions (Hargreaves, 2001). This masking or control of emotions is referred to as emotional management (Zembylas, 2006). Zembylas explains how emotional management can have negative side effects and lead to stress and burn out for teachers. Gomez (2017) describes how Anastasia had a power struggle with her mentor teacher. She could only do what she thought was best within the parameters that her mentor teacher set since at the end of the day it was not Anastasia’s classroom. This limited power had an influence on her decision-making.

Hargreaves (2001) described caveats of emotional geographies specifically with teaching. First, there is no ideal closeness or distance that a teacher needs to achieve, it will be different depending on factors such as culture and work circumstances. For this study, I am not trying to measure the teachers’ emotions against some closeness or distance measuring stick--that particular measuring stick does not exist. Instead, I will observe how teachers describe their experiences and interact with each other to see if there are any patterns of closeness or distance. These patterns can lead to certain emotions as described above. Another caveat is the distances described by the emotional geographies framework are based on an individual's perspective. For instance, one can feel close to people that are miles away or distant from those that are nearby. Emotional geographies will “provide a way to make sense of these forms and combinations of

distance and closeness that threaten the emotional understanding that is foundational to high standards of teaching and learning” (Hargreaves, 2001, p. 1075).

Studying emotions using emotional geographies allows me to view emotions in a systematic way and reduce the amount of biases that I have. Teacher emotional work is still in its infancy, adding to what has come before, will help to add to a framework that already exists. In this study, I examine the emotional work of beginning mathematics teachers and mentor mathematics teachers as they collaborate to navigate teaching reform-oriented pedagogies in schools dominated by traditional pedagogies. In addition to adding to the emotional geographies framework and other studies about teacher emotion, this study contributes to the developing understanding of how beginning teachers are supported in their efforts to enact reform-oriented pedagogies and, therefore, ultimately would provide more students with opportunities to develop deep conceptual understandings of mathematics.

### **Research Question**

What kinds of emotional distance or closeness are evident in mentor teachers and beginning teachers as they discuss their individual practices and collaborative efforts to enact reformed teaching mathematics teaching practices?

## CHAPTER THREE: METHODS

### **Participants**

I first identified 2 pairs of teachers in which one teacher was a beginning reformed teacher in their first or second year teaching, working on a team with a more experienced reformed teacher. Teachers were recruited by purposeful conversations with teacher educator professionals and math coaches by surrounding districts that were familiar with the teaching of teachers in their areas. I have had several conversations about teaching with these district and university professionals and know that their view of reformed teaching aligned with what I have described at the beginning of this thesis. Once I got several names from these individuals, I emailed the beginning and mentor teachers in the recommended pairs separately asking if they would like to participate in the study. I only used participants in which both the beginning and mentor teacher emailed me back wanting to participate in the study. The pairs were selected so that they were teaching from a reform perspective but situated on mathematics teaching “teams” in their schools where not all the “teams” shared their views. All teachers were secondary teachers as I specifically wanted this dynamic between the teams to also be present in the participating teachers.

#### **Pair #1: Haley and Nick**

Haley<sup>1</sup> and Nick taught in the Mountain West and worked in an overwhelmingly White suburban area. Haley was in her first full year of teaching and Nick had been teaching for some time. The school was broken up by teams based on the classes that each teacher taught. Most

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<sup>1</sup> All names are pseudonyms.

math teachers at the school only taught in one grade level meaning that, for example, they only taught 7th grade, but that was not the case with all of the teachers at the school.

Haley taught both 8th and 9th grade math classes but mostly taught 9th grade classes and was considered to be on the 9th grade team. Nick taught 9th grade math classes and was on the 9th grade team. He was also an instructional coach for new math teachers in his district. He was assigned by the district as Haley's instructional math coach. The other teachers on the 9th grade team were Brittany and Alyson who also only taught 9th grade classes. Alyson was assigned to be Haley's school mentor. Brittany and Alyson were not interviewed, but show up in the results section below.

### **Pair #2: Brinley and Kendra**

Brinley and Kendra taught in the Mountain West and worked in an overwhelmingly White suburban area. Brinley was in her first full year of teaching and Kendra had been teaching for some time. The school was broken up by teams based on the classes that each teacher taught. Brinley and Kendra both only taught 9th grade classes and were on the 9th grade team. Kendra worked for the district as an instructional coach for new math teachers and was assigned by the district to be Brinley's coach. Catherine was another teacher on the 9th grade team and was assigned to be Brinley's mentor by the school. Catherine taught other classes not in the 9th grade. Catherine was not interviewed, but showed up in the results section below.

### **Data Collection**

I conducted 9 interviews, 5 with the first pair and 4 with the second pair. I did an initial interview with each participant and a group interview with each pair. I completed a follow up interview with 3 of the 4 participants. There was not a follow up interview with the mentor in Pair #2 (Kendra) in order to decrease the time commitment for her participation in the study. The

interviews were videotaped so that when I analyzed my data I could look at my participants' gestures and pauses which supported what they told me.

### **Initial Interviews**

I conducted initial interviews with all of my participants to get an idea of what constraints and supports that they had as they tried to enact reformed teaching or continue to enact reformed teaching. There were three different sections of questions that I asked each participant in this interview. Here, I briefly describe the interviews but the full protocols can be found in Appendices A and B. I first asked questions about teaching in general such as “Are there any constraints that you feel as you teach?”. I then ask questions about the relationship that they had with their mentor/mentee respectively such as, “What is your relationship like with your mentor/mentee?” In this section I asked questions of what support they thought beginning teachers needed. The final questions in this initial interview were about teaching at the school and if they felt they had a voice in respective groups. An example of a question in this section was “Do you feel like what you have to say is valued by other teachers or your mentor/mentee?”

The questions for both the mentees and mentors were similar in the first and third section, but were slightly different in the second section. For instance a question for the mentees was, “Is your mentor meeting those needs?” whereas a question for the mentors was “What are you offering the beginning teacher?”.

To make sure that I was going to have data that I could analyze, I wrote specific interview questions that were tied to specific emotional geographies. For instance the question, “Is there anyone or a group of people that hold more sway (power) when it comes to decisions in how you teach?” is directly linked to the political emotional geography to see if anyone holds power in the decisions of the teachers’ classrooms. And the question, “How often do you meet

with your team?” is connected to the physical emotional geography so see how often they meet with their team to gage physical closeness or distance.

I have attached my completed mentee initial interview protocol in Appendix A and my completed mentor initial interview protocol in Appendix B.

### **Group Interview**

The group interview was conducted with each pair after the initial interviews. There were two parts to these interviews. In the first part of the interview, I observed the teachers' interactions by asking them to come prepared to discuss or create something that they would normally do. I left it up to the participants to decide what they wanted to discuss and observed the first group talking about the goals of a lesson/unit while the second group created an assessment. The goal of the first part was to observe how the teachers interacted together to see how it related to what was said about their relationship in the initial interview.

The second part of the interview was discussing a book chapter or article that I picked for the pair to read after the initial interviews were conducted. Since the first part of the group interview did not yield much emotional talk, this second part was designed to create a space in which emotional talk was more likely to happen. Secondly, this second part was set up so I could see how the participants interacted with each other in a new setting, where their roles of mentor/mentee were not clearly defined.

After conducting and re-watching their initial interviews, I discussed with my advisor possible articles. We decided that they should be articles or chapters that would most likely be adjacent to the ideas each participant talked about in the initial interview and that would increase the likelihood for expression along any of the emotional geographies. The first pair, then, read a book chapter called “Community” in the titled book *Mathematics for Human Flourishing* by

Francis Su (2020). The second group read an article: “Strategies for Creative Insubordination in Mathematics Teaching” by Rochelle Gutiérrez (2016). For each article, I created discussion questions. I have attached my completed first pair group interview protocol in Appendix C and my completed second pair group interview protocol in Appendix D.

### **Final Interview**

I conducted a final interview with 3 of the 4 participants. Most of these questions were created after the initial and group interviews to clarify or get more information about a particular topic. There were two questions that were asked to each participant in the final interview. The first: “Was there anything else that you wanted to bring up from the article or in the group interview and did not?” This question was intended so that participants could discuss anything that they did not discuss in the group interview without having their mentor/mentee present. The second was, “Is the conversation/interaction that you had with your mentee/mentor typical to normal interactions?” This question was to establish if the interaction that I witnessed in the group interview was typical or not. If they stated it was not typical, then I followed up with “how was it different?” I have attached my completed final interview protocol in Appendix E.

### **Data Analysis**

In each individual interview, I determined if the participants were expressing closeness or distance with respect to each emotional geography. The data was analyzed by conversation turns and each turn was coded as an emotional geography if it was present. In Table 1, I have defined each emotional geography and have included key words or phrases that have helped me code my data for the emotional geographies. After I coded the data, I organized the codes by each participant. For example, I made a list of all of Haley’s moral emotional geographies, then political emotional geographies and so forth for all of the emotional geographies. I did this for

each participant so that I could more easily notice the themes within each emotional geography for each participant and also across all participants. These themes are what is reported on in the results section and then discussed in Chapter 4. After identifying these themes, I used the group interview to check the findings by listening for confirming and disconfirming evidence. No disconfirming evidence was found.

**TABLE 1**

*Definitions*

Emotional Geography	Definition	Keywords/phrases
Sociocultural distance	When there is no understanding of the cultural environment of other teachers, students, or institutions.	“My students are incompetent and it is their fault...” “We have such a different background, I have no idea where they are coming from...”
Sociocultural closeness	When there is understanding of the cultural environment of other teachers, students, or institutions.	“It really helps when I get to know my students and where they live...” “Even though ___ is different from me, getting to know them I realize that they want the same thing as I do...”
Moral distance	When individuals have different views on the purpose of teaching or teaching philosophy.	“We value teaching differently...” “I can’t believe they would teach that way, it is wrong...” keyword: believe/ belief
Moral closeness	When individuals have similar views on the purpose of teaching or teaching philosophy.	“We value the same way of teaching...”
Professional Distance	Conflict between institutional expectations of how to act/express themselves and how one wants to act/express themselves.	“I can’t believe we have to meet once a week...” “I don’t like going to these meetings...”

Professional Closeness	Compatibility between institutional expectations of how to act/express themselves and how one wants to act/express themselves.	“I love going to these meetings...” “I find our meetings productive.”
Physical distance	Infrequency of time being spent together so that relationships are not being formed over time.	“I never see them unless we have a meeting...” “I avoid seeing them...” “We just do everything over email, there is no need to meet in person...”
Physical closeness	Frequent time being spent together so that relationships can form over time.	“I go see them often...” “I make sure to have lunch with them every day...”
Political distance	When someone uses their power or privilege to control/suppress/incite someone else’s emotions (who usually has less power or privilege in the context)	“My opinion is never valued...” “My team decided to have common assessments and I was never consulted...” “They have more say than I do...” “I never get the assignments that I want...” Keywords: status, power, more influence
Political closeness	When individual power and privilege are mediated through discourse in order to provide a space in which personal feelings of all contributors can be valued or listened to	“Everyone’s opinion is valued in team meetings...” “My team takes into consideration what I have to say...”

In order to give a more concrete example of this analysis, I have picked an excerpt from an interview with the first mentor Haley. This is an excerpt of when I asked her, “Is there anyone or a group of people that hold more sway (power) when it comes to decisions in how you teach?”

I think I let the rest of the [9th grade] team have more sway in how we teach, just because I think I'll have more opinions in years to come. But this year I've never

taught it so I don't really have an opinion on how we teach it. Now that I've taught it, now, I will have more of an opinion in future years, but this year whatever they say I am good with, cause I don't, I don't know what's the best way to teach it.

In this excerpt we can see that Haley created *political distance* when she gave up the freedom she had to decide what was being taught. She gave this freedom to her more experienced team members who have taught this material before. Haley stated that she will have more opinions in the future, which suggested that after Haley has had more experience that the *political distance* will diminish. Since Haley gave up the power that she had to her teammates, this could lead her to be less secure when they meet as a team. This could lead her to mask or control her emotions (Hargreaves, 2001).

## CHAPTER FOUR: RESULTS AND DISCUSSION

In this chapter, I first remind the reader of the emotional geographies, participants, and research question. Next, I will discuss the results of my data broken up by first the mentees and then by the mentors. This structure is to compare and contrast first the mentees experience and then the mentors experience. The chapter will end with the discussion section.

I describe the close and distant emotional geographies: Moral, Political, Physical, Professional that were present in the interviews and observations. To remind the reader moral closeness is when individuals have similar teaching philosophies and moral distance is when teachers have different teaching philosophies. Political closeness is when individual power and privilege are mediated through discourse in order to provide a space in which personal feelings of all contributors can be valued or listened to. Political distance is where someone uses their power or privilege to control/suppress/incite someone else's emotions. Physical closeness is the frequency of time spent with people to build relationships, while physical distance is the infrequency of time spent with people which leads to not building relationships. Professional closeness is compatibility between how the institution expects one to act and how one wants to act. Professional distance is conflict between how the institution expects one to act and how one wants to act. The sociocultural emotional geography was not present in my data since the participants were from similar cultures and thus will not be discussed in the results section (I will make further remarks in Chapter 5 about this absence).

To remind the reader, I interviewed two pairs of teachers. Haley and Nick were the first pair. Haley was in her first year teaching and taught both 9th and 8th grade classes while being a member of the 9th grade team. Nick was a 9th grade teacher and a district math instructional coach. He was assigned by the district to be Haley's coach. The other two teachers on the team

were Brittany and Alyson. Alyson was Haley's school assigned mentor. The second pair of teachers was Brinley and Kendra, who both taught classes on the 9th grade team. Brinley was in her first full year of teaching and Kendra was a 9th grade teacher and district math instructional coach. Catherine is on the 9th grade team with Brinley and Kendra and is assigned by the school to be Brinley's mentor.

Again, my research question was:

What kinds of emotional distance or closeness are evident in mentor teachers and beginning teachers as they discuss their individual practices and collaborative efforts to enact reformed teaching mathematics teaching practices?

## **Results**

### **Mentees: Haley (Mentee #1) and Brinley (Mentee #2)**

#### ***Moral Emotional Geography***

Both Haley and Brinley were *morally close* with their mentors. When asked if Haley's teaching philosophy aligns with her mentor she said yes, and added "I think very, very closely." Brinley said of Kendra that, "She and I are pretty similar when it comes to our styles of instruction."

Haley was also *morally close* with all of the other teachers on her 9th grade team, but that was not entirely the case with Brinley. When Haley was asked if she taught in a similar or different way from the other teachers at her school, she stated that her teaching was similar to her team because she taught with tasks. Catherine, who taught with Brinley, had a different background when it came to task based instruction. Brinley talked about how Catherine never got that foundation "as well and so I am very familiar in how to implement a task um, but her her background isn't like, she didn't learn how to implement tasks." Catherine wanted to teach with

tasks which suggested a *moral closeness* and desired *moral closeness* with Brinley. However, her lack of experience led to some *moral distance*. This distance showed up when Brinley said of Catherine, “She's still about half and half as far as like direct and tasked based teaching goes.” That is, Catherine was not entirely on the same page of tasked based instruction with Kendra and Brinley.

Brinley specifically chose a school in which she would be *morally close* with her team. She stated:

I'll be honest with you, there's a reason I chose to come to this school like it wasn't just because I was like, hey, there's an opening. Like I knew who I was going to be working with before I got here and that's why I knew it would be a safe space for me and I wouldn't, you know, be oppressed in my new ways.

Brinley made a conscious decision to work specifically with teachers she knew she would be *morally close* to. Brinley also knew that she could be marginalized if she did not choose a school in which she could be supported in teaching tasked based.

Haley and Brinley were both *morally distant* with the other teachers at their schools not on their teams. Haley stated that her teaching was different with the other teachers at her school. She said, “I haven't ever watched any of the others teach, but based on discussions and on what they have given me it...greatly differs.” Even though Haley taught some classes that are not 9th grade classes, she taught in a different way. She also disagreed with how the other teachers access the learning of their students. When Brinley discussed the other math teachers at her school she said that they were, “100% direct instruction, no tasks ever...I have great um 7th and 8th grade teachers, but they, they do not support task based teaching they just don't feel like it, its

worth their time.” This comment suggested the *moral distance* that Brinley felt from the other teachers at her school since Brinley taught with tasks and they did not.

Brinley stated that the 7th and 8th grade teams were “all chummy and buddy buddy with each other cause they all have the same teaching philosophies.” This remark implied the *moral closeness* of the 7th and 8th grade teams because of their teaching philosophy.

Haley yearned for *moral closeness* with the other teachers not on her team so she would have other teachers to collaborate with. Brinley did not want the *moral distance* between her team and the other teams at her school to be the barrier in having productive conversations. In the interview, it was clear that Haley yearned for *moral closeness* with other teachers that are not on her team but who also teach similar classes. She said, “I wish I had someone else to work with to bounce ideas off of”, since when you teach, “with tasks and create homeworks that involved all these things its hard...when you're trying to do it by yourself.” Haley did all of the 8th grade preparation alone. Haley stated that she does not fit with the 8th grade teachers and will not fit with that team until “more people on the 8th grade team...view it the way I do.” Thus, Haley does not feel like she belonged with the other teachers that were *morally distant* from her. Even though the other teachers at Brinley’s school were morally distant from her, she wanted to still have a relationship with them to be able to do what is best for the students. “It makes me wonder like how can people like, like how can we get past philosophical differences.” Brinley and her team tried to have conversations with the other teachers to vertically align their curriculum but she said that those meetings always end badly. When referring to the other teachers Brinley said, “If they see our teaching philosophies as a barrier to having those conversations um because if that's the if that's the whole reason, then I can't change my teaching philosophy just to have a conversation with you.” Both Brinley and Haley yearned for closeness

with the other teachers at their schools. Haley wanted moral closeness and Brinley did not want the moral distance to be a barrier for conversations.

Lack of knowledge about reformed teaching from administrators created a *moral distance* for both Haley and Brinley. Haley stated that the admin “praise the 8th grade team and praise the 9th grade team.” Even though they taught differently, Haley said that this caused problems “Cause the teams don’t get along.” Since the philosophies were so different, it just does not work. Since the administrators lack reformed teaching knowledge, they did not know how supporting traditional teams could decrease credibility with and support for those reformed teachers. Brinley stated that, “When it comes to the other grades and our administration I feel like, they’re not as understanding of the importance of tasked based teaching and how to implement it in a classroom and why that why that matters.” Since the administration does not understand why it matters, both Haley and Brinley were not fully supported which created frustration between the teachers towards the administrators.

Brinley stated that *morally close* people or allies helped her to feel supported while teaching. “It just felt good to have people on our side, to say like yes you are, you are doing this in a way that you should be doing it and get that validation um by building allies so that's been a huge, huge help.” Recently, Brinley and her team were able to connect with other teachers at another school and found teachers that had similar beliefs. This interaction gave Brinley the validation to keep teaching. Speaking generally, Brinley talked about how finding allies is one thing that can help teachers to not burn out. That is, to keep teachers from burning out, they need to have *morally close* people in their lives. Brinley stated that if she was on an island by herself meaning she did not have anyone she was *morally close* to she would have burned out by this point in her young teaching career. For a summary of this section refer to Table 2.

**TABLE 2***Moral Emotional Geography: Mentees*

Emotional Geography	Description
Closeness	<p>Mentee’s teaching philosophy aligned with mentors and team</p> <p>Other teacher teams were aligned in their teaching philosophy.</p> <p>Allies helped teachers to feel supported and to not burn out</p>
Distance	<p>Lack of knowledge created distance between mentees and team members/administration.</p> <p>Mentee’s teaching philosophy greatly differs from other teacher teams.</p> <p>Different teaching philosophies were seen as barriers to other conversations/interactions with other teacher teams.</p>
Yearn for closeness	Wanting closeness with other teacher teams to share ideas and work load.

***Political Emotional Geography***

Haley and Brinley were both *politically close* with their teams. When asked if Haley’s thoughts would be valued by her 9th grade team, she said, “yes” and that they would value anything she had to say. When I asked Brinley if she has had equal say in decisions that were made with her team she said that she had “equal say in decision...I feel like I have so much more control and say and equal opportunity to chip in with decision... making”. It was interesting to note that with Brinley when she talked about her team she brought up the personal relationship that she had with her team: “We have that personal foundation like we respect each other as people and as coworkers, like we can have it out about the math for like an hour and no, and everyone walks away totally happy.” The fact that they all speak their mind and do not worry

about masking their emotions means that no one party has more power than another. For Brinley this closeness happened because of the personal relationship that she had with her team.

Brinley compared the relationship that she had with her current team and the relationship that she had with her cooperating teacher when she was a student teacher. “When I was student teaching I feel like I had that only work relationship and no personal relationship with my mentor and so it was only ever about the math and it sometimes you know create tensions.” Since the relationship that Brinley had with her cooperating teacher was all about mathematics, she felt that it created tension which implied that she had to manage her emotions. Managing emotions implied that emotional labor had occurred and that there was *political distance* in this relationship. It is interesting that for Brinley *political closeness* occurred when there was a foundation of personal relationships.

Even though Haley and Brinley were both *politically close* with their teams, there were instances of *political distance* that appeared in their teams. This *political distance* appeared when both beginning teachers talked about the experience that the other teachers had on their teams. In both instances there became a hierarchy of power based on the amount of experience that different teachers had on their teams. In Haley’s case, since Nick and Alyson have more experience teaching than Haley and Brittany, Haley said, “Nick and Alyson dominate because they’re, they’re senior, but they also have bigger personalities than Brittany.” Haley stated that Nick and Alyson will “come up with new ideas... I can't handle that on top of everything else and so she’s (Brittany’s) like you don't need to do that, I'm not planning on doing that.” These new ideas made Haley feel overwhelmed at times and how just figuring out the curriculum alone is hard enough without all of the extras that the team has placed upon her. “Brittany’s like the bridge of the gap of like this senior teachers to the like not senior teachers so I talk to her a lot

about when I'm overwhelmed with like Alyson and Nick ideals of like this is what we're doing this is our goals and everything.” Since Haley did go to Brittany when she felt overwhelmed by the ideals of her other team members this suggested *political distance*. Having both *political closeness* and *political distance* with the same people appears contradictory--I will discuss this further in the discussion section.

The hierarchy of experience creating *political distance* showed up in Brinley's team as well. Brinley talked about how Kendra is the most powerful because of her experience and then Catherine is the next powerful because of her experience. “Kendra is like our team leader, on our 9th grade team um so she I mean just based on experience level like she has the most, so she'll often like pull from what she's done... Catherine is probably like the second most powerful because of her experience as well, she can kind of chime in...drawing from experience.” Contradictory, Brinley explained that even though her teammates have the experience that she does not have, she had her own power in the team. She stated, “They often look to me for mathematical correctness and making sure it's accurate, um but yeah that's kind of how we each have our own power in in the dynamic.” Even though she did not have the experience like her teammates, she had something to offer them. Since Brinley was the most recent to take high level mathematics courses, her team gave her power in that area, or *political closeness*. Even though Brinley did not have the experience, her teammates diminished the *political distance* when they gave her an area in which she could add value to the team. I will talk about this tension further in the discussion section.

Haley created *political distance* by giving up the freedom she had to decide what was taught. “I think I let the rest of the team have more sway in how we teach...just because I think I'll have more opinions in years to come.” Haley commented that she will have more opinions on

how things will be taught in the future but, since she has not taught this material yet, she gives up the power that she has to her teammates because of her lack of experience. This reinforced the hierarchy of power based on experience on Haley's team.

When asked if Haley's thoughts would be valued by other teachers at her school not on her team she said, "I've never voiced an opinion cause I don't think I have been around there enough...it's just like everything I do is so against what they do and I just don't think it works." This quote suggested a *political distance* from the other math teams at the school. This *distance* is associated with *physical distance* by not being around the other teachers enough. This *physical distance* contributed to how Haley was so against what they do or *moral distance*.

Political distance was evident when Brinley talked about the department meetings in which all math teachers at the school were required to attend. Brinley talked about how each member of her team acted in the meetings. "Kendra acts completely powerless even though she has like a district level job like has lots of experience." Kendra acting powerless showed political distance between her and the department. Discussing Catherine, Brinley stated "She asserts a lot of dominance and power in the meetings cause she's very opinionated and passionate." Catherine fought hard to create *political closeness*, but the fact that she had to fight for it implied *political distance*. When Brinley was asked if her ideas would be valued by the teachers in the department meeting she said, "by the department, it would be valued by some but not all." The department head is given power to make decisions, but does not. Brinley stated, "We kind of all look to our department head as like the most powerful, cause she makes all of the decision or is suppose to make all the decisions um however does nothing." This quote showed *political distance* from the department head and the other teachers in the department.

Brinley’s team has tried to initiate conversations with the other teachers at the school with regard to vertical alignment and each time they go terribly wrong. Brinley’s 9th grade team was known by the other teachers at the school as, “know it alls.” By the 9th grade team not being able to have conversations that have determined the cohesiveness of teaching can hurt the students' understanding of mathematics. These teachers have power over what Brinley and her team can and how they teach math. Thus *political distance* was present between the 9th grade team and the other teams at the school.

Brinley and Kendra both have had conflict with the special education team at their school which has created *political distance*. At their school they were restructuring how they taught their special education math classes. Both Brinley and Kendra have stated how they think it should be restructured. It was not until the district got involved and agreed with Brinley and Kendra that the special education team listened. They both remarked that it should not have mattered if they or the district had the idea. However, since the special education team only listened when the district got involved, this created frustration for both Brinley and Kendra and was an example of *political distance* between the two different teams. As to not repeat myself, this example of *political distance* will not show up in the results section with the mentors below. For a summary of this section refer to Table 3.

**TABLE 3**

*Political Emotional Geography: Mentees*

Emotional Geography	Description
Closeness	Thoughts valued by team members. Equal say in decision making.  Personal relationship led to all team members speaking their mind and no one having more

power.

Distance

No personal relationship created tension and managing emotions.

Hierarchy of power. More teaching experience equates to more power in the team.

Gave up one's power because of lack of experience.

Political distance created from physical distance which was created from moral distance.

Ideas not valued by all math teachers at the school.

People's actions not lining up with their experience level

Challenging discussions about vertical alignment

Colleagues are not given authority to share ideas about specific education

Diminished distance

Grade level team acknowledged each member's "expertise" in the team

### ***Physical Emotional Geography***

At each school there was time allocated every week for the teachers to meet together as teams. Each team met more than the required weekly meeting. This suggested *physical closeness* with their respective 9th grade teams. Haley said that she met with the team a few times a week. When Haley talked about how often she met with her mentor Nick, specifically, she stated that "Whenever I have questions he, and need help, I just email him or I just go up there and he helps me with whatever." This shows *physical closeness* with Haley's mentor. When Brinley was asked how often she met with her team she said, "daily." When Brinley discussed how much she met with her team she said, "I feel like our grade level team meets an appropriate amount of

time... sometimes too often, because we we love to talk to each other.” This implied that Brinley was too *physically close* with her team at times or wanted some *physical distance*.

Both Haley and Brinley were *physically distant* from the other teachers at their schools. When asked how often she met with the 8th grade team, she said, “Never.” Even though she taught some 8th grade classes, she did not meet with them. She had met with them monthly at the beginning of the school year, but she soon just stopped going altogether since she found the meeting a waste of time. This experience would suggest *physical distance* with those other teachers. Haley said that she sometimes would talk to them about content and would not seek them out for any other reason. When Brinley was referring to the other math teachers at the school she stated, “We don't talk to them, like they don't talk to us and we're just like here, like okay.” There was *physical distance* between Brinley and the other teachers not on her team. All of the teachers at Brinley's school did meet together as an entire math department a few times a month. With regard to mandatory meetings, there was *physical closeness*. Brinley did say referring to the meeting that she wished it “was an email” showing that Brinley wanted those meetings to not even exist or wanted *physical distance* from those meetings.

At Haley's school, *physical distance* was created when a teacher on Haley's team became a mentor for student teachers. She stated, “So you know I love their student teachers and I'm like I can't talk to you guys normally as much anymore cause they're here.” Even though Haley is *physically close* with her team, the responsibility that this teacher had to mentor student teachers made it hard to connect physically with that teacher and created *physical distance*. For a summary of this section refer to Table 4.

**TABLE 4**

*Physical Emotional Geography: Mentees*

Emotional Geography	Description
Closeness	Met with their grade level team more than what was required.  Met with the department as required.
Distance	Stopped meeting with other teacher teams when it felt pointless.  Do not interact with other grade level teams unless it was required.  Student teachers took the time of a colleague.
Yearn for distance	Met too often with grade level team teams.  Wanted the department meeting to be an email.

***Professional Emotional Geography***

Brinley and Haley have said that the weekly mandated meetings with their teams were productive indicating there was *professional closeness* with their team meetings. Brinley stated, “Our grade level team meetings are always productive, it feels like we can just pick up where we left off.” Haley, on the other hand, also had some *professional distance* when she discussed the team meetings. When Haley referred to the experience and ideas that Alyson and Nick have she stated, “There’s hard things about that because they are so developed in what they do, Brittany's a nice buffer.” Haley loved what was accomplished in those meetings but it felt a little overwhelming at times during her first year. Even though she had *professional closeness* with her entire team there is also *professional distance* that is present related to Alyson and Nick’s

experience level that created that *distance* for Haley. Now this *professional distance* related to experience levels did not show up with Brinley’s team.

Both Haley and Brinley had *professional distance* with the other teachers at the school. For Haley, there was an expectation that Haley would meet with the 8th grade teachers once a month since she taught some 8th grade classes. She did not attend those meetings because she did not find them to be productive. She stated, “For the fact that I was doing something completely different, and didn't feel the need to” attend those meetings. *Moral distance* created *physical* and *professional distance* in this instant. For Brinley she said of her department meetings, “Our department team meetings are horrible. um painful, and no one wants to be there...I honestly wish [it] was an email.” Even though Brinley met with the department regularly, she did not want to be there. This example showed that both Brinley and Haley had *professional distance* with teachers they were not *morally close* to. For a summary of this section refer to Table 5.

**TABLE 5**

*Professional Emotional Geography: Mentees*

Emotional Geography	Description
Closeness	Meetings with the grade level team were productive.
Distance	Team expectations were overwhelming at times.  Expectation to meet with another grade level team was not met since they were unproductive meetings  Department meetings were horrible

## **Mentors: Nick (Mentor #1) and Kendra (Mentor #2)**

### ***Moral Emotional Geography***

Nick and Kendra were both *morally close* with their math 9 teams and mentors which was similar to the mentees. Nick was *morally close* with his team when he stated that they have a common vision. When Kendra was talking about her own teaching she stated, “I really try to implement NCTM's best math practices...my 9th grade team is really trying to implement those standards as well.” Nick was asked if his teaching philosophy aligned with Haley, he stated, “Yes, I would say for sure.” When talking about Brinley’s teaching Kendra said, “Brinley is great because I actually feel like I have a team person to talk to someone so I'm not by myself trying to do tasked based.” It was interesting to note that there were multiple instances where Kendra stated that she was glad that her school had hired Brinley to teach since Brinley taught reformed mathematics.

When Kendra was first asked how her teaching was similar or different from the other teachers at her school, she was hesitant at first and then named something that all of the teachers had in common. She stated that “I think all the teachers at our school try to make good relationships with the kids... the teachers all care about the kids and try to build those relationships.” This comment showed that she was *morally close* with the other math teachers at her school. However, when she talked about specific teaching *moral distance* was apparent. After she discussed how her team tried to implement the NCTM standards, she stated that “The other teachers, they really kind of dig the direct instruction ideas.” She talked about how they did a specific direct instruction process and could not even name the process since she did not do it. Like the mentees, Kendra was *morally distant* from the other teachers at her school because of her reformed practices and their traditional practices.

Both Nick and Kendra had experiences where it was difficult for them to discuss reformed teaching with certain individuals. Nick brought up an experience of a professional development he attended. At the professional development, someone said they were against everything that Nick stood for. He stated, “Yeah, I mean knowing that they don’t share the same beliefs and practices about teaching mathematics makes it really hard to know like where to, to start when you’re gonna have a professional conversation.” That is, it was difficult for Nick to have a discussion when another math teacher had a different teaching belief from him. Similar to the mentees, Kendra, talked about how the lack of knowledge that her administrator had in reformed teaching made it difficult. She talked about how she has tried to come up with ideas of how she could inform the importance of task-based instruction with her administrators and open up that dialog. Both Nick and Kendra had these moments of *moral distance*. Nick had *moral distance* in a professional development opportunity and Kendra had with her administrators because of their lack of knowledge about reformed teaching.

Nick discussed new teachers at his school and new teachers generally. *Moral closeness* and *distance* were evident in this conversation. When Nick described the new hires at his school over the recent years, he mentioned how they wanted to teach the way he teaches. However, these new hires were not on his team and were on teams with teachers who did not want to teach reformed like he did. Thus, the new hires were *morally close* with Nick and *morally distant* from their teams. Referring to the new teachers he said, “And so, the new teacher has this ideal of like, this is what I learned all about and I’m excited to try it, but nobody on my team is doing it. I feel like I have to do what they’re doing.” New teachers conformed to the traditional teaching that their grade level team was doing. When Nick discussed mentors and mentees more generally, he talked about how when the new teacher and mentor or team have a different

teaching philosophy, it would make life hard for the mentee. He made it seem as though in that situation, the mentee is the one that loses. That is, when a mentor and mentee have *moral distance*, it is the mentee that struggles because of this. For a summary of this section refer to Table 6.

**TABLE 6**

*Moral Emotional Geography: Mentors*

Emotional Geography	Description
Closeness	Teaching philosophy aligned with mentors and grade level teams.
	All teachers creating relationships with their students.
	Teaching philosophy aligned with the new hires at the school.
Distance	Teaching philosophy differs from other teachers at the school not on their team.
	Difficult conversations with people that have different teaching philosophies
	Lack of knowledge in administration created distance
	New hires differ in teaching philosophy with their grade level teams and conform to traditional teaching.

***Political Emotional Geography***

Nick and Kendra were both caught off guard when I asked if anyone or group of people had power in how they taught. Both mentioned administrators in this part of the interview and said that the administrators have not come right out to say how they needed to teach. Kendra stated that the administrators have not “ever said you have to teach a certain way. I mean like

yesterday in our meeting, he said, 'I love direct instruction. I love your tasked based so do whatever' so I don't really feel pressure to do it one way or another.'" Both Nick and Kendra have *political closeness* with the administrators since they have not used their power to dictate what had to be done in their classrooms.

Also with this question of power, both Nick and Kendra showed *political closeness* with their teams. For instance, Nick talked first about how he primarily determined what was taught in his classroom. Unlike Haley, Nick's second group that determined what happened in his classroom was his teammates. The grade level team did not hold more power than he did. Kendra said that this was both Brinley and her first full year teaching 9th grade math. She stated, "I have more experience and can probably help her more in some different areas, but she has experience that she's bringing." This statement implied *political closeness* since each person has something to contribute in the situation and one was not using their power to determine what the other one could do.

Nick and Kendra both discussed new teachers in general and both *political closeness* and *distance* were evident. When Nick discussed new hires at his school, he stated that these new teachers were on teams that taught differently than the new hires. Since the new teachers were given material that did not align with how they wanted to be teaching and felt that they needed to teach the same way as their team, their teammates had power in how the new teachers taught which indicated *political distance* between the new hires and the grade level teams they were a part of. Kendra discussed that new teachers in general need to have a voice. She stated that it was a mentor's job to "Help them remember they have a voice, a lot of first year beginning teachers think 'oh I'm just going to lay low and not say anything'. But I think it's important that it doesn't matter how long you have been teaching, you still have a voice in that, you're important, so to

make sure they know that and then to collaborate and be supportive.” Mentors needed to be active to make sure that new teachers have a voice and did not use new teachers' lack of experience as a way to have power over them. Kendra implied that new teachers needed a mentor to diminish any *political distance* and to create *political closeness*.

*Political distance* was evident with both Nick, Kendra and the other teachers at their school. Nick spent some time talking about how his school department used to be. He stated how there was a big divide in how to teach math and how the community was also in on it. He said, “But I did very much feel the pressure from the community and from other individuals within the department that um you know it, it didn’t feel good.” Nick talked about how there was still divisiveness between the teachers. When Nick was asked if what he had to say would be valued by the other teachers in school not on his team he said, “I don’t think that the teachers on the other team necessarily appreciate my perspective.” This description showed evidence of *political distance* between Nick and the other teachers at the school. Kendra said of her department meetings, “I don't even say anything in our meeting anymore after one rude thing was said.” She stated how she did not like conflict or felt the need to keep putting her neck out there. Kendra said, “I feel like I am personally attacked, there so my emotions, that's probably why I don't say anything cause I don't want to have hurt feelings for them telling me that my way sucks so I guess that answers the question.” Since Kendra has had to manage her emotions in the department meeting this was categorized as *political distance*. Managing one’s emotions leads to emotional labor and emotional labor can lead to teacher burnout. For a summary of this section refer to Table 7.

**TABLE 7**

*Political Emotional Geography: Mentors*

Emotional Geography	Description
Closeness	Administrators or other teachers did not dictate what needed to be done in the classroom.  Important to make an effort to make sure new teachers have a voice.
Distance	New hires did not have as much power as their teammates to make decisions  Divisiveness in the department in how math should be taught.  Managing emotions in department meetings.

***Physical Emotional Geography***

Both schools have dedicated time each week for the teachers to meet together. Nick believed that these weekly meetings were the right amount of time to meet with the team. When Nick spoke of Haley, he stated, “Haley and I talk once a week at least, separate from that.” Kendra discussed that she met with her team about 2 or 3 times a week. Both Nick and Kendra met with members of their team during the dedicated time and more, which suggested *physical closeness*. Now Kendra did go to the math department meetings, which suggested *physical closeness* even though she wished for *physical distance* from these meetings.

Nick discussed a want of *physical closeness* with Haley and general with newer teachers and their mentors. Nick commented, “I think she would probably like that if we could do it more frequently. I would too, but it, anyway it doesn't feel like we have as much times as we would like.” When Nick spoke of newer teachers in general he stated, “I would imagine that a newer teacher would benefit from meeting more frequently.” Nick then commented on mentors in

general when he said, “I think people need to have more than a mentor in name, they need a coach, they need someone that they can actually have help them with their instruction and teaching rather than someone that just answers questions um they need someone in their classroom regularly.” Nick advocated for more *physical closeness* between new teachers and their coach. For a summary of this section refer to Table 8.

**TABLE 8**

*Physical Emotional Geography: Mentors*

Emotional Geography	Description
Closeness	Met with the grade level team more than required. Met with the department when it was required. Advocated that new teachers needed a coach.
Yearn for distance	Did not want to be in department meetings.
Yearn for closeness	Wanted to meet with mentees more, but time was a constraint.

***Professional Emotional Geography***

Both Nick and Kendra found the weekly meetings with their teams to be productive. Nick stated that his team meetings were extremely productive and detailed what things were achieved in these meetings. Kendra stated, “The 9th grade team we’re very productive.” These descriptions reflected the *professional closeness* that both Nick and Kendra have with their 9th grade teams.

Now when Kendra discussed what she thought of the department meetings, she stated that it “is a waste of time” indicating *professional distance* with Kendra and the department

meetings. Kendra did mention that if the department meetings were structured differently, then they would be more productive showing that there was potential for *professional closeness*. She stated, “If we could do a book study or something where we were learning together, but I know because we teach so different they think oh we can't learn from you because you do everything way different and that's not true, but how to change their mindset, I'm not sure.” The *moral distance* that the other teachers felt towards Kendra and the 9th grade team was possibly creating *professional distance*.

Nick referring to the professional learning opportunity that he had, was an example of *professional distance*. Nicks described how awkward it was when he was asked to give some insight and someone immediately threw up a wall because they disagreed with his teaching philosophy. Once someone said they were not going to do anything that Nick was sharing out loud, “it was quite startling and it really derailed the whole professional learning for the rest of the year.” This expectation of how the professional learning opportunity was going to go and what actually happened was extremely different and suggested *professional distance* for Nick and the professional development. For a summary of this section refer to Table 9.

**TABLE 9**

*Professional Emotional Geography: Mentors*

Emotional Geography	Description
Closeness	Grade level team meetings were productive.
Distance	Department meetings were not productive.  Difference in expectations of professional development and what actually happened.

Yearn for closeness

Department meetings would be more productive if they were structured differently.

## **Discussion**

The purpose of this study was to determine what emotional geographies were present in beginning and mentor teachers as they discussed their reformed teaching practices. This lens was chosen to try to understand the process that teachers go through to teach reformed. In this section, I analyze the results of my study by looking at the trends that showed up in the data discussed in the results section. I discuss: emotional geographies framework, moral emotional geography, and political emotional geography.

### **Emotional Geographies Framework**

Throughout this study, I have developed ideas that should be more explicit in the emotions geographies framework. Specifically, there are four assumptions of the Hargreaves' (2001) framework that my data refutes or provides alternatives to consider. I list the four assumptions here but will expand on my critiques in the subsequent paragraphs. (1) The description of Hargreaves' framework implies that distances on the emotional geographies landscape will necessarily lead to negative emotions. (2) The description of the framework implies that the emotional geographies landscapes are the same for people regardless of their positions or other identity characteristics. (3) The description of the framework also implies that each emotional geography offers two positions for people to take up--namely, closeness or distance. (4) The description of the framework assumes that these positions are the only places in which there is opportunity for emotion.

Hargreaves' (2001) framework implies that only distances on the emotional geography landscape will lead to negative emotions. The framework lacked a discussion of closeness. By

only discussing distance in detail and showing the negative emotion associated with each emotional geography it is easily implied that negative emotion only applies to distance. However, closeness can also be negative. For instance, Haley and Brinley both mentioned how sometimes they met too often with their teams and were possibly too physically close with them. Brinley and Kendra were both physically close with the other teachers at their school since they had department meetings. But those meetings caused emotional labor for both of them, which was negative.

The framework implies that the emotional geography landscapes are the same for people regardless of their positions or other identity characteristics. The framework does not specifically address how the distance/closeness spectrum is different for each individual. Brinley discussed how she needed a personal relationship with her team to have political closeness. That was not the case for Haley. Nick mentioned how meeting with his team once a week is enough for him, but how he imagines meeting with the team more than once a week would be helpful for any mentee. Thus we can see how closeness and distance can be different depending on the person and the ideal closeness or distance would also be different.

For each emotional geography the only two positions for people to take up are either closeness or distance, but not both. There were instances in which the results may have seemed contradictory. For example, Haley was said to be *politically close* and at the same time *politically distant* with her 9th grade team. She knew what she had to say would be valued by them. However, she often became overwhelmed with how the more experienced members of the team wanted to teach. Because of this feeling, Haley only communicated how she felt with the less experienced member of her team. Haley did not express how she felt with the experienced members of her team and would rely on her team to decide what would be taught. Haley did feel

that her team would value what she had to say, but used her lack of experience to create *political distance* with the experienced members of her team. Because Haley knew that her opinions would be of value, she had political closeness with her team. However, Haley created *distance* because she, like both mentees, seemed to associate experience with power. Leatham (2006) stated how we need to see teachers as sensible systems. Haley was not trying to contradict herself, but make sense of the team dynamic she was in. With this data, I believe we, as researchers, need to see teachers as sensible systems and try to make sense of the contradictions, instead of letting the contradictions invalidate the results completely.

Emotional geographies framework implies that closeness and distance are the only places in which there is opportunity for emotion. There were multiple instances in which certain *closeness* or *distance* of emotional geographies were desired. For instance, Haley wanted to have *moral closeness* with the 8th grade team since it would make her job easier if she did not have to create all of her 8th grade material alone. Kendra and Brinley were both *physically close* with the math department when it came to department meetings, however, they did not want to attend. Nick wanted to meet with Haley more, but time was a constraint. Not only were the emotional geographies important in telling a story, but the desire for certain emotional geography to exist or not exist is just as important.

### **Moral Emotional Geography**

In this section I will discuss three important aspects related to the *moral emotional* geography. First, how the lack of knowledge about reformed teaching created a *moral distance* between teachers and school leadership. Second, how the *moral emotional* geography influences other emotional geographies. Third, according to Brinley, finding a *morally close* support system helped her not burn out as a teacher.

### ***Lack of Knowledge***

Lack of knowledge created *moral distance*. For both pairs of teachers, the administration did not acknowledge the difference between traditional and reformed teaching. In each school, the 9th grade teams were teaching reformed while the other teams at the school were teaching math traditionally. Both administrations praised both reformed and traditional teaching methods, which caused conflict between the different teams at the schools. Brinley commented that this lack of knowledge was hurting the conceptual understanding of her students. Because it was necessary to teach both her standards and previous grades' standards conceptually, the administration's lack of understanding reformed teaching was hurting the students overall understanding of mathematics and also led the reformed teachers to feel less support. It can be argued that this lack of knowledge is creating emotional norms in the school about how reformed teaching is not valued and creating frustration or emotional labor for these teachers working with these teachers leaders. Steele and colleagues (2015) discussed how school leaders often lacked pedagogical content knowledge to be effective instructional leaders and improve mathematics instruction in schools. In order for educators to feel supported in teaching the reformed method, it would be necessary for the administration to understand how reformed teaching was different from traditional methods (e.g., Steele et al., 2015).

Catherine, Brinley's teammate, lacked knowledge about reformed teaching which created a moral distance between her and Brinley. Catherine was willing to teach reformed, but did not have the foundation to enact it completely. She would often argue that the students needed more practice than Brinley thought was necessary and what was consistent with reformed teaching. "Learning to engage in reform mathematics pedagogy entails developing a vision of teaching and learning mathematics that differs dramatically from the vision underlying traditional classroom

models (Feiman-Nemser, 2001)” (Ma & Singer-Gabella, 2011, p. 8). Catherine did not have the foundation or vision of reformed teaching and, therefore, was inclined to lean towards the known traditional style of teaching mathematics. In both of these instances, with the administrators and Catherine, the lack of knowledge created moral distance with the reformed teachers.

### ***Moral Emotional Geography Influence***

The moral emotional geography influenced other emotional geographies. For example, Haley had not voiced an opinion (political distance) around the 8th grade team since she had not been around them enough (physical distance). She had not been around them enough since she was so against what they did (moral distance). That is, Haley was politically and physically distant from the 8th grade team because she was morally distant from them. Brinley and Kendra wanted to have conversations with the other math teachers at their school about curriculum, but the other teachers used the moral distance between the 9th grade team and their team as a barrier to stop conversations. Kendra stated that the teams thought there was not anything that they could learn from each other since they taught so differently. This moral distance contributed to professional, political, and physical distance.

In most instances in my study, if I knew just the closeness or distance moral emotional geography, I could predict the other emotional geographies without looking at the data. Of course, this experience can not be generalized to all math teachers. A possible reason for this pattern was that each 9th grade team only had reformed teachers while all the other grade level teams were traditional teachers. In the school dynamic, there was already this *us* versus *them* mentality that could have contributed to this moral emotional geography being a big indicator of the other geographies. Nick and Kendra commented on how difficult it was to discuss reformed teaching with other teachers which was another reason why the moral emotional geography

influenced the other geographies. Nick commented how it was difficult to know how to approach conversations with individuals who believed something completely different. Kendra discussed similarly how difficult it was to be personally attacked and told the way you were doing things sucked.

### *Allies*

Brinley mentioned the importance of finding allies. She felt that she would have experienced teacher burn-out by the time I interviewed her if she had not had morally close teachers or allies. When it came time for Brinley to decide which teaching position to accept, she was extremely particular. She chose a school in which she knew she would receive support to teach reformed. She did not want to be in a situation where she would experience conflict in teaching the reformed method. Brinley desired support and success in her teaching career. Nick explained how new hires at his school felt pressure to teach and do what the team members were doing who taught the traditional method. Martin and colleagues (2017) stated that teachers left schools when they felt unsupported or ineffective. I add that unsupported reformed teachers conform to traditional methods (as was also seen in Agee, 2004). These new teachers that Nick discussed were unsupported in teaching reformed and did what the other members of their team were doing. Zembylas (2004; 2006) discussed how a teacher, Catherine, was alone at her school in how she taught. Catherine used a lot of emotional labor because her pedagogical beliefs were not accepted by her fellow teachers. She did not have allies and had to manage her emotions when she was around the other teachers. Her emotional labor was extensive. Brinley made sure to find allies or a morally close support system to diminish some emotional labor she would have had otherwise.

## **Political Emotional Geography**

In this section, I discuss three ideas associated with the political emotional geography. First, I discuss how among the mentees, there was a hierarchy of power associated with how much experience a teacher had. Second, both mentees experienced political closeness and distance with their grade level teams. Finally, mentors and mentees had differing perspectives on who could dictate what and how they taught.

According to both mentees, there was a hierarchy of power depending on how many years of experience each teacher had. Haley separated the teachers on her team into two groups: experienced and less experienced. Alyson and Nick were in the more experienced group while she and Brittany were in the less experienced group. Within the less experienced group, Haley made the separation between her and Brittany based off of their experience. Brittany was more experienced than Haley, but not as experienced as Alyson and Nick. Haley associated Nick and Alyson with coming up with more ideas and dominating. Haley also gave up power that she had to make decisions in her classroom to her teammates because of her lack of experience in the classroom. Brinley specifically assigned Kendra with the most power, based off of the most experience, and Catherine with lesser power than Kendra. Thus, the beginning teachers already had political distance with their teams even before they started teaching since they associated power to make decisions with experience. That is, these beginning teachers positioned themselves to have less power in their classroom and gave that power to their teammates.

Each mentee had political closeness associated with their grade level teams. In Haley's case, she created political closeness with Brittany. Haley would go to Brittany when she was overwhelmed with some of the ideas that Alyson and Nick were doing in their classrooms. Haley managed her emotions around Alyson and Nick, but not Brittany. Haley knew that what she had

to say would be valued by every member of her team, but she chose to not disclose as much in those meetings because of her lack of opinions associated with her lack of experience. Brinley, on the other hand, was the person that her team would turn to to provide mathematical correctness. Brinley spoke on how each member of her team had power and how their ideas would be valued showing political closeness between the team members. Both teams provided spaces for the beginning teachers to know that their ideas would be valued just because they are a teacher on the team, which were instances of political closeness. It takes time to build a cohesive team and these instances of political closeness show that the political distance they may have started with can possibly diminish altogether.

The mentors and mentees viewed different groups as authority figures in deciding how they teach. When asked if anyone had power in how the mentors taught, they both mented the administration. They stated how the administration had not stated one way or another in how they should teach. Nick did mention how his team influenced him, but he ultimately decided how to teach in this classroom. The mentees did not mention the administration, but focused on their grade level teams and the greatest influence in how they taught. We can see that the mentors view the administration as authority figures, whereas the mentees view their team as having the power to determine how they teach.

## CHAPTER FIVE: CONCLUSION

Traditional teaching still persists as the most common way to teach mathematics despite reformed teaching being better at equipping students to reason and communicate mathematically (Silver & Stein, 1996). Many teachers that want to teach reformed often conform to traditional teaching within their first several years of teaching because the emotional labor to continue teaching reformed is too high. To better understand how we can support these beginning teachers, I looked at their experiences through the lens of teacher emotions. Teaching is an extremely emotional profession, yet there are not many studies on teacher emotions. To understand how we can better support beginning reformed teachers, they need to be studied in a place where the beginning teachers are most likely to succeed. I argue, this success happens where the emotional labor for a teacher is low. The emotional labor of teachers is lowest when they have support. I argue beginning reformed teachers feel the most support when they have a mentor who can support them in teaching reformed mathematics.

To study teacher emotions systematically, I used Hargreaves (2001) emotional geographies framework. There are five emotional geographies: moral, political, physical, professional, and sociocultural. Using this framework, this study was able to answer the following question:

What kinds of emotional distance or closeness are evident in mentor teachers and beginning teachers as they discuss their individual practices and collaborative efforts to enact reformed teaching mathematics teaching practices?

My study showed what distance and closeness emotional geographies were present as teachers discussed their teaching and the relationships they have with their colleagues and mentee/mentors.

In this chapter, I state the contributions my study makes to the field of mathematics education. I then outline implications for research and practice. Next, I identify the limitations of this study and state suggestions for future research that will address the limitations of this study as well as the how we can understand teacher emotions and the process that teachers take to be reformed teachers

### **Contributions**

This study makes several contributions to the field of mathematics education. This study adds four critiques to Hargreaves (2001) emotional geographies framework. First, distance is not the only part of the emotional geographies spectrum in which negative emotions are evident. They can also occur with closeness. As the framework focused on distances only, it implied that the distance is the only means by which there could be negative emotions. By this study providing examples of closeness, we can verify that emotional labor can be evident on both sides of the spectrum. Using Hargreaves' framework answered the call to study emotions more systematically (Zembylas, 2003; Uitto et al., 2015). Second, emotional landscapes are not the same for each individual and each person has a different spectrum of emotional geographies. Third, a person can only be close or distant, but that is not the case. There are instances in which a person can be both, this might seem contradictory, but we need to treat teachers as sensible systems (Leatham, 2006). Fourth, I was also able to add the idea of *desiring* a certain emotional geography. In the framework Hargreaves explained closeness and distance, but not a participant wanting closeness or distance. For example, Haley desired moral closeness with the 8th grade team so that she would have other teachers to collaborate with.

In addition to the critiques of the framework as written by Hargreaves (2001), my study adds to the field by extending the emotional geographies framework in several ways. First, I was

able to provide multiple examples of moral, political, physical and professional closeness. In the emotional geographies framework described in other research, there were no specific examples of closeness, only distance. Since my data did not lead to any sociocultural examples, I was not able to add to the framework examples of sociocultural closeness. Second, I add the idea of a hierarchy among the emotional geographies. Specifically, with mathematics education, it seemed that the moral emotional geography influenced the other emotional geographies. Third, a lack of knowledge created distance between people. The lack of information can create distance and a way to get rid of that distance is to educate the uneducated party. Research on emotions is still in its infancy and not many studies study emotions systematically (Zembylas, 2003; Uitto et al., 2015).

The results of my study showed the importance of having morally close people or allies when teaching reformed mathematics. As I have discussed, Brinley would have burned out without her morally close team and allies at other schools. Nick commented on how new reformed teachers conformed to traditional teaching when no one on their team taught traditionally. I was able to understand better how having supportive reformed mentors and allies diminished the emotional labor for the beginning teachers and allowed them to keep teaching reformed. Wood et al. (2012) described how content specific mentoring is not discussed enough in the field and this research adds to that area. Beginning teachers that have a content specific mentor feel more supported and collaborate more with their colleagues (Martin et al., 2016). I add that it is vital that beginning reformed math teachers not only have math mentors, but reformed math mentors that can help them with their pedagogical needs. This conclusion is consistent with the results of my study by first discussing reformed content specific mentoring and second by the mentees feeling supported and collaboration with their math teams.

My research highlights how beginning teachers may associate experience with power and how the most powerful teachers were the most experienced teachers. That is, beginning teachers may tend to position themselves as having less power and give away the power they have to other teachers until they get their footing under them. As Kendra stated, new teachers need to know that they have something to offer and that their ideas are valued. This positioning is crucial for any mentor or induction program helping beginning teachers transition into the teaching profession.

My study adds to the field of mathematics education how important it is for administrations to understand reformed teaching. As I have discussed before, the lack of knowledge that the administration had of reformed principles led to the reformed teachers to feel less supported which created frustration for the reformed teachers that could be avoided if the administration was informed about reformed teaching principals. When administration is not knowledgeable about reformed principles they could inadvertently create emotional norms that make it harder to teach reformed and cause these reformed teachers more emotional labor. If we want more teachers to teach reformed then we need to make sure that the teachers are supported as much as possible, and this can happen when the administration is also informed about reformed ideas.

## **Implications**

### **Implications for Research**

Research on teacher emotions is still in its infancy and there has been a call for more systematic studies on emotions (Zembylas, 2003; Uitto et al., 2015). By using Hargreaves (2001) emotional geographies framework I was able to answer that call. Other researchers now need to continue to answer this call. Through the results of this study I was able to add to this

framework, but there still needs to be studies using this framework to build a better system to study emotions systematically.

This study showed how distance is not the only place negative emotions are evident. Individuals are complex and each person has a different emotional geography landscape and emotional geography can be defined by more than just closeness or distance. Wanting or desiring emotional geographies I believe can hold a lot of emotion by being in one closeness/distance and wanting another.

Adding closeness examples to the framework provides a way to contrast between the close and distance besides just having the distance which can open the door for more research on emotions and specifically emotions that are evident based on closeness emotional geographies. The idea that one emotional geography has more weight than other opens the door for forefront geographies and second geographies. In this study the lack of knowledge created distance, but does the lack of knowledge always create distance? There is a lot of research that needs to be explored to understand this framework and how it can help us understand teacher emotions.

### **Implications for Practice**

This study informs the work of teacher leaders and teacher educators. It is not always feasible to make sure that each beginning reformed math teacher gets a mathematics reformed oriented mentor that can support them in developing reformed pedagogy. If this is not the case, beginning reformed teachers need to be connected with other reformed teachers in the same school, district, or state. Reformed teaching book clubs can provide a space for beginning teachers to learn how to improve their practice, but to also make connections with other reformed teachers. Teachers leaders can start these book clubs and reach out to teachers educators to invite

beginning teachers to join. Having allies decreases the amount of emotional labor an isolated teacher will have.

This study informs the work for teacher teams mentors as they create a cohesive team. Beginning teachers can associate more experienced teachers with having more power or influence on the team. Beginning teachers can go into a teacher team and already be giving up their power to the other teachers. Conversely, veteran teachers can take the power more easily from beginning teachers if they have this mindset. Team leaders need to be aware of this possible dynamic and help the beginning teacher know that they have power and add value to the team. For example, Kendra stated how it was her job as a mentor to make sure that the new teachers had a voice. She would do this with Brinley by constantly asking what her opinion was on team matters.

Reformed teaching is drastically different from traditional teaching (Ma & Singer-Gabella, 2011). Along with Steele and colleagues (2015), researchers need to work on educating administrators and instructional leaders to be able to better support reformed mathematics teachers. For example, Haley mentioned how it caused problems in her school when her administration did not understand the difference between reformed and traditional teaching. Educated administration can lead to emotional norms that do not add extra emotional labor to teachers implementing reformed teaching. Educating instructional leaders can include designing and implementing a professional development that focuses on mathematical content and teaching that content (Steele et al., 2015). By educating the instructional leaders at the school, we can better support reformed teachers and diminish frustration that they may feel otherwise.

## **Limitations and Directions for Future Research**

One limitation for my study is that I only had four participants, two mentors and two mentees. With this limited number of participants I was only able to scratch the surface of understanding the emotions of mentor and mentee reformed teachers. Additionally, my study only spanned over the course of a few months. To understand the emotions of this population, a possible direction for future research is to have a study with more participants and to interview teachers over the course of an entire school year or multiple years.

A limitation to my study is that I did not have any sociocultural emotional geography data. All of my participants had a similar cultural background and thus the sociocultural emotional geography I hypothesize was not present. Another study where the sociocultural emotional geography was present would add greatly to the field of mathematics education and emotions. We do not know how the sociocultural emotional geography is influenced or influences the other emotional geographies.

With all of my participants, each grade level team member was a reformed teacher, while all the rest of the math grade level teams at the school were traditional teachers. I do not know how the dynamic of the team and emotional geographies would be influenced if the mentors/mentees had traditional teachers on their grade level team. Possible future research could be to search this idea. Doing a comparative study between this possible future research and my study would add to the field how inside team moral distance influence the emotional geographies.

Another limitation for my research is that I never got to see how the other members of the mentors/mentees team interacted with the mentors/mentees. The participants talked about other members of their team that were not a part of my study. I did not ever see how the entire grade

level teams interacted with each other. I also videotaped my participants. Since I was there with a video camera, this could have altered how the participants acted. For future research a way to combat this is to videotape a few team meetings. Other researchers could also interview the other members of their team to get a bigger picture of the entire team dynamic beyond just the mentor/mentee relationship.

### **Conclusion**

Too many teachers do not have support to teach reformed mathematics and conform to traditional teaching because the emotional labor is too high. To understand the process it takes for teachers to teach reformed, I examined the emotions of reformed-oriented mentors and mentees by using Hargreaves (2001) emotional geographies framework. I established the emotional closeness/distance that the teachers had with faculty at their school. Researchers must attend to teacher emotions to understand the emotional management and labor that teachers have while trying to enact reformed teaching. Increased understanding of the emotional labor novice reformed teachers engage in leads to developing tools to mediate this emotional labor such as a reform oriented mentor teacher and other possibilities for mathematics teacher education. These actions alleviate stress leading to less burnout and, therefore, greater teacher retention. The field can benefit from reformed mathematics teachers staying in the field, growing their practices, and while being excellent mathematics teachers serving students, also provide stronger examples to prospective and practicing teachers of successful reform oriented teachers. Increasing the reform oriented teachers in the school system has great power to change the direction of mathematics education in general and the opportunities for students to learn.

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## APPENDIX A: MENTEE FIRST INTERVIEW PROTOCOL

All of the numbered questions were asked to the participants. The lettered questions were optional follow up questions that were in the moment decisions to ask during the interview.

1. “In comparing your teaching of math with other teachers at your school (both veteran and new), what ways do you think your teaching is the same/different?” (McGinnis et al., 2004, p. 725)
2. Do you feel like you have support to teach reformed?
  - a. What kind of support do you have?
  - b. What kind of support do you wish you had?
3. Anything frustrating about teaching reformed?
  - a. Anything rewarding about teaching reformed?
4. Are there any constraints that you feel as you teach?
  - a. What are those constraints?
  - b. Where do they come from? (teachers, parents, students, admin, curriculum).
5. Is there anyone or several people that you go to when you have questions about teaching?
  - a. Why do you go to that person(s)? How often do you go to that person(s)?
6. How often do you meet with your team?
  - a. Is it a productive meeting?
  - b. Do you wish you met more frequently or less frequently?
7. Do you feel like your teaching philosophy aligns with your mentor/mentee?
8. What is your relationship like with your mentor/mentee?
9. What support do you think a beginning teacher needs?
10. What support do you think you need?
11. Is your mentor meeting those needs?
12. What do you think your mentor is doing for you?
13. How do you communicate your needs to your mentor? Or do you not?
14. What kinds of problems or issues, or excitements do you take to your mentor teacher?
  - a. Give me 2 examples of what you went to your mentor teacher about?
15. What do you think the mentor teacher gets out of your relationship?
16. Is there anyone or a group of people that hold more sway (power) when it comes to decisions in how you teach? (like certain teacher that has more power than others)
17. Do you feel like you have a voice on your math team?
18. What role do your personal feelings about reform instruction play in how you interact with members of your team? parents? students?
  - a. What role do your personal feelings about traditional instruction play in how you interact with members of your team? parents? students?
19. Do you feel like what you have to say is valued by other teachers or your mentor/mentee?
20. Is there anything else that you want me to know?

## APPENDIX B: MENTOR FIRST INTERVIEW PROTOCOL

1. “In comparing your teaching of math with other teachers at your school (both veteran and new), what ways do you think your teaching is the same/different?” (McGinnis et al, 2004, p. 725)
2. Do you feel like you have support to teach reformed?
  - a. What kind of support do you have? What kind of support do you wish you had?
3. Anything frustrating about teaching reformed?
  - a. Anything rewarding about teaching reformed?
4. Are there any constraints that you feel as you teach?
  - a. What are those constraints?
  - b. Where do they come from? (teachers, parents, students, admin, curriculum).
5. Is there anyone or several people that you go to when you have questions about teaching?
  - a. Why do you go to that person(s)?
  - b. How often do you go to that person(s)?
6. How often do you meet with your team?
  - a. Is it a productive meeting?
  - b. Do you wish you met more frequently or less frequently?
7. Do you feel like your teaching philosophy aligns with your mentor/mentee?
8. What is your relationship like with your mentor/mentee?
9. What do you see is your role as a mentorship with the beginning teacher? Purpose in mentor.
10. What particular support do you think you are offering to the beginning teachers?
11. What are you offering the beginning teacher?
12. What do you get out of your relationship with the mentee teacher?
13. What support do you think a beginning teacher needs?
14. Do you feel like you meet the beginning teachers' needs?
15. Is there anyone or a group of people that hold more sway (power) when it comes to decisions in how you teach? (like certain teacher that has more power than others)
16. Do you feel like you have a voice on your math team?
17. What role do your personal feelings about reform instruction play in how you interact with members of your team? parents? students?
  - a. What role do your personal feelings about traditional instruction play in how you interact with members of your team? parents? students?
18. Do you feel like what you have to say is valued by other teachers or your mentor/mentee?
19. Is there anything else that you want me to know?

## APPENDIX C: FIRST PAIR GROUP INTERVIEW PROTOCOL

1. What stood out to you in the article?
  - a. Why do you think that stood out to you?
  - b. What emotional response did you have as you read that?
2. [The first question was repeated until there were not any responses]
3. The article talks a lot about community. How have you built your community?
  - a. What have you done to continue to build or sustain your community?
4. “I am not supposed to be here” moments. Have you had these moments? (p. 194)
  - a. Would you be willing to describe that situation?
5. What should people do to diminish hierarchies in their community? (p. 193)
6. What are your potential biases, when were those moments illuminated for you? (p. 193)

## APPENDIX D: SECOND PAIR GROUP INTERVIEW PROTOCOL

1. What stood out to you in the article?
  - a. Why do you think that stood out to you?
  - b. What emotional response did you have as you read that?
2. [The first question was repeated until there were not any responses]
3. Do you think creative insubordination is a good thing? Should teachers be doing this?
4. Do you feel like you are currently using creative insubordination? Or have you in the past? Do you see yourself using it in the future?
  - a. If so, is there an example that you would like to share?
5. Would you add any strategies to this list or do you think that some of these strategies are not helpful?
6. Are you drawn to a specific strategy over other strategies?
  - a. Are you more comfortable with certain strategies over other strategies?
7. P. 55 under seek Allies→ they said that this is especially important for newer teachers. Why do you think they said this?

## APPENDIX E: FINAL INTERVIEW PROTOCOL

1. Was there anything else that you wanted to bring up from the article or in the group interview and did not?
2. Is the conversation/interaction that you had with your mentee/mentor typical to normal interactions?
  - a. If not, how is it different?
3. [Other questions come from clarifying specific moments from the first interview and/or the group interview]