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Mentor Teachers as Reciprocal Learning Partners for Equity

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Education

by

Amber Marie Green

2023

ABSTRACT OF THE DISSERTATION

Mentor Teachers as Reciprocal Learning Partners for Equity

by

Amber Marie Green

Doctor of Education

University of California, Los Angeles, 2023

Professor Nicole Anne Mancevice, Chair

This study examined how mentor teachers' perceptions of reciprocity and ideas around equitable teaching practice were cultivated within the context and practice of the Reciprocal Learning Partnership framework. For this study, I analyzed twenty paired interviews with ten mentor teachers and mentees participating in an urban teacher residency program. During these interviews, participants were asked to describe the successes and challenges of mentoring, perceived equity issues in the classroom, and the impact of mentoring on their own practice and that of their mentee. Findings from this study illustrated themes of identity, reciprocity, and equity and the types of equity actions, if any, that were co-created between mentor and mentee. In highlighting the promising Reciprocal Learning Partnership framework in teacher preparation, the findings from this study also provide insight into how future generations of educators can be better prepared and developed to serve as social justice leaders.

The dissertation of Amber Marie Green is approved.

Christina A. Christie

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Nicole Anne Mancevice, Committee Chair

University of California, Los Angeles

2023

DEDICATION

To my mom, Jeanette,

who has exemplified hard work, strength, and perseverance in the toughest of times,

and who, without fail, has been and remains my number one champion.

Thank you for always encouraging me and believing in me.

&

To the joys of my life:

Jack and Oliver

You are blessings beyond my wildest dreams.

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CHAPTER 1: INTRODUCTION

Developing high quality teachers to serve in our nation's highest need schools has long been a challenge for university teacher preparation programs (Berry & Shields, 2017, Darling-Hammond & Wei, 200m Darling-Hammond & Berry, 2006). Preservice teachers who set forth to work in high need urban schools face major obstacles when entering the profession, including lack of resources, insufficient training and preparation, safety and personal concerns, cultural competency deficiencies, and lack of support (Creasey et al., 2016). Developing support for preservice teachers also points to the vital need to recruit skilled mentor teachers (i.e.experienced educators who are trained to supervise and guide preservice teachers during their student teaching), as new teachers who do not receive adequate mentoring, particularly in high need schools, leave the profession at twice the rate of teachers who do (Podolsky et al., 2016).

Critiques of teacher preparation programs argue that it is not enough to expose prospective teachers to "best" practices of teaching linguistically, culturally, and ethnically diverse students (Darling-Hammond & Berry, 2006; Oakes et al., 2002; Milner et al., 2013). Rather, preservice teachers need to develop the knowledge, skills, and dispositions necessary for them to be competent teachers of diverse student populations. This training and preparation is vitally important and has remained a major policy issue in teacher education in the United States for many years (Horsford et al., 2011; Milner, 2000).

For preservice teachers to develop the aforementioned dispositions, it is crucial that they and their mentor teachers engage in critical reflection to examine and interrogate their individual experiences, personal, and professional identities. This critical self-reflection helps teachers uncover biases, assumptions, and beliefs about teaching students who are culturally, ethnically,

and linguistically diverse (Howard, 2003; Milner, 2000). The opportunity for critical reflection is particularly important as the student population in U.S. schools continues to diversify while the background of teachers in U.S. schools remains predominantly White. It is well documented that in schools where there are a majority of students of color, the majority of teachers are White (Darling-Hammond & Berry, 2006; Schaeffer, 2021; Sleeter, 2017; U.S. Department of Education, 2017-18). Thus, the process of interrogating one's identity and positionality as an educator in relation to their diverse student composition is imperative. This allows a teacher to incorporate pedagogies that are culturally relevant and sustaining (Douglas & Nganga, 2013). This awareness of social identity matters because it can shape the kinds of interactions teachers have with their students as well as influence decision-making in classroom and instructional practices (Henry & Mollstedt, 2021; Sleeter, 2017).

The aim of this study is to understand how critical analysis of reciprocity and equitable teaching can shape the cultural responsiveness and professional growth of the mentor teacher during the student teaching placement. Additionally, this study seeks to examine a promising teacher residency program that employs the Reciprocal Learning Partnerships for Equity (RLP) framework (Orange et al., 2019; Orange & Isken 2021) for engaging preservice and mentor teachers as collaborators in the classroom. This framework is grounded in (a) the reciprocal relationships between the mentor and preservice teacher and (b) the co-constructed learning and discussions about equity issues and actions in order to develop cultural competence and dispositions to teach a diverse group of students. Conventional mentoring models typically privilege mentor teacher talk and experiences (Canipe & Gunckel, 2020; Orange et al., 2019; Orange & Isken, 2021). However, this study investigates the dismantling of the traditional mentor-mentee hierarchy. Thus, the purpose of this study is to inform the way teacher education

programs develop the professional practice of mentor teachers by positioning them as reciprocal learning partners with their mentee. A primary focus of the mentoring program is to improve equitable outcomes for students through teacher critical self-analysis. The ability of the mentor and mentee teacher to critically reflect and share a willingness to be challenged by one another can generate actions that dismantle inequities in schools and classrooms and positively influence the outcomes of students most underserved in our education system (Orange et al., 2019; Orange & Isken, 2021).

Background of the Problem

Persisting scrutiny and criticism of public education often shines a spotlight on the purported reasons for what troubles our school systems. Some indicators of underperforming schools include low standardized test scores and high rates of suspension (Howard, 2010; Sleeter, 2001). Typically, the blame for these issues falls onto teachers and students. For example, proliferating standardized testing data fixates the national discourse on very narrow views of achievement (Ladson-Billings, 2014). Despite federal reforms, there is still an intense emphasis on standardized testing at the state level. When students, and particularly students of color, do not "pass" these standardized tests, the result is often more tests, a narrowing of the curriculum, and more preparation for and "teaching to the test" (Saultz et al., 2019). Additionally, there is an inherent blaming that occurs—a blame focused on students (and their families) and teachers (Kumashiro, 2012; Latta & Olafson, 2006) that fails to acknowledge the structural inequities that lie at the base of our educational system (Duncan-Andrade, 2007). The blame highlights a deficit-orientation that refuses to see the academic strengths and successes that many students do exhibit and frames academic achievement as a one-dimensional and static construct (Nieto, 2002). With a focus on testing and stubbornly held deficit beliefs, public

schools are stripped of many things that encourage students' critical thinking and creativity (e.g. art, science, social studies, music, physical education, etc.). This creates expectations for teachers that prioritize predetermined outcomes over responsive teaching and learning that values exploration and critical thinking. For many new and preservice teachers, this means enacting a pedagogy based on worksheets from scripted curricula—something that neither drew them to the profession nor brought them a sense of worth as professionals (Borrero et al., 2016).

Traditional preservice teacher preparation programs narrowly focus on instructional practices and content, specifically for the novice teacher (Hudson, 2016), and there has been little emphasis on the development of the mentor teacher despite their significant role in modeling instructional practices and behaviors towards students. There is sparse research on the impact of preservice teacher relationships with mentor teachers regarding transforming the mentor teacher's practices. It is often assumed that an experienced teacher translates into an effective mentor, yet this is not always the case (Goldhaber et al., 2020; Schaeffer, 2021). Experience is only one dimension of effective mentorship. Consideration also needs to be given to how experienced teachers serving as mentors are able to critically examine how relationships, positionality, identity, and bias affect the work they do around content, instruction, and processes in schools (Pham, 2018).

There is a general belief among educators and scholars that you cannot shift inequitable practices if you do not understand how these inequities are historically situated in schools (Howard, 2003; Ladson-Billings, 2014; Orange, 2019). Implications from the literature of mentor and preservice teacher preparation describes teachers' critical reflection of equity in classrooms as challenging work, particularly when it positions a very experienced teacher as a vulnerable learner reflecting on their own long-standing practices (Ambrosetti et al., 2014;

Douglas & Nganga, 2013; Orange & Isken, 2021). Therefore, the work of mentoring demands a relationship of trust and an understanding of identity and positionality of individuals in the mentoring relationship. That stated, there is sparse research on the impact of preservice teacher relationships with mentor teachers regarding transforming the mentor teacher's practices.

Many teacher education programs today describe themselves as social justice-oriented and declare their programs' ability to prepare new teachers for culturally responsive teaching. However, this may not be effective if a large contingent of pre-service teachers are White and have not done the personal and professional work necessary to be culturally responsive and equity-minded (Crowley & Smith, 2020; Sleeter, 2017). In fact, teacher preparation programs in the U.S. consist of 80% White cohorts of teachers even though White students are less than half of the K-12 population (U.S. Department of Education, 2016). In 2012, the U.S. teaching force was about 82% White, showing little change in the share of White teachers. Of prospective teachers enrolled in traditional programs, 74% were White, of those enrolled in university-based alternative programs, 65% were White, and of those enrolled in non-university-based alternative programs, 59% were White (U.S. Department of Education, 2016). White students complete university teacher preparation programs at considerably higher rates than students of color, so these enrollment statistics actually result in only incremental growth in the proportion of teachers of color in the workforce (U.S. Department of Education, 2016). In general, teacher education programs attempt to prepare their predominantly White cohorts to teach racially and ethnically diverse students through a course or two (often a foundation course) on multicultural education, culturally responsive pedagogy, teaching English language learners, or social justice teaching (Sleeter, 2001; Sleeter, 2017). Although some White teacher candidates do persist in learning to become strong teachers of racially and ethnically diverse students (Jupp & Slattery, 2012;

Ullucci, 2011), the literature also continues to report White resistance to (Crowley & Smith, 2020) and fatigue from (Flynn, 2015) talking about race and working across racial lines. Furthermore, it appears that the continued production of a predominantly White teaching force in programs that have added multicultural or social justice content, who then teach in schools that emphasize raising test scores, does not significantly alter the deficit lens teachers use to understand their students of color (Hytten & Warren 2003; Marx & Pennington, 2010; Sleeter 2017).

In a quest to continue the commitment to social justice and equity in public schools, there remains a large growth potential pertaining to developing effective teachers who are culturally competent and critically conscious to effectively teach the diversifying student population in U.S. schools. Many scholars (Brooks & Miles, 2010; Gay, 2000; Horsford et al., 2011; Ladson-Billings, 1995; Oakes, 1996; Sleeter, 2017) have broken ground in this area through their various perspectives on the issue of educating preservice teachers and leaders on culturally relevant pedagogy, culturally responsive teaching, multicultural education, culturally relevant leadership, and preparing mainly White preservice teachers to teach diverse students. These scholars propose that preservice teachers be prepared as "generative change agents" (Oakes, 1996) who are reflective, inquiry-based practitioners. Additionally, preservice teachers should have both content knowledge and critical pedagogical skills that are grounded in equity, anti-racism, and culturally responsive pedagogy (Francois & Kawasaki, 2019).

Problem Statement

While traditional university-based teacher preparation programs continue to prepare and credential the majority of the nation's preservice teachers, research suggests that preparation models focus on content, theory, and the tasks of teaching (e.g. lesson planning). These tasks

alone are not preparing future teachers for work in more diverse urban school districts. Teachers entering the workforce need to have more than a minimal or perfunctory focus on understanding issues of equity and training in culturally relevant pedagogy (Howard, 2003; Ladson-Billings, 2014; Ulluci & Howard, 2015). To address these concerns, teacher residency programs that allow for a year-long clinical placement are showing promise in several districts throughout the country (Patrick et al., 2023). Even so, there remains a challenge of how to recruit and train supervising teachers who have both the experience with culturally relevant pedagogy and who have developed equity stances (Oakes, 1996; Francois & Kawasaki, 2021, Orange et al, 2019). To further clarify the distinction of a teacher residency, I will subsequently provide definitions to delineate "traditional" and "non-traditional" teacher preparation programs.

Traditional teacher preparation programs are often geared toward undergraduate teacher candidates, and the programs generally include liberal arts courses to build broad content knowledge, specialized content knowledge for candidates teaching at the high school level, and a culminating student teaching experience (National Council on Teacher Quality, n.d.). Preservice teachers are typically required to complete 10-15 weeks of student teaching (roughly one quarter to one semester), and the programs are often criticized for being too focused on content and theory and disconnected from authentic clinical experiences (Guha et al., 2016). The traditional teacher preparation model focuses on the mentor, or expert, supporting the mentee with goal setting, data analysis, reflection, and learning new teaching skills, thereby empowering the mentor as they guide the less prepared mentee and creating a hierarchical relationship (Orange & Isken, 2021). Traditional programs produce about 80 percent of the nation's teachers (National Council on Teacher Quality, n.d.). Non-traditional teacher education programs encompass any

program that deviates from this "traditional" model and include programs like Teach for America (TFA), alternative licensures and certification, and teacher residency programs.

In contrast to the traditional education programs that produce 80% of the U.S. teacher workforce, non-traditional programs encompass any program that deviates in any respect from the "traditional" model of university based teacher education programs (National Council on Teacher Quality, n.d.). Teacher residency programs, which are modeled on medical residencies, allow residents to work alongside an experienced mentor teacher for a full school year while completing coursework that is connected and integrated with their classroom placement. High-quality residencies offer teacher candidates a curriculum that is tightly integrated with their clinical practice, which creates a more powerful learning experience (Guha et al., 2016). Recent research suggests a few key benefits of residency programs: graduates of residency programs stay in their districts at higher rates than those who choose other pathways, thereby creating stability; they are effective based on principals' evaluations and students' performance; and teacher residents are more racially diverse than cohorts of teachers from other pathways. (Patrick et al., 2023). The residency program under study for my dissertation is called "STEM Urban Teacher Residency" (STEM UTR). This residency program is grounded in the RLP framework, which I expound upon later in this chapter.

Well-designed and well-implemented teacher residency models lend themselves to mentor training opportunities that focus on issues of equity and cultural competence (Guha et al, 2017; Patrick et al., 2023). In the case of STEM UTR, preservice teachers in the program noticed and reported that their mentors might be reproducing inequities in their classrooms. This led the STEM UTR program members to evaluate how mentors guided novices through lesson design and best practices. What they noticed was that these practices were uninterrogated from an

equity point of view (Orange et al., 2019; Orange & Isken, 2021). Ultimately, this evaluation led to redesigning the approach to mentor development in STEM UTR. The STEM UTR program utilizes the Reciprocal Learning Partnerships for Equity (RLP) framework that envisions a relationship between the novice and mentor as a partnership moving together to take action toward equity (Orange & Isken, 2021).

While it is well known that mentor teachers play an essential role in developing preservice teachers' practical knowledge and skills about teaching, there is less attention paid to how the intensive field experiences with preservice teachers influence the ways in which mentors perceive their roles and (re)construct their identities as teachers and teacher educators. In this context, I use the prefix (re) or “re” as an indicator that a teacher is revisiting a concept they once knew or once engaged in. Research suggests that examining identity is important for developing culturally-relevant pedagogy in both pre-service and mentor teachers, and this study explores how RLP is advancing reciprocal relationships between preservice teachers and mentors that enable the mentors to interrogate who they are as educators of diverse student populations, and ultimately co-construct equity actions with their preservice teacher.

This statement of the problem is premised with an understanding that identity markers such as race, ethnicity, class, or gender are not static but fluid and thereby impact the educational dynamic between mentors, mentees and the students in their classrooms. In this regard, Cochran-Smith (1995) contends that it is crucial for educators to understand their identity with this kind of examination, beginning with investigating “our own cultural, racial, and linguistic backgrounds and our own experiences as raced, classed, and gendered children, parents, and teachers in the world” (p. 500). It is also premised on the notion that in order to promote equity for marginalized

students, the mentors of the future teaching pool must interrogate their identity and positionality so as to not reproduce inequity in the classroom.

Research Questions

To address the problem above, I chose to study the STEM focused urban teacher residency program (STEM UTR) that utilizes the RLP framework. The research questions for this study are as follows and apply to mentors in this program:

1) What are STEM UTR mentor teachers' ideas about reciprocity?

2) What are STEM UTR mentor teachers' ideas about equitable teaching?

3) In what ways, if any, do the STEM UTR mentor teachers make connections between their ideas about reciprocity and equitable teaching?

Target Population and Research Site

The target population for this study is mentor teachers from a STEM focused urban teacher residency program located in a large Southern California metropolitan university. A research team conducted personal interviews with 10 mentor teachers and their student teacher residents. These mentors were selected to include a variety of diversity of identities (race, class, gender, orientation, etc.) and backgrounds. These teachers serve in culturally and linguistically diverse public schools in Southern California that serve under-resourced and under-represented students. The STEM UTR Teacher Residency Program prepares aspiring teachers to become social justice STEM educators, and it is a federally funded residency grant that adheres to three goals:

1. To increase the number of teachers who are authorized to teach Computer Science

2. To develop a Computer Science pathway and courses that are integrated into the teacher education program, and
3. To develop a community of practice to share the work going forward.

The university where this study is situated has both a teacher education program and a teacher residency program. These are housed within the larger graduate school of education where there are a total of five practicum-based pathways towards a teaching credential. For the purposes of this study, however, I focused on a science, technology, engineering, and mathematics urban teacher residency program called "STEM UTR." STEM UTR offers specialized urban teacher preparation in the form of a combined, full-time preliminary teaching credential and master's degree program. This program specifically requires a one-year preservice teacher practicum within a guiding teacher (mentor) classroom. Program requirements include the completion of required coursework in the field of education, participation in a practicum, and successful performance on assessments leading to a preliminary teaching credential.

Research Design

I used a qualitative research design for this study as this method helped me to explore and understand the people and the events that influence them in relation to the problem of practice being explored (Maxwell, 2013). I used descriptive data collected from 20 interviews (two interviews with each of the 10 mentor-mentee partnerships) in order to learn about the role of critical self-analysis around teacher identity and positionality. This data was used to answer my research questions related to mentor teachers' ideas about reciprocity and equitable teaching and the connections they made between the two concepts in the context of their learning partnership.

Significance of the Research

As the data and research on the impact of teacher preparation programs on the professional development of veteran teachers through their roles as mentors is emerging (Chu, 2019), the findings of this study may be of interest to university teacher preparation programs, specifically those focused on social justice education or those preparing teachers to serve in diverse urban schools. The findings from this study can also potentially inform preservice teacher preparation programs on how to leverage the mentor/mentee relationships to grow and develop both teachers, transform practices in the classroom, and provide more equitable outcomes for all students.

By intentionally examining identity and positionality, preservice teacher preparation programs can confront and address the issue of "colorblindness." For example, Ukpokodu (2014), after describing the troubled history of the University of Missouri at Kansas City, examines its "turning point" to intentionally improve its university–school partnerships, and strengthen its pipeline for students of color to enroll in the university and its urban-focused teacher preparation program. Bartow et al. (2014) share the history and framework of the Grow Your Own Teachers initiative in Illinois, a partnership involving several community organizations and Northeastern Illinois University to develop a pipeline into teaching for paraprofessionals and parents from communities of color who are committed to teaching in their communities' schools. Zygmunt and Clark (2015), based on their work at Ball State University, show how a teacher education program can be substantially restructured through sustained engagement with the local community. These examples highlight the nascent yet exciting work in this area and indicate a need for continued research on this topic to prioritize the importance of reciprocal relationships.

There is also potential to develop an infrastructure within colleges of education to recruit and retain culturally responsive mentor teachers who have a self-awareness of identity and positionality. Professional development in teacher preparation programs can be more robust in supporting mentor/mentee relationship dynamics, teaching dispositions in mentees, and addressing mentoring in experiential learning contexts. This study may also shed light on how these formative experiences affect current performances of both mentors and preservice teachers. This exploration of narratives of all participants in this study can help interrupt deficit ideas around students attending urban public schools (Achinstein & Athanases, 2005; Achinstein & Barrett, 2004; Douglas & Nganga, 2013; Pham, 2018), thereby making the learning process more equitable and aspirational for underserved students and students of color.

CHAPTER 2: LITERATURE REVIEW

In an environment that is often dominated by discussions of accountability measures and high stakes testing in our nation's public schools, the important policy issue of effective teacher preparation and training in the United States persists (Horsford et al., 2011; Milner, 2000). Compounding the need for effective teacher preparation and training is the post-pandemic reality of increased teacher vacancies. School districts across the nation have had to hire unprepared teachers (Hong, 2022). For instance, in a Fall 2021 study of 12 California school districts, all districts had hired teachers on intern credentials, permits, and waivers, and 10 of the 12 districts hired "about the same or more teachers on substandard credentials compared to pre-COVID years" (Carver-Thomas et al., 2022, vi).

One promising intervention to train well-prepared teachers to work in increasingly diverse school settings is mentorship programs, including ones with a teacher residency model that features intensive field experiences (Carver-Thomas et al., 2022; Roegman et al., 2016). A teacher residency model is where preservice teachers (residents) work side by side with an experienced mentor teacher for a year of clinical training, and residents also complete courses in their university preparation program (Guha et al., 2017; Lambert, 2023; Patrick et al., 2023). Teacher residency models between university-based teacher education programs and school-based clinical experiences have shown promises in recruiting, educating, and retaining teachers for high need schools with diverse student populations (Butler & Cuenca, 2012; Guha et al., 2017; Roegman et al., 2016).

There is sparse literature that discusses how teacher preparation programs might develop the cultural responsiveness of the mentor teacher by unpacking biases and repositioning the

mentor as a learner. This is important to understand because the majority of new teachers entering the workforce in the United States are particularly underprepared for and are disproportionately placed in classrooms with students of color, from low-income families, and with diverse language abilities (Achinstein & Athanases, 2016; Darling-Hammond, 1997; Oakes, 1990). However, the ability of a teacher to critically reflect on their own identities and beliefs is essential to developing as culturally competent educators to serve these students (Gay & Kirkland, 2003; Howard, 2003; Henry & Mollstedt, 2021; Latta & Olafson, 2006, Pham, 2018; Rainville & Jones, 2008; Sleeter, 1993). Thus, training mentors to be equity-focused subsequently supports and prepares novice teachers to serve in schools where structural inequities are pervasive.

This literature synthesis explores the traditional positioning of the mentor teacher in teacher preparation programs and the evidence suggests that teacher preparation programs, specifically teacher residencies, can guide critical reflection that leads to new understandings of teaching and culturally responsive pedagogical practice. I begin with a brief discussion of the history of traditional teacher preparations programs and the development of teacher residency programs as a promising practice. I then explore the traditional, and sometimes limiting, roles of mentoring when solely viewed as a hierarchical relationship between mentor and mentee. Next, I explore teachers' critical reflections on their clinical teaching experiences. With teaching candidates' reflections in mind, as well as the promise of residency programs, I review existing interventions that both show promise and highlight continued challenges for such programs. This section includes a brief overview of the program that is the focus of my study. The program implements the Reciprocal Learning Partnerships for Equity (RLP) framework, which positions

mentors as reciprocal learning partners. Finally, I situate my study in the conceptual framework of RLP, which is grounded in socio-cultural theory, critical race theory, and critical third space.

Overview of Teacher Preparation Programs

Historically, preservice teacher preparation programs have focused solely on instructional practices and content for the novice teacher (Bradbury & Koballa, 2008; Hudson, 2016); there has been little emphasis on the development of the mentor teacher in the program despite their significant role in modeling instructional practices and behaviors towards students. Traditional preparation programs are the ones we think about when a person says they are going to graduate school to become a teacher.

Non-traditional programs are simply defined as any "program that deviates sufficiently from the traditional model of preparation to require an explanation of at least a few sentences to convey its structure" (NCTQ, n.d., p. 1). There are many types of non-traditional programs in existence, however, for the purposes of this study, I will be focusing on the Teacher Residency Program model. Teacher residency programs are developed through partnerships between school districts and university teacher preparation programs. Teacher residencies are unique in that they are structured to allow novice teachers to work alongside a veteran teacher for a full school year, while the novice simultaneously completes coursework at the university. Research on the impact of the teacher residency program suggests that graduates of the residency have a much higher retention rate in their jobs than those teachers who have entered the profession through different program pathways (Learning Policy Institute, 2023; Patrick, et al., 2023). What is less explored within the context of these teacher preparation programs, and in particular within the context of the teacher residency, is how mentor teachers are selected and developed to support the novice and what the impact of their role is in the novice teacher's preparedness.

Traditional Roles of Mentoring

Existing definitions of mentoring tend to suggest a hierarchical relationship where the mentor is positioned as “expert” (Butler & Cuenca, 2012; Glaser, 2021; Orange et al., 2019; Parker et al., 2021). In traditional teacher education programs, mentor teachers are entrusted to guide novice teachers through lesson design and model best practices; they are rarely, if ever, interrogated about their practices (Orange & Isken, 2021). Many of the things that stop teachers from changing practices, and that have hurt students, are because they have not engaged in critical reflection on how relationships, positionality, identity, and bias affect the work they do around content, instruction, and processes in schools (Douglas & Nganda, 2013; Pham, 2018). Additionally, there is a general belief amongst scholars that you cannot shift inequitable practices if you do not understand how these inequities pertaining to race and culture are historically situated in schools (Howard, 2003; Orange et al., 2019). Teachers' ability to first critically reflect on their own cultural and racial beliefs and identity, and then subsequently build and maintain cultural competence and racial awareness, has a direct correlation to the success of the diverse students that they serve (Howard, 2003; Howard, 2010).

The description of “mentor as expert” is additionally problematic as it presumes that the mentor is higher ranked; therefore, mentors often assume the dominant role which creates optimal conditions for power struggles between mentor and mentee (Awaya et al., 2003). This hierarchy can have a serious impact on equity and access in schools as mentor teachers may unconsciously suggest practices that perpetuate inequities and continue to marginalize students (Canipe & Gunckel, 2020).

Even with the successes for preservice teachers serving in high need districts, scant research has focused on the mentors in residency programs. The role of the mentor teacher is

critical in developing a novice teacher's practical knowledge and skills about teaching, providing socio-emotional support, and guiding them into the teaching profession (Ambrosetti et al., 2014; Butler & Cuenca, 2012). However, less attention has been given to how the professional experiences of mentor teachers during the clinical teaching experience influences their professional practices and identities as teachers and teacher educators (Chu, 2019). Mentor teachers play a critical role in developing preservice teachers, the future educator workforce, in their practical knowledge and skills about teaching (Achinstein & Athanases, 2016). Thus it makes sense to invest in the development of the mentor teacher. Additional research is needed to identify the supports and types of development that is required to prepare mentors to support preservice teachers in learning to teach.

Teacher Critical Reflection in the Clinical Teaching Experience

Implications from the literature of mentor and novice teacher preparation describes teachers' critical reflection of equity in classrooms as challenging work, particularly when it positions a very experienced mentor teacher as a vulnerable learner reflecting on their own long-standing practices (Achinstein & Athanases, 2016; Howard, 2003; Howard, 2010). Critical reflection must be enacted to move towards antiracist and culturally responsive pedagogy. Teacher critical reflection can result in the realization of some uncomfortable truths about racial and cultural differences placing teachers, particularly mentor teachers, in a position of feeling vulnerable. Therefore, the work of mentoring and guided teaching demands a relationship of trust and an understanding of identity and positionality of individuals in the partnership.

In a continued commitment to social justice and equity in public schools, there remains a large growth potential pertaining to developing effective teachers who are culturally competent and critically conscious. Teachers who are culturally competent are aware of their cultural beliefs

and values, and they recognize that others hold beliefs and values that are different to their own. Culturally competent teachers are able to critically and consciously reflect, learn about, and honor the cultural values of others. This is important because the student population in U.S. schools continues to become increasingly different in background from the background of the predominantly White teachers that serve in the field of education (National Center for Education Statistics, 2017).

Key researchers have broken ground in the area of culturally responsive teaching through their various perspectives on the issue of educating novice teachers and leaders—Gloria Ladson-Billings (1995) on culturally relevant pedagogy, Geneva Gay (2000) on culturally responsive teaching, Brooks and Miles (2006) and Horsford et al. (2011) on culturally relevant leadership, and Sleeter (2017) on preparing mainly White novice teachers to teach diverse students. Additionally, there is sparse research on the impact of novice teacher relationships with mentor teachers in regard to transforming the mentor teacher's practices. Teacher preparation programs are beginning to address the need to critically develop the mentor teacher with new models of teacher preparation, specifically with clinical teacher residencies.

An example of this can be seen in urban teacher residency programs, such as the STEM UTR program that is the focus of my study. This program is situated at a large metropolitan university. STEM UTR focuses on preparing social justice educators from diverse backgrounds to teach math and science. STEM UTR is also the teacher residency program who developed the RLP framework to support preservice and inservice teacher learning. STEM UTR and other urban teacher residencies are unique from traditional teacher education programs involving student teaching in that the model emphasizes side-by-side work with the preservice teacher and an experienced mentor teacher for the entirety of a school year in a racially and culturally

diverse, high-need urban school setting. Preservice teachers in the residency are supported with upwards of 600 hours of time in the classroom with their mentor, while also completing closely integrated university coursework. Residency programs in California prepare approximately 1 in 10 new teachers and about 60% of residency completers are teachers of color (Patrick et al., 2023). Additional data collected by the Learning Policy Institute (2023) on California teacher residencies demonstrated that 90% of educators who completed one of these programs felt that they were well prepared by their residency programs and two thirds of cooperating districts rated the teachers hired from the residency as "well prepared" or "very well prepared."

Reciprocal Learning Partnerships for Equity

The Reciprocal Learning Partnerships for Equity (RLP) framework was developed as a response to addressing systemic equity issues in urban schools and the deficit thinking that continues to perpetuate around students of color. RLP is an open-ended framework used to collaboratively engage mentor and novice teachers in critical conversation and reflection. The framework creates a space to consider how an individual's identity and positionality may unconsciously lead to unexamined bias in selecting certain teaching practices (Orange et al., 2019; Orange & Isken, 2021).

RLP was developed as an alternative approach to coaching. In the previous iteration of the STEM UTR program, program members approached mentor support using a coaching model. However, positioning the mentor as coach became problematic as it reinforced the positional hierarchy of the veteran teacher. As a result, there were tensions in the mentor-mentee relationship when the mentee could see that there were inequitable practices taking place in the classroom. Yet, the mentee had little recourse to address or call out these practices when their mentors were expected to hold a one-sided coaching stance. Program members then sought out

to develop their own framework for supporting the relationship and learning of both the mentor and mentee with intentionality of leveling the playing field between these two individuals.

Thus, RLP was purposefully developed to address this issue with the foundational tenet and understanding that both participants (mentor and novice) bring their lived experiences, knowledge, and skills to their teaching and partnership in the classroom. Developing relational trust and reciprocity, examining one's identity and positionality, and taking an explicitly equity stance are also critical components of RLP (Orange & Isken, 2021). These characteristics influence their actions and behaviors, and with meaningful reflection, can be leveraged to improve student outcomes in the classroom (Orange et. al., 2019). This reflective practice in RLP is intentional. The framework points to the importance of creating intentional space for dialogue to uncover implicit and explicit biases that result in teaching practices that unintentionally marginalize students. This dialogue is reciprocal, meaning that both the mentor and the novice teacher share responsibility in calling out inequitable practices and in co-creating actions that lead to a cycle of inquiry that culminates in equitable outcomes for students.

Mentors and mentees learn about and practice these tenets of the RLP framework in a professional development series that is integral to the STEM UTR program. All participants in the program participate in a week-long Summer Institute where they are introduced to the purpose and rationale of RLP. Mentors and mentees then engage in on-going monthly professional development called "Partners in Practice." Professional development is critical to the development of both the novice and the mentor, as it addresses the erroneous assumption that good, experienced teachers automatically equate to good mentors (Darling-Hammond et al., 2018; Feiman-Nemser, 1998; Parker et al., 2021). Novice teachers consistently identify their teaching placement, and subsequently their mentor teacher, as the single most important factor in

their preparation for teaching (Parker et al., 2021; Valencia et al., 2009; Zeichner & Gore, 1990). Mentor teachers need substantive training to prepare for this important role of teaching and sustaining future teachers (Butler & Cuenca, 2012). Mentor curriculum and development is largely unexplored in the literature. This gap points to the need for a framework like RLP to be implemented to better prepare school-based teacher educators who serve as mentor teachers.

My study of the RLP framework is just one area of research in the larger body of the STEM UTR study. However, potential qualitative indicators of the RLP framework's effectiveness would include increasing teacher agency and efficacy towards culturally responsive pedagogy, increasing engagement of all students in the mentor teacher's classroom, and developing the ability of a mentor teacher and a novice teacher to co-construct new ways to address equity in their classroom. Long-term, the goal is for teachers to internalize the inquiry process to explore unconscious equity issues underlying practice and ultimately lead to a decrease in disproportional consequences for students that result from inequitable practices in classrooms. Participatory inquiry is cultivated in the RLP approach with four key principles: a) naming the equity issue, b) engaging in reciprocity, c) taking an equity action, and d) conducting critical reflection (Orange & Isken, 2021).

Key Terms and Definitions

The authors of RLP significantly note that language matters. "A lexicon was needed for teachers and mentors to have authentic dialogue about the complexity of teaching and learning while allowing for mentor and mentee to be positioned as learners on equal footing" (Orange & Isken, 2021, p. 81). On that premise, and before exploring the extant literature related to the research questions of this study, it is helpful to list and explain several important terms in order

to facilitate a common definitional and conceptual understanding for this study. The terms include the following:

Mentor or Partner Teacher

A mentor teacher is an experienced educator who supervises and guides preservice teachers during their student teaching placement. In RLP parlance, the mentor is referred to as the *partner teacher* (PT) and is an accomplished teacher whose classroom is the site of novice learning (Orange & Isken, 2021). In this study, the terms "veteran teacher," "experienced teacher," "guiding teacher," "master teacher," and "partner teacher," are used to describe the mentor.

Preservice Teacher or Teacher Candidate Resident

A preservice teacher, or a teacher candidate resident in RLP language, is an aspiring teacher of equal relational status, involved in the same activities, and allied with their partner teachers (Orange & Isken, 2021). In this study, the terms "preservice teacher," "novice teacher," "apprentice teacher," and "teacher candidate resident," are used to describe the mentee.

Equity Issue, Equity Action, and Equity Stance

According to Orange and Isken (2021), an equity issue highlights classroom policies and practices that hinder student success and perpetuate inequities, and the issue could be related to curriculum, instruction, assessment and/or classroom climate. For example, teachers may ask themselves, "How are we challenging assumptions and deficit notions that are embedded and reproduced in our decisions about classroom practices?" Their response to this question may lead to an equity action. An equity action aims to prioritize equity over equality in classroom moves and choices, and it emphasizes marginalized identities over dominant norms of access and achievement (Orange & Isken, 2021). An equity stance moves participants from discussing "best

practices” to collaborative analysis of instructional moves that might impede student engagement and success (Orange & Isken, 2021, p. 78).

Reciprocity

Reciprocity is an expectation of fair exchange of knowledge that is then used to confront bias, stereotypes, and unjust practices, and then inform shared, co-constructed actions intended to transform practices; reciprocity undergirds the success of collaborative teacher residency programs (Orange et al., 2019; Orange & Isken, 2022). Conversations focus on the collective “we,” rather than the individual “I.” Teachers ask themselves, “What knowledge and skills do we both bring to the relationship? What will we each contribute to the work?”

Critical Reflection

A key element of the reciprocal relationship between mentor and preservice teacher is critical reflection, an opportunity for learning partners to interrogate their actions, dialogue about the impact of the actions, and consider changes in practice with focus on promoting equity (Orange & Isken, 2021). This type of reflection promotes critical consciousness, and these conversations about equity issues in the classroom and beyond ideally lead to equity actions.

Culturally Relevant Pedagogy

As proposed by Gloria Ladson-Billings (2014), culturally relevant pedagogy contains three main elements with a focus on student learning and academic success, the development of students’ cultural competence to help students in forming positive ethnic and social identities, and the support of students’ critical consciousness as they recognize and interrogate societal inequalities. Culturally relevant pedagogy uses cultural knowledge of students to teach “to and through strengths of students” (Gay, 2000, p. 29) and serves to be culturally validating and affirming (Gay & Kirkland, 2003). Howard (2003) asserts that critical teacher reflection is a vital

tool for teachers in creating culturally relevant teaching practices and increasing academic achievement of culturally diverse students.

Relational Trust

In the RLP framework, relational trust is a foundational pillar of the participatory inquiry of the mentor and mentee. The research of Anthony Bryk and Barbara Schneider, which empirically linked trust and academic achievement, highlighted the importance of relational trust in school improvement efforts, noting that “a broad base of trust across a school community lubricates much of a school’s day-to-day functioning and is a critical resource as local leaders embark on ambitious improvement plans” (Bryk and Schenider, 2002). Relational trust grows when adults actively reduce a sense of vulnerability in others and ground their relationships in respect, personal regard, competence in core responsibilities, and personal integrity (Schneider, 2003). Building relational trust takes time and intentionality, and through the support of STEM UTR staff and the structure of the Partners in Practice sessions, mentors and mentees could develop their reciprocal learning partnership.

Theoretical Grounding of RLP

Critical Race Theory (CRT) is a key foundational theory supporting RLP. The theory offers conceptual tools for interrogating how race and racism have been institutionalized and are maintained. This is a specifically helpful lens for analyzing the Whiteness of teacher education and conceptualizing how it might be addressed. Scholars note that race has been under-theorized in education in general, but race is grossly under-theorized in teacher education (Ladson-Billings & Tate, 1995; Milner et al., 2013). These scholars have argued that while discussions of race do take place in the field of education, the field needs conceptual and analytic tools to be able to discuss race. A core premise of CRT is that racism is endemic, institutional, and systematic;

racism is not an aberration but rather a fundamental way of organizing society (Sleeter, 2017; Solórzano & Delgado Bernal, 2001). Race is a key element of our identity, and in order for teachers to be effective, culturally conscious, and equity oriented, they need to understand systemic inequities of race and how that may manifest in one's classroom practices. Teachers also need the tools to be able to engage in discussions of race and equity. This means that the continued preparation of teachers, large proportions of whom are not well equipped to teach racially, ethnically, and linguistically diverse students well, is not an anomaly. Rather, it is a product of racist systems designed to meet White needs (Milner & Laughter 2015; Rogers-Ard et al., 2013).

Additionally, CRT challenges claims of neutrality, color blindness, and meritocracy in policies and practices shaped around the dominant White culture (Solórzano & Delgado Bernal, 2001). This dominant ideology attributes people's widely different levels of success within systems like university-based structures of teacher education. CRT asserts that neutrality and color blindness mask White privilege and power (Sleeter, 2017). Policies such as state teacher certification and accreditation requirements are presented as impartial and neutral, applied to all individuals equally without regard to race or other demographic identities, and based on notions of teacher quality. This is problematic in teacher preparation programs across the United States. While all states speak to "diversity" in their accreditation standards, the diversity and equity requirements in most states are ambiguous and differ from program to program (Sleeter, 2001). Color-blind conceptions of quality teaching, by failing to account for ways race matters in education, support the continued Whiteness of teacher education (Sleeter, 2017). For example, in their analysis of advertising for Teach for America (TFA), Milner and Howard (2013) point out that the notion of seeking the "best and the brightest" teacher candidates has led TFA to target

elite institutions in which enrollment of students of color is disproportionately low. Addressing race and identity head-on and repositioning power dynamics between veteran and novice teachers can interrupt the historic Whiteness of teachers in the profession.

Milner and Laughter (2015) highlight the importance of CRT in teacher preparation and the need for teacher preparation programs to focus on helping all teachers build consciousness around their own positionality, identity, and cultural practices. Positionality serves a purpose for understanding the ways teachers construct knowledge and pedagogy in their classrooms, especially the ways they construe their own identities in relation to those of their students (Martin & Van Gunten, 2002). Tatum (2001) substantiates this by explaining that "in a race-conscious society, the development of a positive sense of racial/ethnic identity not based on assumed superiority or inferiority is an important task for both White people and people of color" (p. 53). The development of this positive identity is a lifelong process that often requires unlearning the misinformation and stereotypes we have internalized not only about others, but also about ourselves.

The RLP framework also incorporates aspects of sociocultural theory (Jaramillo, 1996) and Critical Third Space (Nyachae, 2018; Zeichner, 2010). Sociocultural theory centers the cultural identities, beliefs, and norms of participants as factors that influence a person's views biases, assumptions, and therefore actions about teaching and learning, while Critical Third Space is where educators interrogate the present and transform their mediated learning into action (Jaramillo, 1996; Nyachae, 2018). This is where resistance and disruption occur (Orange & Isken, 2021). Zeichner (2010) contends that developing partnerships between schools and teacher education programs creates a "third space" (p. 89) in teacher preparation where both practitioner and academic knowledge are valued for preservice teacher learning.

Building Capacity: Mentors as Reciprocal Learning Partners

The RLP framework builds collective efficacy and enables mentor and novice teacher to position themselves as co-learners in reciprocal dialogue (Orange et al., 2019; Orange & Isken, 2021). The participatory inquiry process provides a framework for conversations that take place during the guided teaching placement. The mentor and novice teachers engage in reciprocal dialogue, which allows for a two-way exchange of ideas and knowledge. In reciprocal dialogue, each person challenges and explores his or her worldview with shared norms and open, authentic communication. Reciprocity serves to support a more equitable relationship between mentor and mentee by raising the preservice teachers' status (Canipe & Gunckel, 2020). In RLP, the mentor and mentee also practice critical reflection in which they examine and develop an awareness of perspectives and biases. Subsequently, the reciprocal learning partners are able to challenge assumptions and deficit practices by repeated cycling between action, dialogue, and reflection. Finally, reciprocal learning partners co-create an equity action. This is the cogenerative process in which inquiry moves to taking action, thus contributing to improved outcomes for students. Action is directly linked to empowering and changing the lived experiences of diverse students and those most marginalized in classrooms and schools.

RLP creates two spaces for partners and fellows to engage in this work: a weeklong Summer Institute, and monthly Partners in Practice convenings. The Summer Institute strengthens participants' individual and collective understanding of educational inequity and builds relational trust. The monthly Partners in Practice meetings provide partners and fellows with space and tools to engage in cogenerative dialogue about uncomfortable issues and the ways in which they themselves have perpetuated inequity in practice and policy. Each month, partners bring an equity issue to discuss and then co-construct an equity action to address the issue

(Orange & Isken, 2021). The Partners in Practice meetings serve to provide the mentor and mentee with a space to identify classroom equity issues, as well as provide a Critical Third Space with structured support and prompts to engage in reciprocal co-generative dialogue.

Tobin (2006) describes cogenerative dialogue as the belief and ideology that one needs to articulate and explain personal experiences through collective understanding and activity. Using cogenerative dialogue, participants can create new forms of capital that allow them to effectively work with diverse groups and interact across boundaries defined by age, sex, ethnicity, and class. Tobin (2006) used theories from cultural sociology as a framework to explore how co-teaching is enacted in a science teacher education program in which co-teachers collaborate with high school students in cogenerative dialogues, to study learning and teaching in their own classrooms. The cogenerative dialogue(s) in Tobin's (2006) study were centered as activities in which a small number of students and the co-teachers reviewed evidence from a recent class to "co-generate" collective resolutions regarding new rules for the class, changes in teacher and student roles, and responsibility for accomplishing changes. While this specific literature researched students and teachers, rather than novice teacher and mentor, the relationship is analogous enough to make implications for the latter to also develop new capital across differences by engaging in cogenerative dialogue.

A study of science teacher education in Australia (Bellocchi et al., 2014) examined the role of reciprocal and cogenerative dialogue on the emotional climate of novice science teachers. The authors used an interpretive methodology of event-oriented inquiry and collected vignettes of interactions and dialogue between novice teachers and their university professors (Bellocchi et al., 2014, p. 1323). Researchers found that there was a synergy between emotions and the quality of instruction experienced. They also found that a key component of this synergy was the ability

of professors to engage in dialogue with novice teachers about their own experiences as students. This initiated a cogenerative dialogue between teacher and learner that allowed for the novice teacher to speak from their experience and develop self-confidence resulting in a greater development of content knowledge (Bellocchi et al., 2014, p. 1323). Again, as with the Tobin (2006) study, Bellocchi et al.'s research has implications for the novice teacher and mentor, as they present a similar power dynamic that can also be overcome by engaging in cogenerative dialogue.

Research suggests that cogenerative and reciprocal dialogue can pave the way for unique and dynamic approaches for collaborative educators to address problems (Engeström & Sannino, 2010; Gutiérrez et al., 1995), such as systemic racism in education. When individuals debate such issues, they may co-create or co-construct new ideas to address problems that would not have arisen otherwise.

Bertrand (2014) defined reciprocal dialogue as interactions in which participants listen to and engage in conversations that build upon one another's words and also describes how reciprocal dialogue has implications for challenging systemic racism in education. This is important in the context of my study in discussing how reciprocal dialogue can ultimately result in action for addressing inequities. Specifically, Bertrand (2014) discussed using reciprocal dialogue to address the endemic, institutionalized inequalities that take place along race lines. The author connected the concepts of Critical Third Space and reciprocal dialogue to the resulting hybrid ideas that arise from participants of the dialogue.

Bertrand's (2014) study on reciprocal dialogue focused on the interactions between teachers and students of color in decision making. While the study was not specific to the mentor-novice teacher relationship, there are salient points applicable to teacher preparation. The

study indicated both potential pathways and obstacles to decision makers and students of color engaging in reciprocal dialogue (Bertrand, 2014). Such dialogue is either promoted or inhibited by decision makers' responses to students' viewpoints and assertions. The responses that promote reciprocal dialogue involve openness to listening to the viewpoints of students of color. On the other hand, the responses that inhibit reciprocal dialogue demonstrate the teacher's disregard of what students have to say. This dynamic is very similar in context to what the mentor-novice teacher relationship looks like in terms of power and positionality and their influence on disruptive discourse (Achinstein & Athanases, 2016; Canipe & Gunckel, 2020; Hudson, 2016; Pham, 2018).

Future Implications for Teacher Preparation

Unpacking identity is crucial for educators to engage in critical reflection and to help in uncovering biases, assumptions, and beliefs about teaching students who are culturally, ethnically, and linguistically diverse (Achinstein & Athanases, 2005; Howard, 2003; Milner, 2000). The student population in U.S. schools continues to become increasingly different in background from the background of their teachers (Darling-Hammond & Berry, 2006). The process of interrogating our identities and positionalities as educators also allows us to incorporate pedagogies that offer teachers an opportunity to interrogate who they are as educators of diverse student populations (Achinstein & Barrett, 2004; Douglas & Nganga, 2013).

Similarly, an important aspect of preparing teachers who are critically conscious is in integrating and interrogating the positionalities of those who work with novice teachers (Douglas & Nganga, 2013). Changes in programmatic structures in teacher preparation programs that consider the identity and positionality of novice and mentor teachers potentially opens possibilities for new learning (Pham, 2018). The unique aspects and awareness of an individuals'

identity, positionality and intersectionality provides unique insight into equity and learning, particularly for collaborating educators. This recognition also serves to interrupt power dynamics, where one teacher may be perceived as an expert, as is often the case for mentor teachers. Because this hierarchy is ingrained (Canipe & Gunckel, 2020), efforts are needed to provide mentor teachers and preservice teachers with new ways to interact when working together.

Using the RLP framework, both mentor and novice teacher develop a willingness to challenge one another's mindsets and can co-generate actions that dismantle inequities in schools and classrooms and positively influence the outcomes of students most underserved in our education system. For that reason, the RLP framework can provide teacher preparation programs with a methodological structure to develop an equity-focused guided teaching experience for novice teachers and to further develop mentor teachers as high quality, social justice-oriented educators.

The majority of the literature on teacher preparation focuses on the development of the novice teacher. Noticeably absent from the literature is how the lived experiences, identities, and biases of mentor teachers influence decisions about equity-focused pedagogical moves and student engagement, either in their own classrooms or in the mentoring context. To address this gap in literature, my project investigates the critical role of the mentor teacher in an urban teacher residency program. The purpose is to inform the way these programs may develop the professional practice of mentor teachers by positioning them as reciprocal learning partners in conjunction with their mentee. Using RLP to develop and support relationships between novice teachers and the teachers in whose classrooms they are placed may improve equitable outcomes for students. The ability of the mentor and mentee teacher to critically reflect and share a

willingness to be challenged by one another can generate actions that dismantle inequities in schools and classrooms, which may serve to positively influence the outcomes of students most underserved in our education system.

CHAPTER 3: METHODOLOGY

Teacher education programs very commonly use a master-apprenticeship model of teacher preparation that focus on the transfer of practices from mentor to mentee and give feedback only to the preservice teacher (Canipe & Gunckel, 2020; Clarke et al., 2014; Franke & Dahlgren, 1996). This traditional model positions the mentor teacher as an expert and sets an expectation that the preservice teacher will reproduce the best practices of the mentor. In this type of program, mentor and preservice teachers are rarely asked to collaboratively talk about their race and identity, awareness of their identity development, and the impact of race and identity on their professional practice.There is insufficient literature that discusses how teacher preparation programs might develop the cultural responsiveness of the mentor teacher. This development is necessary from a demographic point of view, as the public school student population diversifies at a much higher rate than the teacher population; I argue there is also a moral imperative to improve the cultural competence and responsiveness of a predominantly White teaching body, for the academic outcomes for students of color continue to lag behind their White peers.

There are also few teacher preparation programs that approach guided teaching practice as an opportunity for veteran teachers to be positioned as co-learners or collaborators for addressing equity in partnership with novice teachers. Chapter Two highlights the characteristics of successful urban teacher residency programs, like the program that is the site of my study. The Reciprocal Learning Partnerships for Equity (RLP) framework was developed in 2018 to address the lack of critical analysis taking place in student teaching placements (Orange et al., 2019; Orange & Isken, 2022). The RLP framework creates a space to consider how an individual's identity and positionality may unconsciously lead to unexamined bias in selecting

teaching practices and classroom policies. Using this framework, teachers cooperatively identify, name, and take action toward eliminating practices in the classroom that may reproduce inequities. For example, the partner teachers may address equity of “airtime” during discussions and Black girls are called on fewer times than their peers, or they could talk about how to make materials more accessible in students’ native language. While there was not a theory of action in place for RLP, there was a theory of change that includes using the process of participatory inquiry. Participatory inquiry engages mentors and mentees in continual critical reflection, the questioning of beliefs and ideals, while also acknowledging each other’s agency and co-creating new knowledge and transformative actions. These actions serve as the causal pathway to address the need for mentor teacher support and development in teacher preparation. This study aims to qualitatively measure shifts in how mentors in the STEM UTR program shared and co-constructed new knowledge to address issues of equity in the classroom. Specifically, this study sought to address the following research questions:

1) What are STEM UTR mentor teachers’ ideas about reciprocity?

2) What are STEM UTR mentor teachers’ ideas about equitable teaching?

3) In what ways, if any, do the STEM UTR mentor teachers make connections between their ideas about reciprocity and equitable teaching?

Research Design

This is a qualitative study focusing on the ways in which the Reciprocal Learning Partnership framework results in new pedagogical and cultural learning for not only the novice, but specifically for the mentor teacher. Since the goal of my study was to determine how tenets of the RLP framework support critical reflection, reciprocal dialogue, and equity action, I engaged in a qualitative approach using interviews. This is an appropriate methodology for

capturing the voices and experiences of the educators in this project (Cresswell & Cresswell, 2017). I used interview transcripts of mentor/mentee pairings at two separate points in the residency in order to capture the dynamics of their relationship and the evolution of their learning process to become more equity oriented.

Site Selection

This study took place within the STEM Urban Teacher Residency (STEM UTR) that launched Year 1 of its program in August of 2020. Teacher residency programs are, by definition, district-serving teacher education programs that pair a rigorous full-year classroom apprenticeship with masters-level education content (California Commission on Teacher Credentialing, 2017). The STEM UTR program is part of a federal Teacher Quality Partnership (TQP) grant that was awarded to a large metropolitan university. Uniquely, STEM UTR piloted the RLP framework as part of the professional development series for preparing preservice teachers and their mentors for their work in the year-long residency. I chose this university site because of its well-established residency program and because I had previously contributed to the foundation work of the RLP framework (Orange et. al, 2019). Furthermore, I wanted to contribute to STEM UTR's research data collection plan (see Appendix A), and my aforementioned research questions directly address question two of this plan: How do teachers (Mentors and Mentees) learn from each other in a reciprocal learning partnership?

Year 1 of the STEM UTR program included ten novice teachers or teacher candidate residents (TCRs) and their ten individual mentor teachers, or partner teachers (PTs) in the RLP language (see Table 1 below). Mentor teachers were recruited through informational sessions held at each of the secondary schools named in the TQP grant. Additionally, the California Commission on Teacher Credentialing (2017) requires that all mentor teachers in accredited

teacher education programs hold a clear California teaching credential, have tenure, provide a principal recommendation based on exemplary practices, and complete 10 hours of professional development related to program curriculum, adult learning theory, and content-specific pedagogy.

The teacher residency classrooms in this study are located in the “Sunny City” Union School District. Mentor teacher information sessions were offered to secondary school STEM teachers in the district as part of the mentor recruitment process. During the information sessions, program directors outlined the dispositions and expectations required of STEM UTR mentors. Two intentional spaces were created for participants’ (mentors and mentees) to learn about and engage in the RLP conceptual framework. These two gathering spaces consisted of a five-day Summer Institute and a series of monthly Partners in Practice meetings which were focused on mentor and mentee professional development. These sessions were co-facilitated by the university’s Culture and Equity Project (CEP) director, the STEM UTR director, and the interim associate director of the teacher education program.

Mentor Teacher Selection

In the Spring of 2020, prior to Year 1 program implementation, a series of mentor teacher information sessions were held at each of the schools identified as part of the TQP grant. The purpose of the information session was to recruit secondary science and math teachers to serve as mentors in the STEM UTR program. During the information session, the program director reviewed the expected dispositions of the program mentors. As part of their participation in the program, mentors were asked to voluntarily take part in the research and evaluation elements of the grant. Other expected dispositions of the mentors included:

- Be willing to make and share their planning process with their mentee in a timely manner.
- Be willing to make and communicate their planning process, including visible representations of the planning (weekly overview of learning goals) in a timely manner.
- Look to expand practice and learn through modeling, reflection and co-learning.
- Be willing to make their rationale for instructional decisions visible.
- Be willing to share a space, plans, pedagogical practice and community/school/family connections.
- Benefit by having some understanding of statistics or statistical knowledge.

Additionally, mentor teachers in STEM UTR were expected to engage in the following:

- 2-3 hours of planning/assessment each week
- 1-2 hours dialogue and reflection each week
- 2 surveys for research/evaluation
- Observation with rubric three times during the year
- 3 evaluations of the pre-service teacher
- Participation in research evaluations, interviews and work samples
- Participation in the STEM UTR Summer Institute
- Participation in the monthly Partners in Practice meetings
- Participation in individual mentor interviews (twice a year) and paired interviews with mentor-mentee (twice a year)

Teachers who were in agreement with the dispositions and expectations for mentoring were asked to complete an interest form and a mentor application (Appendix D). Applications were

reviewed by program staff and selected based on their responses to the questions in their mentor application. Selected mentors received a $5000 stipend for their participation in the program.

RLP conversations were an expectation of the mentor and mentee as part of the stipend they received from the university for their participation in the STEM UTR program. Program participants were asked to consent for their interview and evaluation feedback to be used for this study and were assured that pseudonyms would be used in any reporting of personal data (Appendix C). Each interview conducted was prefaced with an explanation that all aspects of conversations will be anonymized, and participants were given the option of not having their conversation used for data collection purposes. Ten mentor-mentee partnerships resulted from this recruitment process, and the pairings used for this study are listed below in Table 1.

Table 1

Mentors and Mentees in This Study

Mentor Teacher	Subject Taught	Mentor Teachers' # of Years Teaching	Mentee
Linda	Biology	13 years	Marc
Victor	Chemistry	9 years	Leann
Evan	Physics	10 years	Alyssa
Tamara	Biology	11 years	Peter
Catherine	Biology	8 years	Evelyn
Ramon	Math	15 years	Katy
Ronald	Chemistry	13 years	Shondra
Gary	Math	14 years	Jeffrey
Mary	Chemistry/Physics	4 years	Mandy
Joseph	Biology/Chemistry	7 years	Evan

Note: All names of individuals used above are pseudonyms.

The mentor teachers in Year 1 of the STEM UTR program had a range of 4-15 years of teaching experience, with an average of 10.4 years teaching.

Site Access and Role Management

I decided to work with this site and group of participants for two reasons. First, I was involved in the development of the RLP framework with the program directors of the STEM UTR. I had previously piloted RLP in a similar STEM focused urban teacher residency program at the same university. Second, I spent ten years working in that residency program and served as both a mentor teacher and a program coordinator. Therefore, I had both a familiarity with the residency program structure and an amplitude of understanding of the purpose, practice, and intended outcomes of the RLP framework. I also had professional relationships with the program directors and key faculty members working in the residency. In on-going conversations about the goals and next steps for RLP, these faculty members provided me with site access for this study.

Researcher Positionality

Positionality is a key theme in this study. It is relevant that I discuss my own positionality and historical context in reference to the study site and program participants. As a researcher, I recognize that my identities and experiences influence the choices I made in the research process, shaped the way others viewed me, and gave me power or insight in the research context (Cresswell & Cresswell, 2017; Holmes, 2020). I served as a mentor teacher for four years in the previous iteration of STEM UTR, and then I served an additional four years as a coordinator for that iteration of the program. As a coordinator, my role was to recruit and select mentor teachers as well as to provide mentor teacher support through professional development, individual meetings, and classroom observations. I also collaborated with program leaders to develop the RLP framework during my time as program coordinator. At the time of data

collection, however, I was serving as a school administrator. As an administrator, I have personal insight and interest in the ways we can develop veteran teachers as educators for social justice and equity.

In approaching this study, I was cognizant and paid particular attention to my connection with the study site and program participants. I acknowledged there may be both advantages and disadvantages that may have far-reaching implications for the process of data gathering and interpretation. I wanted to ensure that I could answer my research questions accurately and minimize any distortion of my findings. My intention was to engage in reflexive research practice and to articulate my positionality. In particular, I reflected on my experience as an UTR mentor and program coordinator and how that experience shaped my observations and sense-making. While reflexive research practices are not a guarantee of higher quality research, my hope is that I may become a better researcher by understanding how my personal level of involvement may impact my research outcomes.

Data Source: Paired Interviews

I used a primary data source in the form of paired-interviews between mentors and mentees for this study. I was part of a data collection team that included several graduate student researchers, program facilitators, and the program director. Through paired-interview questions (see Table 2 and Appendix B), mentor and novice teachers were asked to share recent successes and challenges in the classroom and were then asked to share how they worked together during these events. The purpose of the interview was to check-in on the mentor-mentee relationship and to identify themes that arose as a result of the mentor and mentee engaging in RLP. The research team interviewed each of the ten mentor and novice teacher pairs twice. This interview protocol was collaboratively developed by the STEM UTR program director and the graduate

student researchers working on the project. The same interview protocol and questions were used in all 20 interviews. I used the responses from these interviews to address my research questions.

Table 2

Paired-Interview Questions

Number	Question
1	How are things going?
2	Can you tell me about a recent success/challenge in the classroom?
3	How would you describe how Computational Thinking might be showing up in your thinking and teaching?
4	What equity issues have surfaced in your classroom and how have you worked together to address them?
5	How do you think this partnership has impacted you as a teacher?
6	How do you think this partnership has impacted [teacher candidate resident name] as a teacher?
7	What more do you hope to learn from each other?
8	Is there anything else you would like to share?

The project team conducted paired and individual interviews with the mentors and mentees. The STEM UTR program evaluation team also developed and conducted beginning-of-program and end-of-program surveys. I chose not to use survey data as I was specifically looking to capture the nuance of the discussion between mentor and mentee. This is also why I chose to focus only on the paired-interview data; I was looking for the open-ended responses from the mentors as a result of the reciprocal dialogue that naturally took place when both mentor and mentee were being interviewed together. Because this study sought to examine the ways in which mentor teachers describe their identity, positionality, and perceived equity issues, this information was best obtained from an open-ended interview format (Appendix B) than from Likert scale-type survey data. The responses from these interviews helped me to better

understand how reciprocal partnerships might lead the mentor to identify equity issues and the ways in which they may address those challenges. Mentor and mentee were asked what had worked and what had not worked in terms of surfacing issues of race and culture in the classroom. The mentor and mentee were also asked about the ways in which they may or may not have addressed these equity issues.

Chronology of Data Collection

Twenty paired-interviews were conducted with the mentor-mentee pairs between February and May of 2021. Each of the ten mentor-mentee pairs was interviewed twice. The first set of interviews took place in the Winter quarter between February 22, 2021 and March 19, 2021. The second set of interviews took place between May 11, 2021 and May 25, 2021. The interview structure included the following four individuals: Partner Teacher (mentor teacher), Teacher Candidate Resident (novice teacher), and the program's research team. All interviews were audio and video recorded via Zoom. Each interview took approximately 60 minutes. The audio recordings were transcribed using Rev.com and transcriptions were uploaded to a shared drive and reviewed by myself and other researchers in STEM UTR for accuracy. While reading over the transcripts, I took notes and memos on what I heard to develop tentative ideas about categories and relationships.

Through the duration of the program year, mentor and mentor attended a series of seven professional development meetings called Partners in Practice. While Partners in Practice centered learning around the Reciprocal Learning Partnership framework, each session was planned to incorporate topics pertinent to education and the current socio-political climate, specifically the Black Lives Matter movement and response to the murder of George Floyd, as well as the spate of Anti-Asian hate crimes that also took place during the COVID-19

pandemic. The scope and sequence of topics covered in Partners in Practice Participants are included in Table 3 below.

Table 3

Topics Covered in Partners in Practice Professional Development

Topics	Guiding Questions
Identity/Positionality & Implicit Bias	How does implicit bias and deficit thinking show up in schools? How might examining your identity and positionality affect your awareness, attitudes, and actions around social justice and equity?
Relationships and Communication	How might the way you think about and cultivate relationships affect your awareness, attitudes, and actions around social justice and equity? How might your awareness, attitudes, and actions around social justice and equity influence your communication style?
Feedback and Asset-Deficit Thinking	How might your awareness, attitudes, and actions around social justice and equity influence how you engage in feedback (with students, families, community, administrators, mentor/mentee)?
Trust	What role does trust play in your relationships (with students, families, community, administrators, Partner Teachers/Fellows)? How might your awareness, attitudes, and actions around social justice and equity influence your thinking about trust?
Integrated Instruction & Humanizing STEAM	How might humanizing STEAM affect your awareness, attitudes, and actions around social justice and equity?

Additionally, mentors and mentees were provided with critical space during Partners in Practice to surface equity issues that they had observed in their schools or classrooms. To practice

addressing the equity issue, they engaged in a modified consultancy protocol (see Appendix E) in tandem with another mentor/mentee pair.

Data Analysis and Credibility

The analysis process was iterative. I refined my code book through three rounds of coding. My analysis of the data began with the first interview and continued through the entire data collection process. Members of the research team typed notes into a narrative format during the interview. I first coded the data using an open coding approach to develop potential categories and subcategories based on the data and what seemed most important. Importance was determined when terms or themes were recurring in the interviews. Open, or initial, coding is, as the name implies, an open-ended or inductive approach for a researcher to first review the body of qualitative data (Saldaña, 2016). As I initially reviewed the data, I remained open as categories emerged from key words and phrases noted in the interview data, such as reciprocity, impact of partnership, impact of professional development, new learning cited by the mentor, relational trust, equity, and co-constructed actions. I developed 13 codes during this round of coding.

After the first round of open coding, I compared the categories that arose with specific structural codes that I created from my research questions, the RLP framework, and my literature review. Structural, or utilitarian, coding applies content-based or conceptual phrases representing a topic of inquiry to a body of data that relates to research questions (Saldaña, 2016). Perhaps not surprisingly, the open codes overlapped with many of the structural codes I developed. For example, open coding revealed several mentions of equity, and two structural codes I tracked were equity actions and equity stances. With these codes in mind, I engaged in this second round of more deductive coding, and this allowed me to label or index large chunks or passages from

the interview transcripts that formed the basis for my analysis that led to development of my findings (Saldaña, 2016). This round also allowed me to focus on more nuanced analysis of the interviews. For instance, I coded several passages with the new learning of the mentor, but during the second round, I created sub-categories of those passages, such as pedagogical learning and cultural learning. I refined my codes to five categories during this round.

As a final round of coding, I examined the chunks of text identified during structural coding to organize the evidence into more discernible and manageable pattern codes. According to Miles and Huberman (as cited in Saldaña, 2016, p. 210) "pattern codes are explanatory or inferential codes, ones that identify an emergent theme or explanation," and they helped me examine patterns of human relationships, which was important as I analyzed the impact of the reciprocal learning partnerships. By way of illustration, I considered the broad topic of new learning, during my third read of the transcripts, I was able to see a pattern of learning that were a result of mentors being open to learning from their mentees' equity stance, as well as a pattern of learning that resulted from moments of critical reflection in either the Partners in Practice sessions or in one-on-one conversations between mentor and mentee.

The primary credibility concern in my study data is whether participants responded to interview questions in a way they felt was socially desirable. When people are asked direct questions in an interview format, they may give the answers they believe the interviewer wants to hear (Cresswell & Cresswell, 2017). To address this concern, I established my presence early in their Partners in Practice professional development by positioning myself as a researcher and a co-participant rather than facilitator. This allowed me a more level positionality with the participants. It was intended that my long-term involvement would serve to allow participants to become more comfortable with my presence, and thus prompt transparent and honest responses

in interviews. To further address the issue of credibility, prior to engaging in program interviews, Developing trust is critical to providing a space for discourse and cognitive dissonance that results in critical reflection and thinking (Bryk & Schneider, 2002).

Ethical Considerations

One of the potential ethical issues posed in this study includes coercion. Because both mentor and mentee received a stipend for their involvement in the residency, mentors may have been concerned about being able to retain their position as mentor, and mentees may have been concerned about how their responses could affect their evaluations. To further address this ethical issue, the research team and I made it explicit before conducting interviews that anonymity and confidentiality will be adhered to at all times when it comes to using and reporting data and that participants may opt out of having their feedback used for data. As outlined in the STEM UTR IRB, all participants were provided pseudonyms for the sake of confidentiality (Creswell & Creswell, 2018). Identifying features of the study, such as names and places, were purposefully masked across the targeted data set (e.g., interview and observation transcripts, surveys, field notes). Data collected from this study was coded and anonymized prior to being shared with the residency program directors and faculty.

Summary of Methods

For this study, I analyzed paired interviews involving ten mentor teachers and their mentees. This data was collected in Year 1 of the STEM UTR program. During these interviews, participants were asked to describe the successes and challenges of mentoring, perceived equity issues in the classroom, and the impact of mentoring on their own practice and that of their mentee. Through careful analysis of these interviews, I attended to what participants discussed related to identity, reciprocity, and equity and to further analyze and categorize the types of

equity actions, if any, that were co-created between mentor and mentee.

CHAPTER 4: FINDINGS

Teacher education programs traditionally rely on mentor teachers sharing "best practices" accumulated through years of classroom experience to support the growth, learning, and preparation of novice teachers (Orange & Isken, 2021). Problematically, the traditional model of teacher preparation typically does not systematically or intentionally organize its approach and curricula to address pervasive achievement gaps or tackle equity issues faced by underserved students. It tends to be more focused on the basic practices of teaching. Examples of teaching practices include developing lesson plans, learning about assessment approaches, and understanding various methods of differentiation. Furthermore, the traditional model may not support mentor teacher learning and growth, and mentors may be selected based on their availability and years of experience. As a result, this approach may unintentionally and unconsciously reproduce practices and attitudes that are not guided by principles of equity, and thereby further marginalize students in school systems.

Conversely, teacher residency programs, such as STEM UTR, that utilize a reciprocal learning approach and set their sights on improving equitable learning conditions and opportunities for marginalized students, aim to support the growth of mentee and mentors, especially in their ability to identify equity issues and co-construct equity actions. This study explored the Reciprocal Learning Partnership model (Orange et al., 2019; Orange & Isken 2021) for novice and mentor teachers during the novice teacher residency year. More pointedly, this study examined how mentor teachers' perceptions of reciprocity and ideas around equitable teaching practice were cultivated within the context and practice of the Reciprocal Learning Partnership.

In this chapter, I present the findings from my analysis of interview data in response to the following three research questions:

1) What are STEM UTR mentor teachers' ideas about reciprocity?

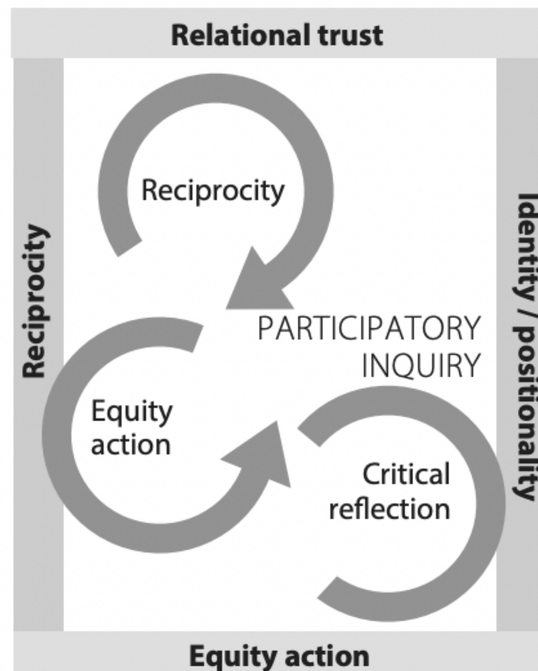
2) What are STEM UTR mentor teachers' ideas about equitable teaching?

3) In what ways, if any, do the STEM UTR teachers make connections between their ideas about reciprocity and equitable teaching?

I begin by presenting mentor teachers' perspectives and ideas around reciprocity, and then I present findings on these mentors' beliefs around equitable teaching. Finally, I use mentor teacher interview data to examine and highlight how the ideas of reciprocity and equitable teaching relate to one another and what new learning for mentors took place as a result. As a reminder, this study utilized the RLP framework, which is visualized in Figure 1 (Orange et al., 2019).

Figure 1

Reciprocal Learning Partnerships for Equity



The findings from this study are presented in the sequence of my three research questions. While I organized the findings in three sections, readers may notice the overlap in several of the findings, which speaks to the interconnected nature of RLP. In other words, the reader should keep in mind that participatory inquiry in this model must be viewed as a process in which each element—reciprocity, equity action, and critical reflection—dynamically contributed to the findings below.

Mentor Teachers' Ideas About Reciprocity

The mentoring practices and the professional identity development of the mentors were contextualized within the STEM UTR program. This was likely attributed to the structure of the STEM UTR program and the RLP framework that positioned the mentor and novice teacher as collaborative co-teachers. The definition of reciprocity, given in the RLP framework, is there is a mutual understanding that participants come to the table with lived experiences, knowledge, and skills that can be leveraged to improve student outcomes. Rooted in personal exchanges, mutual respect and regard, competence, responsibility, and integrity, reciprocity is developed through interactions, conversations, tension, critical collaboration, and the demonstration of cultural competence and emotional intelligence (Orange & Isken, 2021). I reiterate the definition here as a reminder of how I approached my analysis to better understand how reciprocity in the mentor-mentee relationship impacted the development of the mentor. The interview excerpts shared below show that mentors evidently benefited from the partnership in terms of building trust, collaborating and co-constructing equity focused practices, and their own learning and relearning as educators.

Reciprocity: Critical Reflection, Communication, and Relational Trust

Nine of the ten mentors described how their partnership with their mentee resulted in critical reflection of their own long-standing practices and consideration of areas of growth. They described how the push and pull in their shared communication resulted in a shift in perception and new learning. When reflecting upon how she learned from her mentee, mentor teacher Mary shared,

> I feel like I am learning a lot, I feel it is more like a partnership, it is nice to be questioned [about my teaching practices] and why [I do them] – I have become more reflective about the way I do things in the classroom.

For Mary, being questioned about her practices by her mentee in a safe manner created space for her to examine longstanding practices. Another mentor teacher discovered an unexpected but necessary area of growth in her professional relationships. Mentor teacher Tamara spoke about her own growth in response to questions from her mentee,

> One of the things I need to grow in is how I communicate with other adults. I tend to talk to them like they are students—be too blunt. I need to let go of control and empower other people.

Tamara shared that in the past it had been difficult for her to relinquish control of work projects— that she preferred to "just do it [the project] myself so that I know that it got done right." Tamara's mentee provided Tamara with a new set of eyes on how she related with adults at her school and how this may have impacted how she related to students in her classroom. Due to the relational trust developed in these partnerships, mentors were evidently comfortable when they were questioned by their mentees.

This dynamic of relational trust in reciprocal partnerships was also seen as mutually beneficial for mentors and mentees. Mentor teacher Catherine recounted,

> I really appreciated having a relationship where we could give each other constructive feedback, like both ways. Because I know that I'm growing a lot during this process as well. I benefit from having conversations about how we can improve or what are some areas where we might both be struggling or sharing different resources with each other.

The mutually beneficial dynamic of the reciprocal partnership enabled the mentor and mentee to bounce ideas off each other and co-construct ways to improve their practices. Another mentor appreciated the "push" she received from her mentee's "fresh perspective," noting that the push stretched her out of her comfort zone and challenged her to "tweak" classroom practices.

The relational trust between the mentor and mentee was consistently discussed by mentors as a necessary foundation to being able to co-construct approaches to teaching. When discussing the connection and trust with her mentee, Linda noted,

> Marc and I connected so easily. As far as our relationship goes, I know I'm the mentor and he is the newbie, but it hasn't felt like that for a long time. I think he and I have done a really good job with co-planning and co-delivering. I trust him when it comes to the lesson planning piece – we both share a common focus and are working and contributing to keep students engaged.

This is an excellent example of how two adults being on the same page can develop engaging learning experiences for their students. Relational trust also allowed partners to have challenging conversations about how each person assessed a situation. Catherine shared,

> My mentee is really good at thinking about things critically and communicating it to me so I think about it in a different way. It raises misconceptions and different perspectives for me. It helps make that reach [to my students] so much greater for me.

This quote illuminates the connection between trust and reciprocity. When mentors had relational trust and could recognize the skills and knowledge of their mentee, they were able to engage in a reciprocal exchange of ideas, thus opening the doors for co-constructing ways to address equity issues in the classroom.

The importance of professional development in establishing the foundation for building relational trust in the partnership and using reciprocal dialogue was also noted in other interviews. Five mentors shared that the Partners in Practice meetings gave them the opportunity to both practice and develop tools for framing reciprocal conversations with their mentees. They learned that they should anticipate some discomfort in difficult conversations, but that this cognitive dissonance would contribute to their understanding of their own identity and their professional growth. Mentors also discussed how Partners in Practice helped them to acknowledge that implicit biases are inherent. Mentor Gary commented in an interview that "we learned that we all have preconceived notions." Those notions can be interrupted without judgment through the practice of reciprocal dialogue.

Reciprocity: Co-Construction of Approaches to Teaching

The co-construction of new, more equitable, or revised teaching practices were described by eight mentors in one or more interviews. Often, mentors described the co-construction of ideas usually began with the recognition of the knowledge, experience, and skill set that the novice teacher brought to the space. Six mentors described the benefit of having two people in the classroom, with most recognizing that having another educator in the room allowed for opportunities to address challenges. When asked about collaborating with her mentee, Linda explained,

We bounce ideas off of one another. It is nice not feeling alone and I am grateful to be a team. I appreciate the content expertise he has and the totally different sense of humor that he brings to the classroom, and he clearly is enthusiastic about the work.

It appeared that Linda benefited from sharing ideas about content as well as learning how her mentee expressed his personality in the classroom to develop relationships. Another mentor shared about the importance of approaching a challenge with a partner: “If I have a problem with the student, I discuss it with my mentee to get a different perspective.” Dialogue about and co-construction of ideas also allowed one partnership to openly discuss how to “[build] on the existing culture,” as conveyed by one mentor.

Even though nine of the ten mentor participants reflected upon their belief that the mentee’s knowledge and skill set ultimately resulted in reflective teaching practices that benefited the learning of the students, one mentor teacher expressed reservations about reciprocity in the mentor-mentee relationship. Victor maintained, “There isn’t anything I have seen from Leann that I have not seen before. I was hoping for more [new ideas], but maybe it’s her age.” As a result of this, Victor continued to act in the more traditional capacity of imparting knowledge onto the novice teacher rather than reciprocating the exchange of ideas. Victor felt that an indicator of success in the development of the mentee was their ability to replicate his own practices. Victor also shared his perception that his mentee’s ability to connect with students was a direct result of her being in the teacher education program:

One success is that Leeann is picking up my style and I’m seeing it. Are you ready? She sees what I am doing and does it now. Warm-up, discussion, Pear Deck. I like how she connects with the kids on a personal level. I’m pretty sure she picked that up from her credential [program].

While Victor attributed his mentee's ability to connect with students on a personal level to be a result of her teacher training, the fact that he recognized a positive practice coming from his mentee could be considered evidence that he did, indeed, learn something from her. I include Victor's experience here as a reminder that intentional framing of the mentee as having social and cultural capital remains crucial to developing the reciprocal partnership, yet some mentors may not be as receptive to new learning as others demonstrated.

Reciprocity: New Learning as a Result of RLP

The majority of mentor teachers in the program described learning to be flexible and relational as a result of their reciprocal learning partnership with their mentee. Seven mentors discussed this flexibility in their approaches and being open to new ideas and pedagogies that were either suggested by or co-constructed with their mentee. Nine mentors reported that they tried new strategies as a result of their dialogue and exchanges with their mentee. A number of mentors shared that they were reminded, both by their mentee and in Partners in Practice meetings, of the importance of balancing content coverage with student engagement and forming connections. For example, mentor teacher Evan recalled that,

> Alyssa does certain lessons that have nothing to do with physics just to get students motivated and engaged which is great. It's like taking a mental break. As a teacher, she has been really good about building relationships. She's very encouraging and always trying to relate to kids. It shows because she has had good response rates, kids are turning on their cameras and participating. Her [student response rate] is better than mine.

Evan indirectly indicated that he appreciated Alyssa's pedagogical approach to engaging students through non-content specific approaches. Other mentors recounted that as veteran teachers, they have often been focused on the minutiae of teaching content, but working with

their mentee refocused them on the importance of relationship building and pushed them to reflect on the ways they engage students.

A related area of pedagogical growth that mentors consistently described as a result of working with their mentee was being reminded of the efficacy of relationship building when it came to managing the classroom. In several instances, the mentor pointed out that their mentee reminded them of the importance of building connections with students. This could be described as re-learning rather than new learning; either way, the result appeared to be better connections with students, which was particularly important in distance learning. Catherine attested,

> I think one of the reasons I love working with newer teachers, student teachers, is they kind of remind you of doing those little check-ins because you know, you as a guiding teacher get stuck in a rut with doing things that you know have worked and you kind of forget about doing those little strategies or check-ins with the students.

The authenticity of Catherine's mentee seemed to reinvigorate Catherine as she returned to using simple, humanizing approaches with her students. For some mentors, it was as straightforward as thinking about how the words and tone they use to communicate with others. One mentor recognized this as an area of growth and noted the need to let go of control and to empower other people. Another mentor was reminded to slow down and ask questions rather than being strictly task-focused.

When mentors allowed the mentee to step up and use tools like student surveys in the classroom, they saw immediate responses from students and recognized the value in building relationships with students as an additional leverage point to teaching content. In four instances, mentors described their reluctance and skepticism of their mentee wanting to use instructional

time for relationship building with students, but each mentor who felt this way ultimately reported a net positive result. For example, mentor teacher Gary recounted,

> In the beginning, I have to be honest, the student survey questions seemed pretty superficial. I was skeptical, but then I saw that Jeffrey followed those with harder questions. Kids come in with the mentality that "I suck at math" and Jeffrey was able to break through that with conversations that they had every day. The kids shared lots of information because they trusted him.

Gary also had reservations that his mentee was spending too much time in trying to develop rapport, but he noticed a significant change in that students shared more about themselves and engaged in the content more than students in other periods where the mentee was not present. He recognized that his mentee had built trust with the students and at the same time maintained a professional relationship with them. He reflected that this relationship building led to students being more receptive to learning during content instruction.

Mentor Teachers' Ideas About Equitable Teaching

To begin to address classroom policies and practices that hinder student success, it is important to understand and identify equity issues related to curriculum, instruction, assessment, and classroom ecology (Orange & Isken, 2021). In the RLP framework, participants identify equity issues, co-construct an action that addresses the inequity, engage in critical reflection to discuss how students benefited from the action, and reflect on the shared accountability of the mentor and mentee without blame or judgment.

For the purposes of this study, equity is defined as the offering of individualized support to students that address possible barriers, like poverty, limited transportation, or learning disabilities. Equity ensures that every student receives the opportunities and resources they need

to reach their fullest potential. Whereas an equity issue is a barrier to student achievement or opportunity, an equity action is an active reflection and reflective action that prioritizes "education over schooling, and power/identity over mere access and achievement" (Gutierrez, 2008). These definitions operationalized equitable teaching for the researcher.

Equity Issues and Equity Actions

In the interviews, five mentors described how they worked with their mentees to identify and address equity issues related to differentiation and grading practices. It was noted across seven interviews that this ability to examine equity was a result of the professional development they received in the monthly Partners in Practice meetings. What was notable about these mentors' discussions around grading was that they each came to a different place in moving towards equity actions. This ranged from identifying the equity issue but not (discussing) taking action, identifying the equity issue but not viewing themselves as accountable for needing to take action, to finally, identifying the equity issue and taking action.

In the first instance of identifying an equity issue but not discussing an equity action, one mentor conveyed,

> Previously, I did not have a lot of the opportunities to examine equity. I realized [after Partners in Practice] that grade distribution has been an equity issue. I always thought race and ethnicity were where you begin discussing equity, but seeing data and assessment as an equity issue was eye-opening.

This realization of the equity dimensions in grading and assessment practices was an important first step for this partnership to discuss possible actions to change grading practices. However, what was missing from the discussion was the next step the partners took next to address the equity issue. Perhaps with additional probing and questioning, this pair could move towards

action for addressing the problem. This highlights a potential program implication for recognizing the zone of proximal development of the various mentor-mentee pairs and providing appropriate supports for these development variations within the Partners in Practice space.

A second mentor identified the issue of grades and accessibility of high-level science and math courses as an equity issue. When asked to expand on how he saw this equity issue, the mentor recounted,

> We know a lot of our students are getting lost in science. When we looked at which of our students are getting F's, we know it's Latino males and girls across the board. Why aren't they making it to physics? Why are they not making it into AP physics? Not my fault, these issues are bigger [than myself] and go way beyond my classroom.

This highlights a notable finding. The mentor teacher clearly identified accessibility to higher level STEM courses for Latinx students as an equity issue, but failed to see any personal responsibility in the matter when they described the problem as being beyond the scope of their classroom.

In a similar instance, another mentor described typically having high performing students in his upper-level science class. By the time students have reached high school physics, they have surpassed the minimum two-year science requirement needed for graduation, meaning that the students taking physics elect to be in the class. The mentor engaged in a discussion with his mentee about who these students were in regards to racial demographic and identified an intersectional equity issue: "It's not just race, it's sex. Male students of color are not taking higher level science." However, the mentor's deficit ideas were revealed when he described male students of color: "Some of them have a chip on their shoulders. They have the brains – they

need the work ethic. They might be thinkers." His ideas were further exemplified in this response to a question about equity issues:

> Most of our students are colored students, they are Brown and Black students. When there are issues (we) make sure to contact the parents. We want to find out if there is a problem at home, like too many people in the house.

This example highlights how deficit thinking may get in the way of a well-intentioned pursuit of equity action. The mentor understood that some sort of inequity was taking place and wanted to address it, yet he held onto blaming students of color for their poor grades. This example also points to the importance of ongoing professional development for mentors to recognize how misconceptions and biases may affect pedagogy.

In taking equity action, two other mentors discussed grades and grading as a major equity issue in their classrooms and discussed how they could collect student survey data to address the problem. These mentor and mentee partners talked about ways to make the grading more equitable, particularly as they were held accountable to schoolwide and district wide grading policies. One pair of partners examined the results of a student success survey that they co-developed and administered with the intention of gathering information from students about their teaching practices. A question from the survey included, "what is your goal in this class?" A large number of responses were to the effect of, "we just want to pass." In response, the mentor and mentee created new opportunities for students to make up work and tests to demonstrate their mastery of content.

Differentiation and addressing the needs of English Language Learners (ELLs) was also a commonly identified equity issue that the mentor-mentee pairs sought to address. For some mentors, the simple task of identifying the profiles of students in their classroom, opened the

doors for discussion of equity and who benefits when targeted student supports are implemented. When reflecting upon the students' needs in his classroom, this mentor described,

> I think the main thing was that most of our students are in the same boat because they are mostly Hispanic and African-American. Almost all of our students are colored students. I don't know if Asians are considered colored. You have to give everybody that support. For example, ELL supports – like 99% of my students would benefit from the support we put in place. Like using a word wall.

Since his mentee was attuned to the needs of ELLs, this mentor became more open to implementing more equitable practices to help the ELLs.

As mentors and mentees co-constructed actions to improve equitable outcomes, reciprocity continued to be integral to developing practices. This mentor describes how her mentee recognized the need for students to have better access to materials in Spanish. As a result they began providing Spanish translations on various assignments and platforms. She also shared that her mentee began making announcements in Spanish to engage ELL students. Mentor Linda recounted how this impacted their approach and the resulting engagement with students:

> This is a step I enjoyed – being able to take a step back, to have both [the] equality and equity piece, focused on Spanish ELL groups. We are including a lot more Spanish. If the students want to have the lessons in Spanish we, as co-teachers, show them how to access the lessons in Spanish. We are using [an interactive lesson platform] a lot more for support academically and my mentee is also reaching out to students personally. We have done a lot more surveys, especially in the field of adding a lot more Google Forms, even in different languages. The students are feeling more connected to us, we do see our students' responses trending positively in the way we would have hoped.

By encouraging her mentee, Linda empowered her to employ strategies to connect with Spanish speaking students, which created a more inclusive classroom space. Likewise, Ramon described how he and his mentee co-constructed an action to provide better instructional support for special education students and ELLs. He noted that after attending a few Partners in Practice meetings and talking through what he and his mentee had learned, they realized that they wanted to pay special attention to the students who rarely speak in class. He recalled, “They're just quiet and they've kind of slipped through the cracks. When we looked closely, we recognized that many of those students were SPED and EL learners.” As a result, Ramon and his mentee developed a shared document of these students’ accommodations that also included ideas for instructional strategies, different types of checks for understanding, and notes on students that came from surveys.

One mentor also described how their mentee taught them to look at the sources of inequity more closely. Gary, a mentor, shared,

> My mentee is very soft-hearted. She realizes the magnitude of inequities in our school. She has heard comments from other staff members calling students lazy. She’s heard 25-year veteran teachers who have explicit biases. She’s seeing educators who actually don’t believe in students. If you’re struggling with 25 [students], remember you will eventually have 150. She has some ideas on how she is going to reach those kids.

Gary elaborated that he was very reflective of his mentee’s experience. He felt conflicted about wanting to take action and being responsible as a mentor, but he was overwhelmed by the idea of trying to confront or address the issue. He added,

> I hesitate [about disrupting inequity] because I do not like to say something if I am not sure. I need to think about it and understand. Sometimes [my mentee] might want to

address stuff on the spot, but sometimes I need to step back before I can navigate what equity support looks like.

Gary also described needing more tools and language to talk about equity and to have more guidance on how to navigate these situations. This points to a need for more professional development around talking about equity issues and actions, which will be addressed further in the recommendations section of Chapter Five.

Four mentors described being open to learn from their mentees about how to identify equity issues and create equity actions. As an example, mentor teacher Catherine reflected on how her relationship with her mentee expanded her view of what equity issues might look like from another, less privileged perspective. Catherine said working with her mentee made her realize that her experiences of growing up in a semi-affluent community provided her with opportunities that many others do not have. In an example of re-learning, her mentee reminded her that others' (students and adults) experiences are different from her own, and as a result, Catherine needed to reflect on their own interactions with the world around them.

Similar themes of mentor/mentee reciprocal dialogue resulted in additional shifts in perception and practice. Mary recalls a discussion she had with her mentee and how they use real life examples of scientific phenomena to engage their students with consideration to students' gender. The discussion led to perceptions of traditional gender roles: "We noticed that we were female centric. We made an assessment about bath bombs, but then we thought we would talk about airbags in cars to engage male students, not that it is necessarily a more 'boy' topic." As a result of this conversation, Mary and her mentee determined that the most equitable approach was to give students choice in how to engage in the activities/assessments and as a result were going to create open ended projects.

Mentor Teachers' Ideas About Interrelation of Reciprocity and Equitable Teaching

Two major themes manifested in the interviews that demonstrated the interrelation between reciprocity and equitable teaching. These themes include how the identity and positionality of the mentor shifted and developed through the reciprocal partnership, and how the critical conversations resulted in the professional growth of the mentor.

Identity (Re)Development and Positionality

RLP dialogue is intended to position the participants to use knowledge of self to relate to issues of diversity and equity, and to approach conversations with a flexible and reflective stance for rethinking their own biases. Specifically, RLP centers the cultural identities, beliefs, and norms of both the mentor and mentee, recognizing that both participants bring unique perspectives that influence decisions about practice (Orange & Isken, 2021). Nine of the 10 mentors interviewed spoke of how their conversations with their mentee resulted in reflection about their own identity and positionality. Mentor teacher Catherine recalled,

> We've had some really great discussions of identity. Specifically how our personal identities contribute to our identities as educators. Colorism has been very present in my life. I am Mexican-American and I am very light skinned. [The conversations with my mentee] challenge things I've thought about myself and how that influences my teaching.

Catherine explained how these reciprocal conversations with her mentee about identity were critical in building their relational trust. She and her mentee, who is also a self-identified light-skinned Latina, talked about feeling out of place in your race and the feeling of even being misplaced within your own race identity group. Catherine added, " It is something that has always affected me. It was a conversation we had and had a rich discussion about this and what

our childhood experiences were." Conversations about identity, race, and colorism are important for partners, as it helps them to think about how these issues impact their students, too.

The mentors shared that the discussions they engaged in the Partners in Practice meetings were powerful in examining biases and beliefs as they pertained to self-identity. One mentor divulged,

> The Partners in Practice meetings brought up a lot of emotion that I struggled to process. I would really like to have had space to talk with other teachers about this. I want to talk to others about maintaining [balancing] expectations and compassion for students. My mentee and I have talked together about how our words have a lot of power; in a position of power it would be very easy in a way that might be intimidating. We are figuring this out together, so as we have the conversation, we are learning how to be better for our students.

The personal and professional impact of these challenging conversations clearly pushed this mentor to think more compassionately about his students. Gary also recounted how his experience of the Partners in Practice meetings contributed to his understanding of the biases that he implicitly and explicitly holds:

> The monthly Partners in Practice meetings were so helpful because I learned that we all have preconceived notions and biases. I know I have them – and as a result I learned a lot about myself. I also learned how to define equity and what that means to make learning more meaningful and to meet kids where they are at.

These examples demonstrate that the reciprocal learning partnership created personal growth opportunities for mentors as they reflected upon their identity, privilege, and positionality.

Critical Conversations Resulting in Professional Growth

All of the mentor teachers who discussed having critical conversations with their mentee reflected that this dialogue was a source of growth. These conversations helped the mentor to break down assumptions and develop an awareness of the student voice and who is holding space in the classroom.

One mentor described how his mentee opened his eyes to the intersection of race and gender. Following a conversation with his mentee, an African American female, Ronald, a White male, shared, “My lens has definitely shifted after the big talk we had about African American girls being hyper-sexualized. The biases are much tougher on the girls than the boys. Like athletics – boys get away with a lot more.” Ronald also described his new (re)learning:

> I've definitely become more empathetic watching my mentee work with the kids and showing the empathy that she shows. I've definitely been having my own struggles mentally and physically with the lockdown and the work, and I've definitely lost some of that empathy because it's just been such a grind for the last year, but seeing her still being able to do it with all the stuff she's got to do is kind of making it a little bit easier for me to show a little bit more empathy for the kids and try to be a little bit more positive and supportive in the situation.

Through the development of relational trust and an openness to listen to feedback, Ronald was able to examine his biases and develop more empathy for his students. Ronald’s mentee, Shondra, corroborated this by saying,

> I think that he's starting to change his views because he has a lot of conflict with a lot of his Black female students. And so through talking about certain situations I hope that he starts to understand and try to empathize with them a little bit better.

This is one example of how the relationship and dialogue between mentor and mentee resulted in the mentor developing a more expansive lens that better incorporates the wholeness of students' experiences and identities. This example also highlights the power of the mentee to illuminate equity issues that the mentor might not otherwise see.

Several of the conversations that were described as being uncomfortable by the mentor led to self-identified professional growth. Joseph, a mentor, described a Partners in Practice meeting when there was a discussion about equity. During that conversation, Joseph's mentee told him that their lessons were not equitable. Joseph elaborated,

> That was kind of a slap in the face, it was kind of hurtful. But I take that [responsibility]. How do I channel that [feedback] into my own teaching to make it better? It took me a couple of days to come to that understanding, that it was actually a good thing. These conversations – they are not going to be nice, and maybe I will be challenged about what I thought was equitable. I now see these hard conversations are actually good conversations because I am learning to be more reflective about my teaching practices.

In this reflection, Joseph showed maturity by reflecting upon difficult feedback he received and channeling it into the development of his equity stance. Other mentors shared how their mentees asked them to look through the lens of the students and their experiences. Mentor teacher, Ramon, describes how his mentee reminded him to put himself in the students shoes, particularly when he sometimes does not see the things that students are going through. Ramon reflected, "She and I have been talking about this. I am learning to be open to her feedback. I am grateful for that. My mentee has challenged my thinking – she brings things up that I do not see. We debrief after every meeting, sometimes I feel offended [by her feedback], but I also see she has a point." Other mentors have recounted that they have had very emotional conversations with

their mentees that have caused them to grow in personal ways. Tamara shared, "I am more conscious of my wording when I speak to adults and students. Peter has me thinking about things critically and communicating it to me so I think about it in a different way." These experiences reveal the dynamic of the relationships in RLP and the impact of Partners in Practice as professional development for mentor teachers.

Summary of Findings

This chapter reported the findings that I derived after analyzing the data from paired interviews with mentors and mentees participating in the Reciprocal Learning Partnership framework. The analysis focused on how mentor teachers' perceptions of reciprocity and ideas around equitable teaching practice are cultivated within the context and practice of RLP. Overall, the majority of the ten mentors interviewed described that they had new pedagogical learning and some relearning as a result of their reciprocal partnership with their mentee. This learning was able to take place when the mentor and mentee established trust within their relationship. When trust was established, there tended to be a free flow of ideas about teaching practices. This also allowed for vulnerability to have uncomfortable conversations about inequitable practices and perceptions in the classroom. All mentors who experienced this tension shared that, while deeply uncomfortable, they ultimately grew as practitioners from their new learning and that students benefited. There was evidence that mentors varied in their development understanding of equity and this degree of development, or perhaps confidence in discussing equity, impacted their ability to co-construct equity action.

In Chapter Five, I connect the interpretation of the qualitative themes and findings from these interviews to the literature presented in Chapter Two and my research questions. Chapter Five also includes a discussion of implications for practice, the limitations of the research, and a

few suggestions for future research and implementation of RLP in the urban teacher residency and other educational contexts.

CHAPTER 5: DISCUSSION

For decades, traditional teacher training programs have trained and educated preservice teachers, yet markers of student development and growth continue to show disparate results for students of color compared to their White peers (Sleeter, 2017). There are numerous remedies and reforms aimed at increasing equitable opportunities and outcomes for students, especially marginalized students in more urban districts. Yet, one area that is understudied is the impact of teacher residency programs on producing teachers that are more equity-minded and pedagogically and culturally responsive in their practices. Teacher residencies present a unique opportunity to engage in equity work and to support teacher development in this area due to the rich clinical experience and intensive time novice teachers and mentors spend together in the year-long residency (Hammerness, et al., 2016; Patrick, et al., 2023).

Developing teacher residency programs is the first step and focusing on the improved outcomes for students is paramount, but researchers and practitioners must also consider a key input into the program: the mentors. Research (Achinstein & Barrett, 2004; Achinstein & Athanases, 2016; Hammerness, et al., 2016) shows that mentors are often chosen for their experience in the classroom or they volunteer because they have the time and might be allured by extra pay. The literature also shows that mentors with experience may pass-on "best practices" that have worked for them for many years, however, these practices may reproduce inequitable outcomes as they have not evolved to meet the needs of a dynamic and diverse group of learners (Howard, 2003). STEM UTR, the program in this study, is one such program that shows significant promise in addressing this gap as it models reciprocal learning between mentor and mentee to produce equity-focused teachers. Thus, my study explored the impact of the STEM UTR residency program on the learning and growth of mentors.

The Reciprocal Learning Partnership (RLP) framework provides important conditions and tools for experienced teachers to serve as mentor teachers. Teacher education programs that emphasize an intensive teaching practicum, such as the case in teacher residencies, should consider the complex and developmental nature and potential of mentor teacher learning (Achinstein & Athanases, 2016; Chu, 2019; Roegman et al., 2016).

The research questions that guided this inquiry were:

1) What are STEM UTR mentor teachers' ideas about reciprocity?

2) What are STEM UTR mentor teachers' ideas about equitable teaching?

3) In what ways, if any, do the STEM UTR mentor teachers make connections between their ideas about reciprocity and equitable teaching?

This qualitative study analyzed two sets of interviews of 10 pairs of mentor and preservice teachers in the STEM UTR program One interview took place in the Winter 2021 term, and one interview took place in the Spring 2021 term. This approach allowed me to explore the growth of mentor teachers over the course of the year using the lens of reciprocal learning and equity awareness and action, as well as the dynamic of partnership learning. Findings from this study show that strategically orienting mentor teachers as reciprocal learning partners results in teacher critical self-reflection and new learning or relearning for mentor teachers.

In this chapter, I first summarize and interpret the significant findings and explain this study's contribution to the existing body of research. Next, I present implications for practice for the RLP framework and its leaders, as well as how the implications may be transferable to other similar programs. Then I identify the limitations of my study and suggestions for future research. Finally, I share my concluding thoughts and reflection.

Teachers receiving ongoing professional development in mentoring practices, like RLP, have the potential to serve as teacher leaders for evoking change practices in their schools (Chu, 2019; Gallo-Fox & Scantlebury, 2016). This study details how positioning mentor and mentee as reciprocal learners provided authentic opportunities for mentor teachers to both learn and re-learn about equitable pedagogical practices. They were able to do this through situated, co-constructed discussions about equitable classroom practices, and purposeful exposure to the novice teachers' perspectives and experiences that stimulate critical self-reflection.

Professional Development Provided Richer Context for Understanding Reciprocity and Equity

The participant mentor teachers in this study participated in a variety of professional development sessions through Partners in Practice and the STEM UTR Summer Institute. Participating in these sessions created powerful opportunities and sources for the mentor teachers to better understand the purpose of reciprocity in the mentor-mentee relationships and the purpose, or need, to address equity in their classrooms. Five mentors emphasized that Partners in Practice was instrumental in helping them come to new understanding about equity that helped frame conversations they had with their mentee. They said these meetings were indispensable in addressing their own “preconceived notions” and in helping them “define equity issues” in their classrooms.

Research indicates that in the absence of targeted professional development on mentoring dispositions and practices that are aligned with the expectations of the residency program, mentor teachers are likely to rely on their existing teaching and mentoring beliefs and as a result, may miss the opportunity to enrich the learning experiences of preservice teachers and their own (Chu, 2019; Hammerness, et al., 2016; Roegman et al., 2016). As Achinstein and Athanases

(2005) discuss, mentors need knowledge of broader social and structural issues that shape inequities in order to appropriately address them in the classrooms. Without professional development or training, mentors are also more likely to replicate classroom practices and inscribe the mentee into the status quo of the schools.

Professional development also created critical space needed for the mentor and mentee to build relational trust. Partners in Practice was intentionally established as a space for mentor and mentee to engage in productive reciprocal dialogue about the uncomfortable issues and the ways in which they themselves perpetuated inequity in the classroom (Orange & Isken, 2021). This is supported by the literature where there is evidence that both mentor and mentee must illuminate expectations of one another and foster productive dialogue to build their relationship (Bradbury & Koballa, 2008; Hudson, 2016). Mentors also reported in the interviews that they needed to build trust with their mentee as a prerequisite to relinquishing classroom control and engaging in shared-decision making.

Mentors as Reciprocal Learning Partners

Mentors (Re)Learned the Importance of Relationships Before Content

One mentor shared that her mentee had been working very hard at community building with students using "strategies that I would never have thought of in a million years, it's fabulous. He uses community building to get kids to listen. Patrick has hooked a couple of kids this semester – and brought back in kids who failed last term." Another mentor shared that it was impactful to witnessing the ways in which her mentee took time to build relationships with students. She noted that her mentee had a different tutoring style and innovative ways of communicating with students and that students shared that they feel supported by him. She concluded,"I want to continue to use these strategies in the future."

Mentors Valued the Contributions of Their Mentees

A key to interrupting the mentor-preservice teacher hierarchy and increasing preservice teachers' ability to co-develop equity actions lies in mentor teachers' perception of mentees as being people with valuable ideas (Canipe & Gunckel, 2020). Nine of the ten mentors in this study shared the ways in which their mentees positively contributed ideas or experiences to support classroom practices. Three mentors distinctly described how their reciprocal conversations with their mentee were uncomfortable, even describing the feeling of being offended, but that the critical feedback led them to self-reflection and ultimately caused them to think about, and in some cases, caused them to adjust their teaching practices to be more equitable.

Mentors Need Shared Accountability to Address Equity Issues

To be an effective mentor, experienced teachers must use their knowledge of themselves to relate to issues of diversity and equity (Butler & Cuenca, 2012; Feiman-Nemser, 2001; Parker et al., 2021). This self-analysis of identity and positionality, coupled with having a flexible and reflective stance to examine biases, provides the needed conditions for shared accountability in the mentor-mentee relationship. In this study, two mentors identified inequities in their classrooms but were not able to identify their role and/or responsibility in addressing the inequity. In one example, the mentor identified an equity issue as being a "problem that is bigger than myself" and felt they had no power, and subsequently no responsibility, in addressing the situation. This lack of accountability impedes the mentors movement to action and, ideally, should be confronted. Another mentor discussed how his mentee overheard a veteran teacher in the staff lounge at their school site calling certain students "lazy." This mentor recognized the deficit thinking of his contemporary, but attempted to explain or perhaps rationalize his

colleague's comment. Instead, he tried to explain to his mentee that teachers get tired when teaching large numbers of students, "remember when you're struggling with 25, it's different when you are trying to teach 150 [kids]." The conversation between mentor and mentee continued, with this mentor concluding, "she has some ideas on how she's going to reach those [disengaged] kids." Again, this is an example where the mentor did not consider his own role in disrupting deficit thinking about students, but was able to recognize that his mentee was going to.

Mentors Were Co-learners and Co-developers of Equity Actions

Co-learning and co-developing practices can serve as a bridge to counter the traditional master-apprenticeship model in preservice teacher preparation by "blurring the boundaries between field and university experiences" (p. 89) and between mentors and mentees (Canipe & Gunckel, 2020; Scantlebury et al., 2008). It can be difficult to disrupt the mentor-mentee hierarchy, but it is necessary in order for there to be a free exchange of ideas and shared accountability. A strong indicator that the mentor was positioning themselves as co-learner/co-teacher was their use of language in the interview. Mentors using "we" versus "I" when making declaratory statements was demonstrative that the mentor saw themselves engaging in reciprocity and shared responsibility in classroom practices.

It is important to equip mentor teachers with transformative pedagogical knowledge and mentoring tools so that they can engage in work with preservice teachers as catalysts for change (Chu, 2019). This illustrates how helping mentor teachers develop a clarified understanding of their role can strengthen their teacher identity.

Recommendations for Practice

The RLP framework provides important conditions and rich professional development opportunities for experienced teachers who serve as mentors and who facilitate preservice teachers' learning to teach. This approach fills an unmet need in teacher preparation in that it uses the lens of equity to both develop the professional practice of the mentor and prepare the novice teacher to serve in diverse schools. The findings of this study show that intentional framing of the mentor and mentee as partners can serve to meet this need. In addition to this, I would like to add recommendations that could be considered by program staff, partner schools, and leaders at the institutional level.

Perhaps the greatest recommendation for practice is the critical role that mentor training and professional development plays in laying the foundation for mentors and mentees to engage in reciprocity when working together. Because hierarchy is ingrained in the mentor-mentee relationship (Chu, 2019; Hudson, 2016), continual intentional efforts are needed to ensure that preservice teachers are able to participate as reciprocal learning partners and that they have valuable ideas to contribute. Supporting more equitable relationships between mentor and mentee requires attention to raising the mentee's status in the relationship. Findings from my study and others (Chu, 2019; Gallo-Fox & Scantlebury, 2016) suggest that mentor stances towards reciprocity and equity will not emerge automatically from simply placing teachers in mentor roles but instead need to be intentionally cultivated through a coordinated support system. Furthermore, it is suggested that this support system should include both the teacher education program and the school district partnering in the residency.

In a review of 35 methodologically rigorous studies that have demonstrated a positive link among teacher professional development, teaching practices, and student outcomes, The Learning Policy Institute (2017) identified seven commonly shared features of effective

professional development, including being content-focused, incorporating active learning, supporting collaboration, modeling effective practice, providing expert support, offering feedback and reflection, and being sustained in duration. This last feature is significant to my study in that while STEM UTR already has a strong professional development framework, mentors shared that they would like more spaces like Partners in Practice to process and grapple with the equity challenges faced in their classrooms. By consistently providing multiple engagement opportunities for metacognitive processing and connected learning builds the efficacy of the mentor teacher by allowing them to refine and apply what they have learned to their classrooms (Darling-Hammond, 2009; Darling-Hammond et al, 2017; Parker et al., 2021).

Professional development can also serve to address the challenge that two mentors said they had when they felt that the equity issues they were seeing were 'bigger than self.' Mentors, and subsequently mentees, can and should still move towards discussing and addressing these issues. On-going mentor training can serve to provide in-roads, scenarios, and/or frames for addressing issues as they come up. Engaging in RLP during the residency, itself, serves as professional development as mentor teachers' time being in the classroom as a reciprocal learning partner with their mentee results in new learning. This type of job-embedded professional development is conducive to "widespread improvement within and beyond the school level" (Darling-Hammond, et al., 2017, p.5).

My study also demonstrates potential for professional development in schools and districts. As a recommendation for the program, I would suggest that there is continued inclusion of school and district administrators in the RLP framework. While mentors undoubtedly play a key role in leveraging the university and school partnerships during the teacher residency, the work of educational equity goes beyond the mentor-mentee relationship and should involve

school leadership. School leaders also need the time and opportunity to develop cultural understandings of the students and teachers with whom they work. School administrators can support mentor teacher development and bolster the training and preparation of new teachers entering the workforce.

Oftentimes school contexts pose equity challenges related to the potential impact of professional development on student learning. These challenges include poor leadership, inadequate resources, or nullifying school or district mandates (Buczynski & Hansen, 2010; Darling-Hammond et al., 2017; Johnson et al., 2010; Santagata et al., 2010). It would be beneficial to provide time and resources for mentors and preservice teachers to conduct the complex work of addressing equity during teacher preparation. School leaders could bolster this effort by evaluating and redesigning the use of time and school schedules to increase opportunities for professional learning and collaboration, including participation in professional learning communities, peer coaching and observations across classrooms, and collaborative planning (Chu, 2019; Darling-Hammond, et al., 2017).

Limitations of Research

It is important to note the limitations of this study, as they identify the strengths and weaknesses that affect the interpretation of findings (Creswell & Cresswell, 2014). While my study provides some insight into the way mentor teachers serving in teacher residency programs conceptualize reciprocity and equitable teaching, the findings are not generalizable. This study took place in a single urban teacher residency program and had a small sample size of ten mentor teachers. Additionally, the study took place in the context of secondary math and science teacher classrooms. Mentor and mentee interactions might look different in the context of other grade levels and subject areas. Nevertheless, the findings from this study provide insight into the ways

mentor teachers engage in reciprocity with their mentees to develop more equitable teaching practices.

Suggestions for Future Research

The findings from my study were drawn from the first year of the STEM UTR program that utilized RLP. As the program has continued each year, additional paired-interviews took place and, with further analysis, these interviews serve to possibly extend what was learned in this study. Longitudinal comparisons of interview data could also potentially show shifts in mentor teacher perceptions and the ways in which they engage in the reciprocal learning partnership. Examining mentor exchanges over time, capturing dialogue, and examining impact on beliefs and classroom practices can reveal the complexities and possibilities for educational equity.

While the findings from this study are tied to the context of teacher preparation, RLP has relevant implications in the larger context of schooling including administrator leadership. Reciprocity catalyzes the exchange of ideas and perspectives and this is beneficial at all levels of school decision-making. RLP has potential not only as a replicable and sustainable mentor training framework, but as a preparation curriculum for other school licensure programs like school administrator credentialing programs. The literature also suggests that by engaging both mentors and school leaders in teacher preparation program design, alongside university-based teacher educators, serves to bridge the gap between schools and universities that has been a long-standing criticism of traditional teacher preparation programs (Hobson et al., 2009; Hudson, 2016; Parker et al., 2021).

Final Reflection

Research shows that there is a need to continue focusing on the development of mentor-mentee relationships in teacher preparation, especially as it pertains to centering equity in the classroom and positively impacting students (Parker et al., 2021; Patrick et al., 2023). Programs that recruit veteran teachers and do not support their mentor development in the area of pedagogical learner knowledge for students and adults will leave mentors ill-equipped to collaborate with preservice teachers in addressing diverse learners' needs. In highlighting the promising RLP framework in teacher preparation, this study provides insights into how future generations of educators can be better developed to serve as social justice leaders.

APPENDICES

Appendix A: STEM UTR Program Research Overview

STEM UTR Research Data Collection Plan

How do Mentor and Mentee beliefs about equity in math and science classrooms evolve as they participate in the STEM UTR program?

- Partners in Practice learning artifacts and exit survey
- Classroom observations
- Lesson plans and co-constructed assignments
- Signature assignments (TCRs)
- End of quarter reflections
- Pre/Post survey (eval)

How do teachers (Mentors and Mentees) learn from each other in a reciprocal learning partnership?

- Individual/paired conversations (interviews)
- Classroom observations
- Partners in Practice artifacts and exit survey
- End of quarter reflections

How do Mentors and Mentees incorporate computational thinking in their math and science pedagogy?

- CS Coursework
- Lesson plans and debriefs
- Individual/paired conversations (interviews)*
- Classroom observations
- Instructional Logs
- CT-COR (TCRs)
- Pre/post survey
- Written reflections

Appendix B: STEM UTR Interview Protocol for Paired Conversations

STEM UTR Paired Interview Questions

Description: Paired conversations will be video recorded meetings with each student teacher and their paired mentor teacher, to check in about how things are going. Approximately 30 minutes in length. Meetings will be virtual, via Zoom, until COVID restrictions are lifted.

Conversation prompts:

1. How are things going?
2. Can you tell me about a recent success/challenge in the classroom?
3. How would you describe how Computational Thinking might be showing up in your thinking and teaching?
4. What equity issues have surfaced in your classroom and how have you worked together to address them?
5. How do you think this partnership has impacted you as a teacher?
6. How do you think this partnership has impacted [teacher candidate resident name] as a teacher?
7. What more do you hope to learn from each other?
8. Is there anything else you would like to share?

Appendix C: **Informed Consent Form for Mentor Teachers**

ADDENDUM CONSENT
ADDITIONAL INFORMATION FOR CONTINUING RESEARCH PARTICIPANTS
(Mentor Teacher)

STEM UTR: Preparing and Sustaining the Next Generation of Effective STEM Educators for Urban Schools

STEM UTR Research

You are participating in the above-named research study. When you agreed to participate, the researchers told you they would share any new information about the study that might affect your willingness to continue to participate in the study.

The study now involves new data collection that are described below. The researchers will explain the new data collection and then ask for your consent to participate in the new procedures as well as to continue participating in the study.

WHAT ARE THE NEW PROCEDURES INVOLVED IN THIS STUDY?

Interviews. We originally under-estimated the time we might need for interviews, and now we request a *maximum of 3 hours* of your time across your year as a mentor teacher to participate in interviews.

Artifacts from professional development workshops - Orientation and Community of Practice. We would like to collect artifacts of your participation in Orientation and Community of Practice such as reflections and other interactive activities. These workshops are already a part of your mentorship participation and may be video recorded for research purposes.

In-person observation. As COVID safety precautions allow, the research team will visit your classroom in-person to conduct teaching observations.

WHAT KINDS OF RISKS OR DISCOMFORTS COULD I EXPECT?

There are no anticipated risks or discomforts associated with your participation in this study.

WHAT OTHER CHOICES DO I HAVE IF I DON'T WANT TO PARTICIPATE?

You may decline invitations to participate in interviews and decline to share artifacts from your participation in professional development workshops. You may also ask that your name be removed from any artifacts of your participation.

WHAT ARE MY RIGHTS IF I DECIDE TO CONTINUE TO TAKE PART IN THIS STUDY?

Continuing to take part in this study is your choice. You can choose whether or not you want to continue to participate. Whatever decision you make, there will be no penalty to you and you will not lose any of your regular benefits.

- You have a right to have all of your questions answered before deciding whether to take part.
- If you decide to continue to take part, you can leave the study at any time.
- If you decide to stop being in this study you should notify the research team right away. The researchers may ask you to complete some procedures in order to protect your safety.

WHO CAN I CONTACT IF I HAVE QUESTIONS ABOUT CONTINUING IN THIS STUDY?

The Research Team:

You may contact one of the following researchers with any questions or concerns about the new information in this consent or your continued participation in this study: Imelda Nava-Landeros, Ph.D., STEM+C[3] Director at inava@ucla.edu or 310-825-4910 or Annamarie Francois, Ed.D., Principal Investigator, at francois@gseis.ucla.edu

UCLA Office of the Human Research Protection Program (OHRPP):

If you have questions about your rights as a research subject, or you have concerns or suggestions and you want to talk to someone other than the researchers, you may contact the UCLA OHRPP by phone: (310) 206-2040; by email: participants@research.ucla.edu or by mail: Box 951406, Los Angeles, CA 90095-1406.

HOW DO I INDICATE MY AGREEMENT TO PARTICIPATE?

Unless you indicate otherwise (verbally or in writing), we will assume that you agree to participate in the longer interviews and allow your professional development workshops activities to be shared for the study. You have been given a copy of this consent form and the Research Participant's Bill of Rights to keep.

Appendix D: Mentor Teacher Application

STEM UTR
Mentor Teacher Pool Application

STEM UTR is an urban teacher residency program focused on teacher preparation through a residency model and building capacity in computer science education. STEM UTR intends to increase the number of teachers who are authorized to teach computer science. Moreso, it strives to integrate computational thinking and practices into secondary science and math settings. Through a residency model, pre-service teachers are placed in secondary math and science classrooms with mentor teachers for a full year.

Applications are due: Friday May 8, 2020 by midnight.

1. Email *

2. Please upload your resume or CV below. Make sure your resume or CV has 2 references listed. PDF or Word Document. Use the following format for file name convention:"2020STEMC3_MT_CV_LastName_FirstName"

3. Statement of Purpose Prompt #1:
   What does it mean to be a social justice educator broadly and in your content area? Please try to integrate a specific example in your response and keep your responses between 400-500 words maximum per prompt.

4. Statement of Purpose Prompt 2:
   What does it mean to be a good mentor? Describe how you would serve as a coach, consultant, collaborator, and evaluator to a pre- service teacher. Please try to integrate a specific example in your response and keep your responses between 400-500 words maximum per prompt.

5. Statement of Purpose Prompt 3:
   What connections or wonderings might you have around computer science and its integration into math and science classrooms? What might this integration mean for equity and social justice for your students? Please try to integrate a specific example in your response and keep your responses between 400-500 words maximum per prompt.

6. Feedback Task: You will view two video clips of a novice teacher and provide feedback based on areas of strength and growth. How might you support this pre-service teacher? What might be your approach in providing the feedback and next steps? (max 750 words)

Link to Video 1: http://youtube.com/watch?v=UGIHc3xgJ8s

Link to Video 2: http://youtube.com/watch?v=lsEaYSzB2jo

7. Observation
As part of the Mentor Teacher Pool Selection Process, we will be visiting your classroom for 15-30 minutes during May. You will be notified about selection in late May 2020. We will be using our UCLA Teacher Framework for our visit. This will only be used for program purposes to get a sense of where we are as a mentor teacher pool in light of the UCLA Teacher Observation Framework. We do not expect you all to address all of the domains in a short visit. However, you can get a sense of what we will use as a guide for feedback during our pre- service teacher observations. Here is the link to the observation rubric: https://drive.google.com/le/d/15irdVbWDc_EQ7WWZGK4jc8kki-zRdIIL/view?usp=sharing

Check all that apply.

5/5, 5/6, 5/13, 5/14, 5/21

8. Are there any questions or comments you might like to share at this time?

Appendix E: Consultancy Protocol (Modified for Partners in Practice)

Consultancy Protocol

Developed by Faith Dunne, Paula Evans, and Gene Thompson-Grove as part of their work at the Coalition of Essential Schools and the Annenberg Institute for School Reform. Revised by Gene Thompson-Grove January 2021

Purpose
The structure of the Consultancy helps presenters think more expansively about a particular, concrete dilemma. The Consultancy protocol has 2 main purposes – to develop participants' capacity to see and describe the dilemmas that are the essential material of their work, and to help each other understand and deal with them.

Time
Approximately 50 minutes

Roles
Presenter (whose work is being discussed by the group)
Facilitator (who sometimes participates, depending on the size of the group)
Consultants

Outside perspective is critical to the effectiveness of this protocol; therefore, some of the participants in the group should be people who do not share the presenter's specific dilemma at that time. The Consultancy group is typically a small and intimate one – from 4-7 people. Larger groups can easily subdivide into consultancy groups.

Process

1. The presenter gives an overview of the dilemma with which they are struggling, and frames a question for the consultancy group to consider. The framing of this question, as well as the quality of the presenter's reflection on the dilemma being discussed, are key features of this protocol. If the presenter has brought student work, educator work, or other "artifacts," there is a pause here to silently examine the work/documents. The focus of the group's conversation is on the dilemma. (10-15 minutes if there are artifacts to examine)

2. The consultancy group asks clarifying questions of the presenter — that is, questions that have brief, factual answers. (5 minutes)

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3. The group asks probing questions of the presenter (See Pocket Guide to Probing Questions). These questions should be worded so that they help the presenter clarify and expand their thinking about the dilemma presented to the consultancy group. The goal here is for the presenter to learn more about the question they framed and to do some analysis of the dilemma presented. The presenter responds to the group's questions, although sometimes a probing question might ask the presenter to see the dilemma in such a novel way that the response is simply, "I never thought about it that way." There is no discussion by the consultancy group of the presenter's responses. At the end of the 10 minutes, the facilitator asks the presenter to re-state their question for the group. (10 minutes)

4. The group talks with each other about the dilemma presented. In this step, the group works to define the issues more thoroughly and objectively. Sometimes members of the group suggest actions the presenter might consider taking; if they do, these should be framed as "open suggestions," and should be made only after the group has thoroughly analyzed the dilemma. The presenter doesn't speak during this discussion, but listens in and takes notes. The group talks about the presenter in the third person. (15 minutes)

Possible questions to frame the discussion:
- What did we hear? What didn't we hear that might be relevant?
- What assumptions seem to be operating?
- What questions have been raised for us?
- What meaning are we making about the dilemma and what we heard?
- What haven't we considered/thought about?

5. The presenter reflects on what they heard and on what they are now thinking, sharing with the group anything that particularly resonated for him or her during any part of the Consultancy. (5 minutes)

6. The facilitator leads a brief conversation about the group's observation of the Consultancy process. (5 minutes)

Note: See Consultancy Dilemmas to craft dilemmas for use with the Consultancy Protocol and Facilitation Tips for process advice.

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